



## Fairbanks North Star Borough

# Eielson Air Force Base Regional Growth Plan

September 2018



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# ACRONYMS AND ABBREVIATIONS

A&FRC	Airman and Family Readiness Center	AOGCC	Alaska Oil and Gas Conservation Commission
ACS	Alaska Communications Service	AOMB	Alaska Office of Management and Budget
AFB	US Air Force Base	ARCO	Atlantic Richfield Company
AFS	US Air Force Station	AST	Alaska State Troopers
AHFC	Alaska Housing Finance Corporation	BLS	Bureau of Labor Statistics
ADCCED	Alaska Department of Commerce, Community and Economic Development	BRAC	Base Realignment and Closure
ADEC	Alaska Department of Environmental Conservation	CAFRs	Comprehensive Annual Financial Reports
ADEED	Alaska Department of Education and Early Development	CEDS	Comprehensive Economic Development Strategy
ADF&G	Alaska Department of Fish & Game	CDC	Centers for Disease Control and Prevention
ADHS&EM	Alaska Division of Homeland Security and Emergency Management	CHPP	Central Heat and Power Plant
ADM	Average Daily Membership	COF	City of Fairbanks
ADNR	Alaska Department of Natural Resources	CONP	City of North Pole
ADOLWD	Alaska Department of Workforce Development	CPI	Consumer Price Index
ADPS	Alaska Department of Public Safety	DOT	United States Department of Transportation
ADOT&PF	Alaska Department of Transportation and Public Facilities	EAFB	Eielson Air Force Base
ARRC	Alaska Railroad	EDS	Electrical Distribution System
		EIS	Environmental Impact Statement
		EMS	Emergency Medical Service
		EPA	United States Environmental Protection Agency
		ERGP	Eielson Regional Growth Plan
		FAA	Federal Aviation Administration

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FECC	Fairbanks Emergency Communications Center	MPO	Metropolitan Planning Organization
FEDC	Fairbanks Economic Development Corporation	MTP	Metropolitan Transportation Plan
FHWA	Federal Highway Administration	MWR	Morale, Welfare and Recreation
FIA	Fairbanks International Airport	NAICS	North American Industry Classification System
FMATS	Fairbanks Metropolitan Area Transportation System	NPFD	North Pole Fire Department
FMP	Freight Mobility Plan	NHS	National Highway System
FNG	Fairbanks Natural Gas, LLC	OEA	Department of Defense Office of Economic Adjustment
FNSB	Fairbanks North Star Borough	PERS	Alaska Public Employee Retirement System
FNSBSD	Fairbanks North Star Borough School District	PFOS	Perfluorooctane Sulfonic Acid
Ft.	Fort (US Army installations only)	PFOA	Perfluorooctanoic Acid
FTA	Federal Transit Administration	PM	Particulate Matter
FTE	Full Time Employee	REMI	Regional Economic Models, Inc.
GCI	General Communications, Inc	RGP	Eielson Regional Growth Plan
GHU	Golden Heart Utilities	SEOC	Alaska Emergency Operations Center
GIS	Geographic Information System	SERT	Special Emergency Response Team
GVEA	Golden Valley Electric Association	SOA	State of Alaska
HDS	Heat Distribution System	SPU	Alaska State Troopers Special Projects Unit
HRMA	Housing Requirements and Market Analysis	SVFD	Steese Volunteer Fire Department
HUD	Housing and Urban Development	TAPS	Trans-Alaska Pipeline System
IAFF	International Association of Fire Fighters	TCM	Traffic Control Measures
IGU	Interior Gas Utility	UAF	University of Alaska Fairbanks
kV	kilovolt	US	United States
LMP	Limited Maintenance Plan	USACOE	United State Army Corps of Engineers
LNG	Liquified Natural Gas	USAF	United States Air Force
M	Million	USSR	Union of Soviet Socialist Republics
MACS	Metropolitan Area Commuter System		

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Thank you to all Fairbanks North Star Borough (FNSB) residents, communities, businesses, organizations and other local, state and federal partners who have contributed to this Eielson Regional Growth Plan.

A special thank you to all past, present and future active duty personnel, veterans and their families. Thank you for your service to the United States of America, and thank you for your positive contributions to the FNSB community and the state of Alaska.

Key contributors include:

- Fairbanks North Star Borough (FNSB), including Mayor Karl Kassel and his staff, Assessing Department, the FNSB Assembly, Planning Commission, Community Planning Department, Emergency Operations Department and many more.
- City of North Pole
- City of Fairbanks
- Members of the FNSB Tiger Team
- Interior Delegation of the Alaska State Legislature and their staffs
- Congressional Delegation of Alaska and their staffs
- Eielson Air Force Base and Ft. Wainwright leadership and staff
- Eielson Air Force Base active duty personnel and their families

Other stakeholders participated in the process by hosting project update presentations, participating in work sessions, offering input through interviews, written responses, and more. Key organizations include:

- Alaska Child Care Program Office
- Alaska Department of Environmental Conservation
- Alaska Department of Military and Veterans' Affairs
- Alaska Department of Labor and Workforce Development
- Alaska Department of Transportation and Public Facilities, Northern Region
- Alaska Housing Finance Corporation
- Alaska Industrial Development and Export Authority
- Alaska Job Center Network
- Alaska Railroad
- Alaska State Troopers
- Associated General Contractors of Alaska
- Association of Defense Communities
- Blue Star Families
- Central Labor Council
- Corvias Military Living
- Explore Fairbanks
- Fairbanks Economic Development Corporation

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- Fairbanks Metropolitan Area Transportation System (FMATS)
  - Fairbanks Neighborhood Housing Services
  - Fairbanks North Star Borough School District
  - Foundation Health Partners
  - Golden Valley Electric Association
  - Greater Fairbanks Board of Realtors
  - Greater Fairbanks Chamber of Commerce
  - Interior Alaska Builders Association and other members of the FNSB and Alaska housing and lending community
  - Interior Gas Utility
  - Salcha Senior Center
  - Tanana Chiefs Conference
  - Thread
  - Thrivalaska
  - U.S. Department of Defense
  - U.S. Department of Housing and Urban Development
  - University of Alaska Fairbanks, including the Community and Technical College and other workforce programs

## Project Team

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# Executive Summary

## PART 1

# INTRODUCTION

In 2016, the Air Force announced their final decision to station two squadrons of F-35 Lightning II fighter jets at Eielson Air Force Base. Over the next several years and beyond, the arrival of the F-35s, referred to as the “F-35 Beddown”, will bring 3,300 additional residents (by 2022), businesses and employment opportunities, construction and infrastructure investments, and much more to the Fairbanks North Star Borough (FNSB).

The Borough sought and secured a grant from the U.S. Department of Defense, Office of Economic Adjustment (OEA) to develop this Regional Growth Plan (RGP) toward assessing and preparing the FNSB community for the benefits and potential impacts of the F-35 Beddown. The RGP includes: a robust review of current and projected needs of incoming F-35 families, and existing and other future FNSB residents; a summary of existing programs, services and infrastructure, and

anticipated gaps; and recommended strategies for addressing gaps.

The RGP is a tool for preparing the community for the F-35 Beddown; equally important, it is a tool for improving quality of life for all existing and future FNSB residents. The RGP focus areas include: housing, utilities and infrastructure, transportation, planning and zoning, education and early childhood development, workforce development, health and social services, public safety, quality of life, and fiscal impacts. The RGP considers and aligns with other regional plans and studies, including the FNSB Comprehensive Plan, FNSB Comprehensive Economic Development Strategy (CEDS), the United States Air Force F-35 Operational Beddown – Pacific Final Environmental Impact Statement (EIS), and many other plans led and supported by the FNSB community.



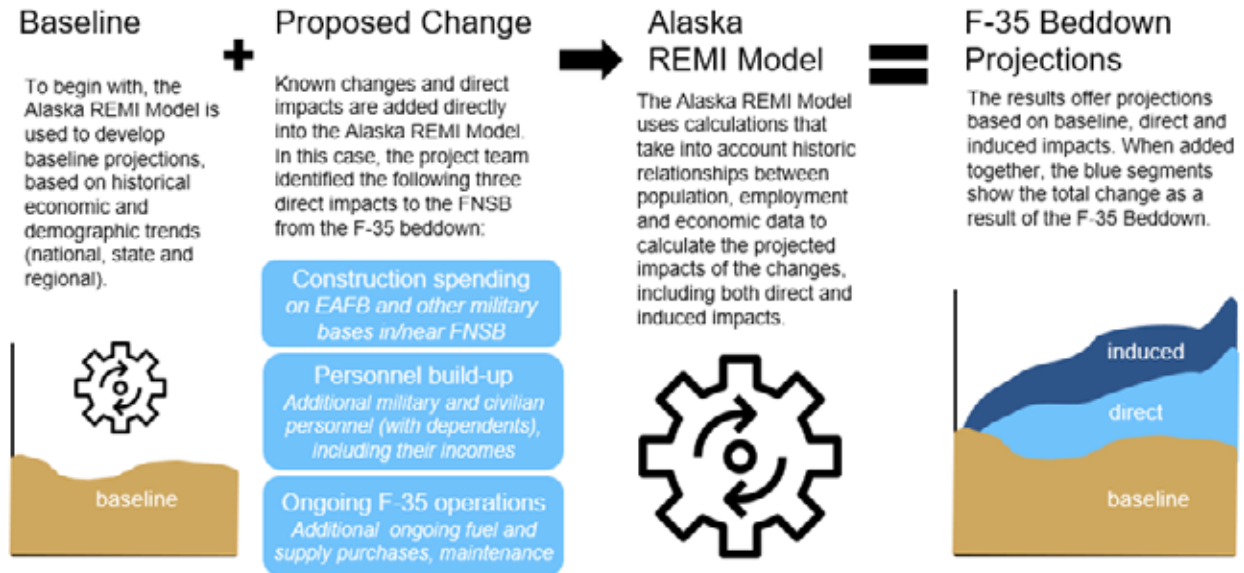
What services, infrastructure, programs and resources do we have today?

What and where are the current and anticipated gaps in services and infrastructure in our community?

What steps should we take to prepare for new residents while also improving quality of life for today's residents?



FIGURE 1: ALASKA REMI MODEL PROJECTION METHODOLOGY



**Estimated Arrival Time of F-35 Personnel by Calendar Year:** The Air Force estimates the F-35 mission will bring 1,353 additional active duty personnel to Eielson Air Force Base, and approximately 1,758 dependents (spouses and

children). Combined with federal employees and technical consultants, the Air Force estimates there will be an additional 3,256 direct employees and dependents by 2022.

FIGURE 2: ESTIMATED ARRIVAL TIME OF EAFB PERSONNEL BY CALENDAR YEAR<sup>2</sup>

Year	2017	2018	2019	2020	2021	2022	TOTAL
F-35 active duty personnel at EAFB	18	9	77	465	617	166	<b>1,353</b>
F-35 active duty personnel dependents (using multiplier of 1.3 <sup>3</sup> )	23	12	100	605	802	216	<b>1,758</b>

Source: Air Force Leadership and Planners

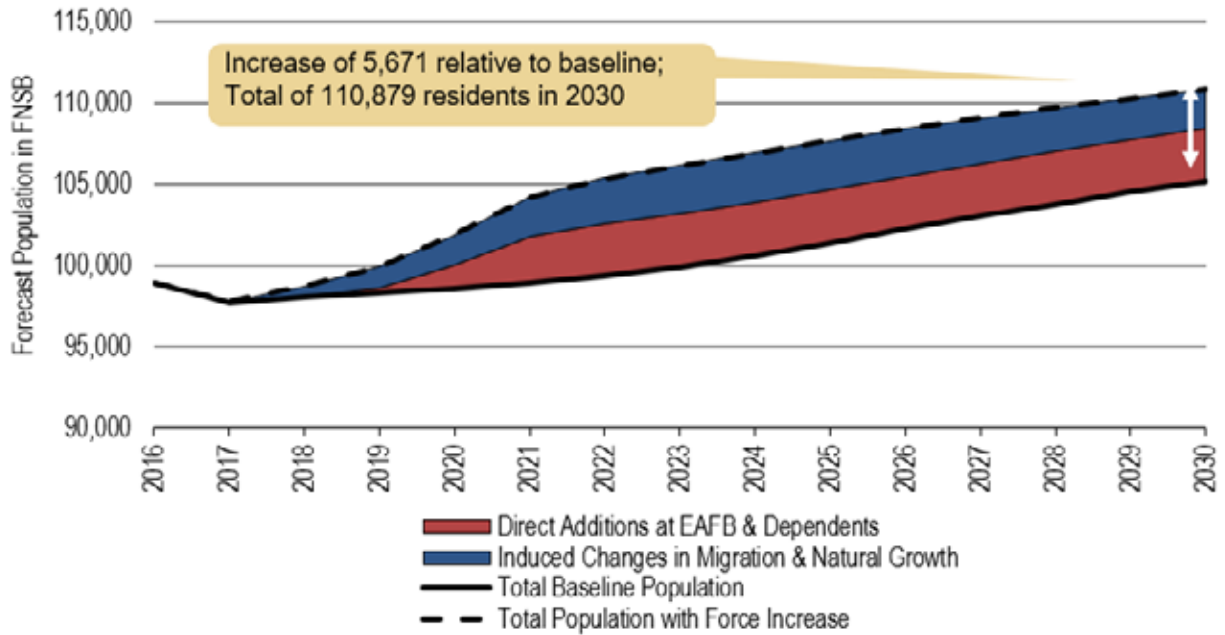
**Projection Finding #1:** The F-35 Beddown will result in a 5.4 percent increase relative to the baseline population (the future FNSB without the F-35 Beddown), or approximately 5,724 more people in FNSB by 2030. This brings the estimated 2030 population from a baseline of 105,208 residents to a revised total of 110,879 residents.

This includes direct F-35 employees and their dependents, retained existing residents and some new people that choose to stay or come to the FNSB to take advantage of increased employment or business opportunities, and, natural births and deaths.

<sup>2</sup> Subject to change.

<sup>3</sup> Multiplier was provided by the Air Force and is based on national trends, average number of dependents (spouses and children) per active duty personnel.

**FIGURE 3: BASELINE AND F-35 BEDDOWN PROJECTIONS OF FNSB POPULATION, 2016–2030**



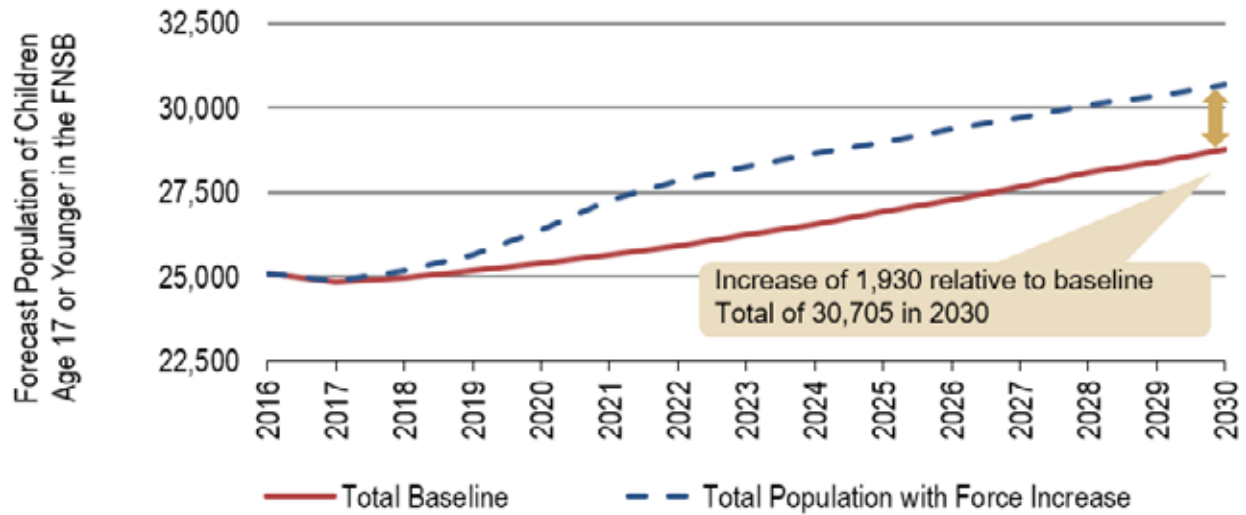
Note: “Other Civilian” includes federal civilians and technical consultants working at EAFB along with their dependents. Induced population is a combination of reductions in out-migration relative to the baseline, along with increases in natural growth.

Source: Alaska REMI Model

**Projection Finding #2:** The F-35 Beddown will result in an additional 1,930 individuals ages 17 and under by 2030. The baseline 2030 population estimate for ages 17 and under is 28,774; with the F-35 Beddown, the revised population estimate for 2030 is 30,705. The biggest increases are preschool age children (infant to four years old) and elementary age children (ages five through ten).



FIGURE 4: POPULATION PROJECTIONS FOR INDIVIDUALS AGE 17 AND UNDER

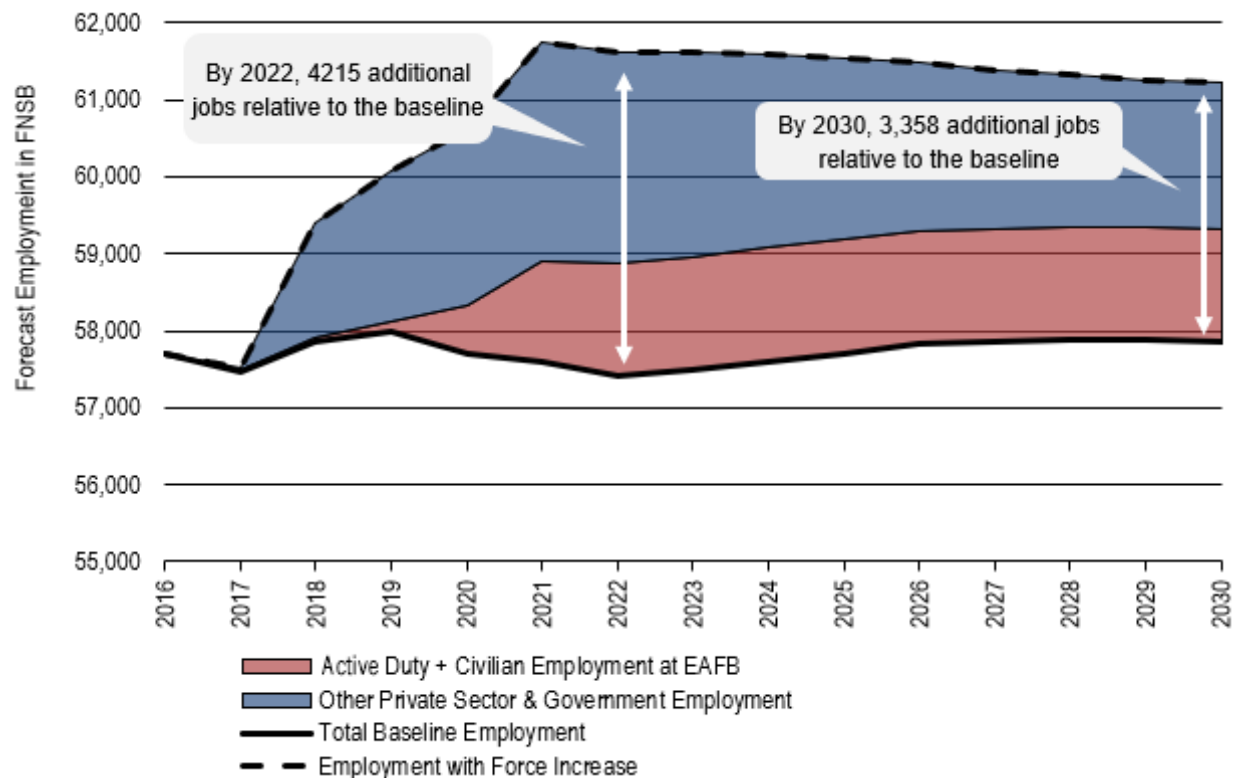


Source: Alaska REMI Model

**Projection Finding #3:** In 2022, with the full force increase, and at the peak of F-35 construction and related activity, the Beddown is expected to create an estimated 4,215 additional jobs relative to the baseline, for a total of 61,604 jobs. By

2030, with an anticipated decrease in construction and related F-35 activity, employment numbers are expected to level out at approximately 3,358 additional jobs above the baseline, for a new total of 61,212 jobs.

FIGURE 5: PRELIMINARY EMPLOYMENT PROJECTIONS FOR F-35 BEDDOWN OPERATIONS AT EAFB



Source: Northern Economics and the Alaska REMI Model

## KEY TAKEAWAYS + RECOMMENDATIONS

The Eielson Regional Growth Plan is organized into ten focus areas. The key takeaways for each focus area are summarized below, along with priority recommendations for each focus area. For more background data, context and detailed recommendations, visit each of the focus area chapters.

### Housing

#### Key Takeaways

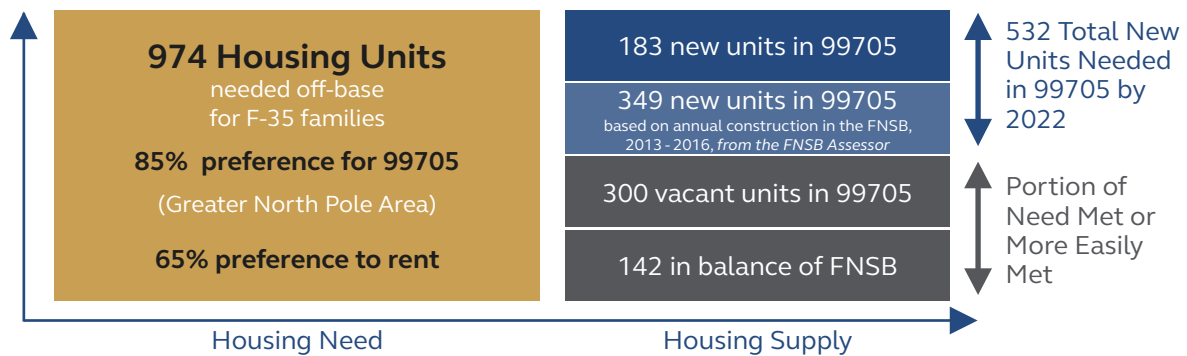
- **Housing Demand.** The F-35 Beddown at Eielson Air Force Base will bring 1,474 new personnel and their families who will need 974 housing units off-base.
- **Housing Supply Compared to Demand Borough-wide.** Borough-wide, the combination of vacant rental housing and the continued pace of new construction, is anticipated to be sufficient to meet housing demands from the F-35 Beddown.
- **There is a preference for housing in the North Pole Zip Code (99705).** Currently, 85 percent of Air Force personnel who live off base opt to live in the Greater North Pole area, or 99705 zip code. That trend is expected to continue for the new personnel.
- **Housing gap in Greater North Pole (99705). Unlike the borough-wide estimates, vacant rental units, alone are not sufficient to meet the demand for housing in 99705.** If the pace of construction in 99705 continues at a rate of 70 units per year, as has been the case over the past five years, an additional 183 units will need to be constructed to meet the off-base housing demand for the F-35 Beddown personnel. This is as total of 532 new units in 99705.
- **Air Force partnership necessary for large military housing project.** Stakeholders, investors, and developers indicate that large scale (100 to 200 units) of speculative rental housing development to serve military personnel is not feasible without some type of non-compete clause, master lease agreement, or base closure guarantee. Some certainty associated with the Air Force presence and a housing development decision is necessary to mitigate the potential for changes in Air Force personnel plans. This is necessary to secure financing for such a large project.
- **A locally-driven private sector approach with incentives is recommended.** Absent an Air Force partnership to support the development of a larger scale military housing project, a more incremental locally-driven approach is recommended and is already happening in the 99705 zip code. The private sector is currently developing subdivisions, building custom homes, and creating new models of detached four-plex projects near EAFB.
- **Establishing a Housing Task Force and Shared Knowledge Base a Critical First Step in Addressing Existing and Future Housing Needs.** The projected housing need, supply and gap summarized in the RGP is based on the best and most comprehensive information available during the project period, but also assumptions regarding historical and existing trends grounded in multiple and robust conversations with Borough staff, local builders and developers, property owners, real estate brokers and lenders. To better understand and respond to current and future housing needs, the community needs a tool, a body and a process for assessing, monitoring and addressing housing needs and development



projects in the FNSB. A comprehensive tool that summarizes details on and status of existing and newly approved subdivisions, including: location and overall goal for the development; number and type of newly constructed and/or rehabilitated units; quality of existing units; proposed construction; and population data such as in/outmigration patterns, would assist the community in addressing both short-term (incoming F-35 population) and longer-term planning (anticipated growth resulting from planned and/or potential economic development projects). In the short-term, a

comprehensive picture of the pace of new construction, and the rate at which new units are (or are not) being absorbed by existing residents, and what is happening to the homes they leave behind, will provide the community a more accurate picture for strategically addressing anticipated gaps. A representative body, like a Housing Task Force, could develop and update the tool, and then work together, with other public, private and non-profit sector partners, to create and implement targeted strategies that will meet the community’s housing goals and vision.

**FIGURE 6: FNSB HOUSING NEED/SUPPLY TO SUPPORT F-35 FAMILIES**



## Recommended Strategies

### Stakeholder Involvement and Implementation

- H1: Create a housing task force; identify and implement priority housing-related actions.

### Market Response to Housing Need

- H2: Allow the market to absorb available rentals.
- H3: Monitor the market's response.
- H4: Work toward a mix of housing types.

### Financial Incentives

- H5: Develop a targeted tax exemption program.
- H6: Create new sources of capital and fully maximize existing opportunities.

### Housing Supportive Policies

- H7: Utilize military facility zones as appropriate.
- H8: Improve land use planning in 99705.

## Utilities and Infrastructure

### Key Takeaways

- The Greater North Pole 99705 zip code area, where most F-35-related growth is expected, offers varied levels of public utilities. Most of the area has access to electrical power. Water and sewer in this area is limited to approximately three quarters of the land within the City of North Pole, and one small water service area on the far western side of Badger Road. The quality of cellular phone service and internet access is inconsistent across this large area.

- Due to groundwater contamination, and the planned solutions to address that issue that include new infrastructure, areas west and north of the City of North Pole will receive public water service. A similar issue and solution is likely in the Moose Creek area. Additional research and coordination is needed to identify if these required solutions might be leveraged to support water service in addition to the areas directly impacted by groundwater contamination. Small increases in the capital costs for these projects could lead to substantial increases in areas with water service.
- New residents associated with F-35 related growth and other borough residents are looking for quality, moderately priced housing. Expanding areas where water and sewer service are available is an essential step in meeting this need, as only with water and sewer can more affordable, smaller lot single family homes and multifamily housing be built. Work is in progress and must continue to find solutions to the near-term challenges of funding public water and sewer.
- An active partnership should be developed with FNSB, the Cities of North Pole and Fairbanks, EAFB, and private cellular services providers, to improve the quality of cell service across the greater North Pole, Eielson and Salcha areas.
- Through this plan, and the Salcha-Badger Road Subarea Plan happening in parallel, the FNSB and partners should initiate more active and effective planning, working to better integrate planning for land use, transportation and utilities. One goal should be supporting expansion of water and sewer as a strategy to concentrate development and address air quality challenges.

- The Borough, the cities, and economic development organizations should implement public education and outreach to build support for improved utilities, including considering new utility organizational structures and boundaries and new funding strategies.

## Recommended Strategies

- UI1: Integrate planning for land use, transportation and utilities.
- UI2: Identify and implement funding strategies for expanding water and wastewater service areas and distribution systems.
- UI3: Work with cell service and internet providers to improve cell phone reception.
- UI4: Build from the work of the Alaska Broadband Task Force, Arctic Council and best practices to develop reliable broadband connectivity in the Salcha-Badger Road area.
- UI5: Use utility and land use planning to support air quality solutions.

## Transportation

### Key Takeaways

#### Road Capacity/Improvement Projects

Recent traffic modeling completed as part of the 2045 Metropolitan Transportation Plan (MTP) Update concludes that the Borough's regional transportation system – primarily the backbone system of major, region-serving highways and arterials – has the capacity to meet projected growth, including the incremental F-35 growth. This presumes the Borough proceeds with the 100-plus previously approved MTP transportation projects in the region. Some re-prioritizing of these approved projects is recommended, to place greater emphasis on projects in the greater North Pole 99705 zip code area. The emerging MTP analysis also shows that some specific locations will likely need

improvement to serve local needs. These include improving several intersections in the Badger Road area expected to be at or near capacity over the next 20 years, including the side streets at the Badger/Nordale and Richardson/Peridot intersections.

#### Changing State Finances

State fiscal challenges are reducing State of Alaska (SOA) funding for transportation capital improvement projects, affecting both projects wholly funded by the State, and the ability of the State to gain available federal funding which requires a relatively small (typically 10 percent) State match. To fill this gap, the Borough needs to begin generating more funding at the local level, to leverage state and federal funds, and begin covering a larger share of the costs for ongoing highway construction and maintenance.

#### Policy Framework

The Borough's current set of policies that control planning and funding transportation and land use activities needs significant improvement. This includes developing better ways to plan for and integrate land use and transportation improvements, new approaches to funding maintenance and capital projects, and improving Borough road service areas policies/regulations. Issues to resolve include numerous substandard roads, thousands of miles of orphan roads (roads without any means for maintenance) and limited options for moving safely, efficiently and enjoyably around the Borough without a private vehicle. Reforming this system will require an active public outreach and education program, to help the public understand and then support the need for new policies and funding strategies required to meet current and future transportation needs.

#### Air Quality Standards

Without an EPA approved air quality plan and active measures to improve air quality, the FNSB stands to lose vital federal funding that helps

improve the region's transportation system. Most of the region's air quality challenges are tied to emissions from heating buildings, but reducing vehicle miles traveled is one important step in improving air quality.

## Recommended Strategies

- T1: Use transportation (and land use) planning to support air quality solutions.
- T2: Continue regional-scale transportation system improvements.
- T3: Carry out subarea land use and transportation planning - see Planning and Zoning Strategy PZ1.
- T4: Identify and implement funding strategies for local/regional-based transportation.
- T5: Advocate and seek funding options for the North Pole Road Rail Crossing Reduction Project and broader scale railroad expansion.
- T6: Address challenges of Road Service Areas (RSAs).
- T7: Work to develop transit options between North Pole, Fairbanks and Eielson AFB - see also Quality of Life Recommendation QOL5.
- T8: Update and improve the FNSB Comprehensive Road Plan.

## Planning and Zoning

### Key Takeaways

- A primary goal of the Regional Growth Plan is to help ensure new F-35 personnel, single airmen, families and other new residents can find and secure quality housing, in nice neighborhoods, close to high quality schools, retail stores and other services. Through this plan, the Borough aims to provide a welcoming, high quality of life so F-35

personnel choose to bring their families with them to the borough. Ideally, those who relocate for the F-35 jobs will sufficiently enjoy their stay so they ultimately find a way to live in the borough. Equally important is ensuring F-35 related growth helps maintain and improve the areas where existing Borough residents, land owners and businesses live and work.

- As is the case today for approximately 85 percent of active duty Air Force personnel stationed at Eielson Air Force Base, most of the new F-35 Beddown residents are expected to seek housing in the "Greater North Pole" 99705 zip code area. In recent years this has been the fastest growing part of the borough, due to its combination of affordable and available properties and attractive, low density residential character. While offering these advantages, the area is currently characterized by inconsistent quality and limited supply of rental housing. The quality of roads and other infrastructure is also inconsistent, and in many locations, roads are not publicly maintained and do not meet the needs of a changing and growing population.
- Compared to the places from which most F-35 Beddown families will be arriving, much of the land in the borough is only lightly regulated. Like much of Alaska, the "toolbox" of policies for guiding growth in the borough - building codes, zoning and subdivision codes, planning for infrastructure - is currently very limited compared to what is common in the Lower 48, and the tools that are available are not applied in all locations. The absence of these policies makes it challenging to meet expectations for quality housing and neighborhoods, for water and wastewater solutions, safe/quality roads and other public services and facilities. The arrival of the F-35s gives an incentive for

improved approaches to managing land use and infrastructure in the borough. Examples of issues to address include land use conflicts, poor quality/energy-inefficient building construction, inefficient land use patterns, and the need for improved roads and other public infrastructure. Working on these topics is an important response to F-35 growth and at the same time offers the chance to improve neighborhoods and roads for existing residents and businesses.

- By design, this plan is directed at regional scale issues and solutions. The Salcha-Badger Road Subarea Plan, in progress starting Spring 2018, provides the means to make progress on more detailed, site specific land use and infrastructure planning issues in the heart of the area affected by the F-35 Beddown.

### Recommended Strategies

- **PZ1:** Use the Salcha-Badger Road Subarea Plan to guide growth, and better integrate land use and infrastructure planning.
- **PZ2:** Improve standards and processes affecting building quality for residential, commercial and other uses.
- **PZ3:** Update and improve FNSB land use categories and map.
- **PZ4:** Improve existing FNSB borough-wide zoning code.
- **PZ5:** Improve planning tools to respond to natural environmental constraints and opportunities.
- **PZ6:** Develop an active monitoring process to assess need and track progress on land use goals.

## Education and Early Childhood Development

### Key Takeaways

- The F-35 Beddown at Eielson Air Force Base will bring an additional 1,922 individuals under the age of 17, for a total of 30,705 individuals age 17 and under in the FNSB by 2030. Approximately 60 percent of these individuals will be school-age, and 40 percent under the age of four.
- Overall capacity is available at the school district level to support this increase, but many of the individual schools near Eielson AFB are at capacity and may struggle to accommodate more students. A shortage of facility capacity for elementary and middle school age students may occur.
- The FNSB region has a shortage of affordable infant and preschool age child care options. On-base care at EAFB is also at capacity, although in recent months the Air Force has successfully expanded provider capacity, thereby increasing the number of child care slots and reducing the waiting lists.

### Recommended Strategies

#### Education

- **E1:** Improve information-sharing between the Air Force and the Fairbanks North Star Borough School District (FNSBSD) around arrival and demographics of families with school-aged children.
- **E2:** Continue to encourage Air Force families to enroll their children in on-base schools, even if living off-base.

- E3: Explore options for elementary and middle schools that are anticipated to reach maximum capacity in 2021 and 2022, especially in the Greater North Pole and Salcha areas.
- E4: Support implementation of existing military grants and explore additional funding opportunities.
- E5: Encourage the State of Alaska to maintain or increase existing levels of funding.
- E6: Streamline the approval process for military-connected students transferring from other states.
- E7: Modify schedules for on-base family events and activities to make it easier for military families with children enrolled in off-base schools to participate.
- E8: Encourage off-base schools and parent-teacher associations (PTAs) with high military-connected student enrollment to expand outreach and education to better engage military families.
- E9: Continue to encourage the bus contractor First Student to improve the reliability of bus transportation
- E10: Offer before and after school programming and/or child care at all local elementary schools.
- E11: Work with the Air Force to waive part of the national accreditation requirements so licensed Alaska providers are eligible for Air Force Child Care Fee Assistance.
- E12: Conduct marketing efforts to ensure local child care providers know about the opportunities, training needs and requirements associated with the F-35 Beddown.
- E13: Expand workforce recruitment to encourage residents and incoming dependents to get trained and licensed as child care providers.
- E14: Continue to implement Alaska's Quality Recognition and Improvement System (QRIS) program.
- E15: Increase communication and collaboration between EAFB Child and Youth Services programs with community and state child care organizations to increase utilization of community resources.

## Workforce Development

### Key Takeaways

- The F-35 Beddown is expected to create an estimated 4,215 additional jobs relative to the baseline by year 2022. This job growth will be phased over multiple years.
- An estimated 1,474 jobs, or one-third of total job gains will be from active duty and civilian employment at EAFB; the remaining non-military related jobs are: forecasted increases in construction (563 jobs), business and household services (477 jobs), retail/wholesale trade (477 jobs) and other categories during the peak of F-35 Beddown-related employment in 2022. Construction employment peaks earlier than overall employment, with 922 additional jobs relative to the baseline in 2019.
- The FNSB workforce must be prepared to fill the increase in new non-military jobs. Targeted and accessible workforce development programs and policies will play an important role in recruiting and training residents and military spouses for these jobs. Partners such as the University of Alaska Fairbanks Community and Technical College (CTC), the Fairbanks Job Center, and the Fairbanks

### Child Care

- E11: Work with the Air Force to waive part of the national accreditation requirements so licensed Alaska providers are eligible for Air Force Child Care Fee Assistance.
- E12: Conduct marketing efforts to ensure local child care providers know about the opportunities, training needs and requirements associated with the F-35 Beddown.

North Star Borough School District's Career and Technical Education Program all have adaptable and community-focused training programs; building on these existing programs to meet incoming needs will be critical.

- An estimated 535 non-military spouses will be accompanying active duty members to EAFB. Many of these individuals will be seeking local employment. The community, the Air Force and the State of Alaska can reduce barriers to military spouse employment through better information sharing, expanding access to affordable child care and removing occupational licensing barriers.
- Military bases are made up of transient households. While there will be a short-term increase in demand for workforce training and employment needs for EAFB dependents, this demand will not go away after the F-35 force increase. To fully support workforce development opportunities for military spouses and families, the FSNB community should put in place long-term sustainable tools for working with the Air Force to proactively assess and address needs to support incoming dependents, including conducting employment-related outreach to families prior to their arrival.

## Recommended Strategies

### Connect Military Spouses with Local Employment

- WFD1: Remove barriers for military spouses to obtain occupational licenses.
- WFD2: Coordinate with the Airman and Family Readiness Center (A&FRC) to supplement existing information sharing with Air Force families before they arrive at EAFB.
- WFD3: Encourage FNSB-located Job Centers, workforce development program representatives and large employers to participate in welcoming programs.
- WFD4: Prior to PCS, conduct debrief/ departure interviews or focus groups with military families regarding experience with FNSB employment and workforce development.
- WFD5: Expand access to affordable child care services for military households.

### Training the FNSB Workforce to Meet Industry Needs

- WFD6: Host local training and employment events for residents and incoming military families to learn about the many education, training and employment opportunities available in FNSB.
- WFD7: Conduct targeted recruitment efforts to encourage businesses to relocate to the FNSB area – see also Fiscal Impact Recommendation FI3.
- WFD8: Support implementation of Alaska's five workforce development plans, including the Maritime Workforce Plan, the Teacher Education Plan, the Oil & Gas Workforce Plan, the Mining Workforce Plan and the Health Workforce Plan.

### Preparing Future Workers

- WFD9: Continue to strengthen and expand existing secondary and postsecondary vocational and technical education programs (i.e., workforce-focused education).
- WFD10: Expand and market the use of University of Alaska's Career Coach, as developed by ESMI.



## Health and Social Services

### Key Takeaways

- Military and community health care providers are cooperating and engaging in strategic planning to meet the medical services needs of the increased EAFB population.
- The FNSB has adequate capacity to meet primary care, most specialty care, hospital and surgical needs of the increased population.
- Otolaryngology (Ear, Nose, Throat) is the one specialty where capacity is limited and may be further reduced by providers being transferred from Basset Army Community Hospital and community providers retiring or leaving the community.
- Access to behavioral health services for service members and their families is not available at EAFB; limited services are available through the TRICARE network, currently managed by Health Net Federal Services, and through agencies in the surrounding community. Priority gaps include pediatric services for children with developmental disabilities or other behavioral health needs, and supportive services for families.

### Recommended Strategies

- **HSS1:** Maintain joint planning and cooperation among military and civilian health planners and health and social service providers serving the region. Consider conducting a joint assessment of health needs and resources on a regular basis.
- **HSS2:** Address known gaps in medical specialty care and behavioral health services.
- **HSS3:** Ensure adequate availability of family support services to build on the strengths of military families and mitigate risks.

## Public Safety

### Key Takeaways

- As a second class Borough, the FNSB has the legal authority to provide a suite of emergency operations services as mandated in Alaska Statute, Title 29: Municipal Government, and as specifically acquired by election or ordinance. These powers include: animal control, fireworks control, emergency medical services (EMS), emergency management, fire protection, and emergency communication services.
- Overall, with existing mutual aid agreements in place, and a potential expansion of those agreements, existing fire protection and EMS resources are adequate to meet increased demand related to the incoming F-35 population. The 911 infrastructure is also adequate to support additional population.
- In the Greater North Pole Area, where most F-35 families are anticipated to live, there may be a need for additional public safety staff, and an evaluation of the location of fire stations and apparatus. This need will be mostly determined by the location of new housing.
- The Alaska Land Mobile Radio (ALMR), a shared and primary radio system for all local, state and federal public safety entities, is challenged by uncertain state funding and poor coverage in some areas of the borough, including those most likely impacted by historical and projected growth (Greater North Pole, Moose Creek and Salcha). FirstNet, a nationwide broadband network for first responders, would supplement and replace ALMR, but the cost and capabilities are uncertain.

- The current process to update the 2015 FNSB Emergency Management Plan is an opportunity to better coordinate across municipalities toward a shared and tested set of borough-wide emergency management priorities.
- The Borough's Animal Control/Shelter has adequate capacity to address F-35 related needs. However, the facility is dated and in need of major upgrades or total replacement to effectively and efficiently address current and projected need. Additionally, the facility was never designed to care for and shelter exotic birds, reptiles and other animals, which comprise an increasing number of animals surrendered to the facility.

## Recommended Strategies

### Fire Protection and Emergency Medical Services

- PS1: Form a mayoral task force to evaluate how the Borough forms, staffs and offers incentives to the volunteer fire and rescue departments.
- PS2: Conduct a detailed analysis of need, location of fire stations and ambulances, and identify optimal positioning.
- PS3: Consolidate local fire and rescue departments and/or consolidate administrative functions.
- PS4: Combine fire and EMS service areas into one large service area.
- PS5: Establish more sustainable funding for existing and/or consolidated fire departments.

### 911

- PS6: Fill positions and add an additional .5 FTE to adequately address additional call volume related to the incoming F-35 population.

### Law Enforcement

- PS7: Consider joint recruitment practices aimed at developing attractive incentive packages and identifying quality recruits for the region.
- PS8: The State of Alaska should explore and implement new methods of retaining Alaska State Troopers.
- PS9: Explore new methods of compensation for public safety employees to increase recruitment and retention.

### Emergency Management

- PS10: Develop and actively test a more coordinated and unified disaster management plan.

### Fire Marshal

- PS11: Fire inspectors should have a role in subdivision approvals to address quality of commercial, industrial and residential construction.
- PS12: Request deferred fire marshal authority to employ an inspector within each fire department.

*See Planning and Zoning focus area for a related strategy to develop and implement borough-wide building and construction standards.*

### Animal Control

- PS13: Develop a master memorandum of agreement with Fort Wainwright and Eielson Air Force Base to provide animal control services.
- PS14: Construct a new animal shelter.

- **PS15:** Update the Borough's 2015 Emergency Management Plan to include actions for shelter and care of domesticated animals during major borough-wide emergency events.

## Quality of Life

### Key Takeaways

- Quality of life is a broad topic that focuses on the characteristics and features in a community that contribute to the overall well-being and satisfaction of its residents. This focus area considers the dining, entertainment, retail, and indoor and outdoor recreation opportunities available to active duty EAFB members and their families; it also relates to and references many of the other focus areas in the RGP.
- Active duty personnel and their families want to feel like they are part of their surrounding civilian community. Unfortunately, achieving community connection and integration is an ongoing challenge across all military bases due to frequent location changes. FNSB is a military-friendly community, which is reflected in its high concentration of military veterans; however, there is still greater opportunity for expanding connections between local businesses, organizations and EAFB families.
- EAFB has many activities and resources available on-base for EAFB personnel and their families. The 354th Force Support Squadron oversees most of these programs through the Morale, Welfare and Recreation (MWR) program. Current facilities and programs have sufficient capacity to absorb the increase in personnel associated with the F-35 Beddown, and should be able to meet increased demand by adding staff and extending facility hours as needed.
- Military families enjoy the extensive outdoor recreation opportunities unique to Interior Alaska, including hiking, hunting, fishing, boating/rafting, gold panning, camping, visiting the hot springs and viewing the northern lights (aurora).
- The City of Fairbanks is the second largest city in Alaska after Anchorage, and offers many retail, dining and indoor recreation opportunities. However, the area within a 20-minute drive radius of EAFB, including the nearby City of North Pole, has limited retail, dining and indoor recreation options. Both civilian residents and military families have indicated support for increased availability of retail, restaurants and other commercial development in the North Pole area.
- Access to health and social services is a critical component of quality of life. There is limited health care available in the immediate vicinity of EAFB. Active duty personnel and their families must travel to Fort Wainwright or Fairbanks for many types of care, and for some specialties, all the way to Anchorage or Seattle. There are gaps in access to behavioral health care, supportive services for families and Otolaryngology (Ear, Nose, Throat) care. Non-military residents in the area have also expressed interest in expanding local options for health care, including primary care providers in the North Pole area.

## Recommended Strategies

### Strengthen Community-Military Partnerships

- **QOL1:** Increase the dissemination of information to EAFB families to increase awareness of and participation in local activities and events.

- **QOL2:** Increase distribution of Explore Fairbanks' list of businesses and partners who offer military discounts.
- **QOL3:** Create a list of volunteer opportunities in the FNSB for military spouses and civilian residents.
- **QOL4:** Improve education and outreach about the availability of existing facilities and outdoor recreation options.
- **QOL5:** Consider providing bus transportation options from EAFB to North Pole and Fairbanks during large events and festivals to increase military engagement in community activities - see also Transportation Recommendation T4.
- **QOL6:** Develop guided programs to introduce newcomers to Alaska's unique outdoor recreational opportunities.
- **QOL7:** Investigate options for developing a community center in the Greater North Pole area.
- **QOL12:** Support implementation efforts to increase bike and pedestrian safety in high-use areas already identified in previous transportation planning.
- **QOL13:** Continue to work with landowners and developers to establish designated recreation areas, including creating and preserving access to trails and recreation from residential areas.

## Fiscal Impact

### Key Takeaways

- The incoming F-35 population will increase the number of residents and students served by local government entities including Fairbanks North Star Borough, the City of Fairbanks, the City of North Pole and the FNSB School District (FNSBSD).
- Increased population and more K-12 students will lead to both greater education revenues and greater expenditures.
- With F-35 Beddown, revenues and expenditures for the FNSB, City of North Pole and City of Fairbanks will increase proportionately, with one important exception:
  - FNSB population growth rates for school age children will far exceed growth rates for adult residents (the number of residents paying property tax, thereby contributing to Borough education funds). Youth population growth, coupled with stagnant State of Alaska funding, could lead to funding challenges for the FNSBSD.
  - FNSB revenues are forecast to exceed expenditures from 2017 to 2024, but in 2025 through 2030, expenditures are expected to exceed forecasted revenues.

### Expand Retail and Commercial Activities near EAFB

- **QOL8:** Establish a military-community liaison to coordinate the sharing of information with EAFB personnel.
- **QOL9:** Continue progress on commercial district rezoning efforts in the City of North Pole.
- **QOL10:** Consider policies that will attract additional businesses to the City of North Pole.
- **QOL11:** Continue to support the wholesale retailer Costco's entry into the FNSB market.
- Expand bicycle and pedestrian connectivity in FNSB

- State of Alaska expenditures are forecasted to exceed anticipated revenues with F-35 Beddown starting in 2025. Specifically, the State of Alaska is a major funder of education, infrastructure, and public safety in the region. Without new revenue streams, the F-35 Beddown would place additional pressures on the dwindling State of Alaska budget.
- Providing high quality on-base housing options for incoming F-35 dependents could help relieve fiscal pressure on FNSB/FNSBSD as a result of greater Federal Impact Aid for students living on base (\$7,725 per student compared to only \$80 for each student living off base).
- Encourage incoming F-35 families to enroll their school-age children in the on-base schools to utilize the excess capacity within the schools located on-base.
- FNSB and FNSBSD should conduct further demographic analysis to confirm projected student populations and develop incremental funding strategies that will adequately fund increased student populations.
- FI2: Encourage EAFB families living on-base to enroll their school-aged children in FNSBSD schools.
- FI3: Develop, implement and support a comprehensive economic development strategy aimed at diversifying and strengthening the FNSB economy.

## **Recommended Strategies**

- FI1: Conduct further demographic analysis to confirm projected student populations and develop incremental funding strategies that will adequately fund increased student populations.





# Regional Growth Plan

## PART 2

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# Introduction and Project Approach

The Fairbanks North Star Borough (FNSB) developed this plan to prepare the community for the arrival of two squadrons of F-35 Lightning II fighter jets (F-35) to be stationed at Eielson Air Force Base (EAFB). The arrival of the F-35s, referred to as the F-35 Beddown, will bring additional residents, employment opportunities, construction investments and more. The Eielson Regional Growth Plan (RGP) explores the impacts of the F-35 Beddown on the FNSB, including a review of Borough-wide programs, services and infrastructure to accommodate the changes. The plan also includes a list of recommendations summarizing ways the FNSB, residents, businesses and the Air Force can prepare for the F-35 Beddown to ensure a successful transition and an enhanced quality of life for both existing and incoming residents.

This plan was prepared under an award from the U.S. Department of Defense, Office of Economic Adjustment (OEA).

## PLAN ORGANIZATION

The Eielson RGP is organized as follows:

**PART 1 – Executive Summary.** This includes overarching RGP goals; tools for achieving RGP-specific goals; and summary of assumptions, projections, and key findings and recommended strategies.

**PART 2 – Focus Area Gaps, Resources and Recommendations.** This includes the following categories:

- Housing
- Planning and Zoning
- Utilities and Infrastructure
- Transportation
- Education and Early Childhood Development
- Workforce Development
- Health and Social Services
- Public Safety
- Quality of Life
- Fiscal Impact

**PART 3 – Implementation Plan**

**PART 4 – Appendices**

# THE PLANNING AREA: THE FAIRBANKS NORTH STAR BOROUGH

## Location Overview

The FNSB is the county level government for the road-connected Interior Alaska region, including the cities of Fairbanks and North Pole and census-designated, non-incorporated communities such as Badger, Moose Creek and Salcha. The FNSB is also home to the U.S. Army Garrison Alaska (specially, Ft. Wainwright) and EAFB. The FNSB covers 7,361 square miles; about one percent of the land is developed for urban, residential, agricultural, or other purposes, with developed, non-military land in and around the cities of Fairbanks and North Pole totaling about 51 square miles.<sup>1</sup>

Figure 1 shows the location of the FNSB in relation to the rest of Alaska and the defined project study area around Eielson. Figure 2 provides a closer look at the project area, including the City of Fairbanks, City of North Pole, Ft. Wainwright and Eielson Air Force Base. The map in Figure 2 covers an area of approximately 800 square miles.

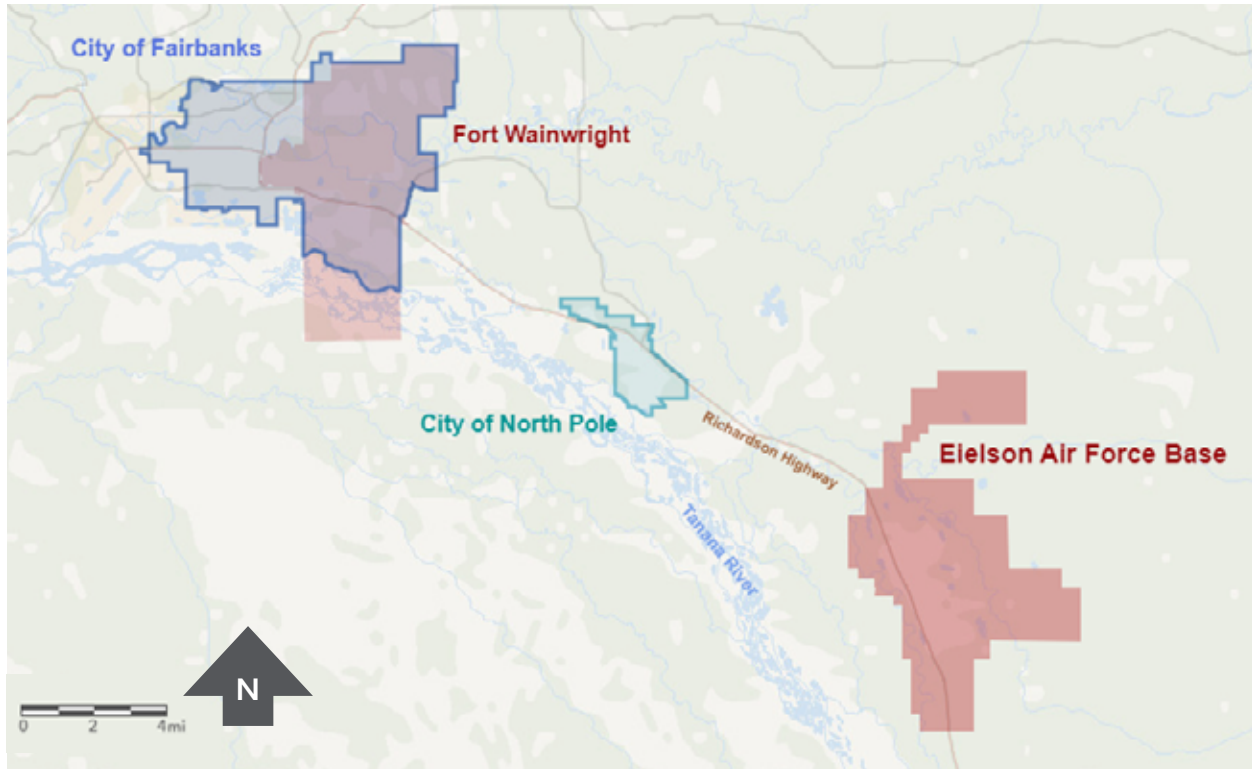
**FIGURE 1: OVERVIEW OF PROJECT AREA**



Map produced by Agnew::Beck using ArcGIS Online; data layers from the FNSB

<sup>1</sup> Alaska Department of Commerce, Community and Economic Development: Community Database Online. Accessed April 2018.

FIGURE 2: FAIRBANKS NORTH STAR BOROUGH



Map produced by Agnew::Beck using ArcGIS Online; data layers from the FNSB



## FNSB Population

The Alaska Department of Labor and Workforce Development (DOLWD)’s 2017 estimate for the FNSB population is 97,738. This is a decline of 1,216 residents between 2016 and 2017, reflecting statewide trends showing Alaska’s first statewide population decline since the late 1980s. While small fluctuations have occurred over the past 10 years, the population has remained generally stable.

The City of Fairbanks includes approximately one-third of the total FNSB population, with an estimated population of 31,905 in 2017. The City of North Pole has a much smaller population of 2,124. The areas surrounding North Pole, including the Badger Road and Moose Creek areas, have almost 20,000 people and comprise the fastest growing area of the FNSB (see Figure 3).<sup>2</sup>

Figure 4 includes borough-wide population trends, plus counts for FNSB military members and their dependents and Eielson specifically.

<sup>2</sup> Northern Economics Inc. based on information from Alaska Department of Labor and Workforce Development and the Alaska REMI Model

Active duty military and their dependents represent between 15 and 20 percent of the total population of the FNSB. Most of these military households are based on Ft. Wainwright Army Base, with EAFB active duty members and dependents composing about one-quarter of the military population in the FNSB.

**FIGURE 3: POPULATION GROWTH RATES, 2000-2010**

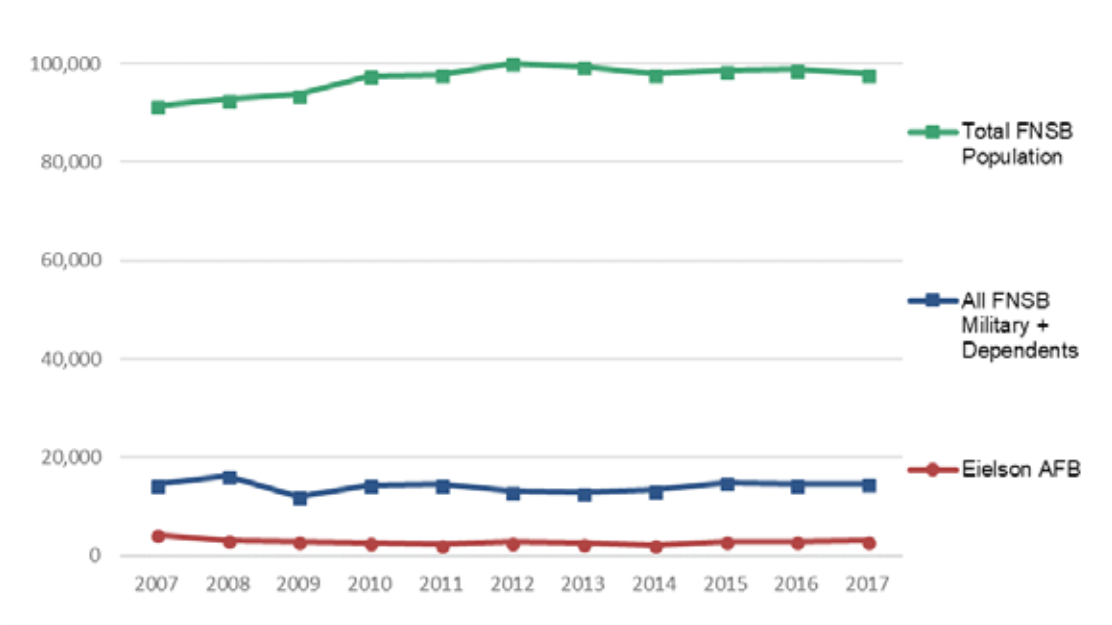
Population Growth between 2000-2010		
Alaska	13%	↑
Fairbanks North Star Borough	18%	↑
Salcha Area	26%	↑
North Pole Area	29%	
Badger Road Area	36%	
Area Northeast of North Pole	41%	

Source: U.S. Census



Photo Credit: Sherman Hogue/Explore Fairbanks

FIGURE 4: HISTORIC MILITARY AND FNSB POPULATION, 2007-2017



Source: Northern Economics Inc. based on information from Alaska Department of Labor and Workforce Development and the Alaska REMI Model

## FNSB Economy

The FNSB is the regional economic hub for Interior Alaska and the transportation hub for North Slope development. Gold was the region's early economic driver during the gold rush in the late 1800s. The introduction of the Alaska Railroad in the 1920s helped establish the Fairbanks area as a transportation hub for the region. Following the discovery of oil at Prudhoe Bay, the FNSB became the staging, service, and supply center for the construction of the Trans-Alaska Pipeline System (TAPS). The discovery of oil and construction of the pipeline accelerated growth in nearly all sectors of the FNSB's economy from 1974 through 1977. The FNSB population increased from 42,000 in 1968 to 70,000 in 1975. Housing was scarce, prices for goods and services skyrocketed and criminal activity increased. This decade transformed the FNSB area from a small collection of communities focused on governmental and university employment, to a growing urban logistic

hub for TAPS and North Slope oil exploration and development.

The military also plays a prominent role in the economy of the region. Overall, military spending in Alaska is the third largest generator of jobs and income. Only oil and nondefense federal spending generate more jobs and income, according to economists at the University of Alaska Anchorage<sup>4</sup>. EAFB is a key driver of the FNSB economy; according to a 2010 publication from the Fairbanks Economic Development Corporation, EAFB generates \$1.5 billion in annual revenue for the local economy, equivalent to 10 percent of total annual revenue in the FNSB.

<sup>3</sup> Information in this section comes from the 2016 FNSB Comprehensive Economic Development Strategy (CEDS) and an April 2018 Economic Trends article from the Alaska Department of Labor and Workforce Development, featuring an overview of FNSB's economy

<sup>4</sup> Alaska Economic Trends, December 2013, pg. 4, "The Military and Alaska's Economy," Neal Fried

## FNSB Military Installations

### Eielson Air Force Base (EAFB)

EAFB is located approximately 26 miles southeast of Fairbanks via the Richardson Highway and is just southeast of Moose Creek. It was established in 1943 as a satellite field to Ladd AFB. It hosts the 354th Fighter Wing assigned to the Eleventh Air Force of the Pacific Air Forces. The 354th Fighter Wing's primary mission is to support Red Flag-Alaska, a series of Pacific Air Force commander-directed field training exercises for US Forces, joint offensive counter-air, interdiction, close-air support, and large force employment training in simulated combat environments. EAFB was named in honor of polar pilot Carl Ben Eielson.<sup>5</sup>

### Ft. Wainwright Army Base (Ft. Wainwright)

Ft. Wainwright was first established in 1939 by the US Army Air Corps as Ladd Field. It was transferred from the United States Air Force (USAF) to the United States Army in 1961 and was re-named Ft. Wainwright, after General Jonathan Mayhew "Skinny" Wainwright, IV.

Ft. Wainwright is home to the only full-service military hospital in the FNSB area, the Bassett Army Hospital.

### Other Nearby Military Installations

There are two military installations near FNSB: Clear Air Force Station (AFS) and Fort Greely. Clear Air Force Station is located about 80 miles southwest of Fairbanks, in the Denali Borough, two miles off the Parks Highway and is under the command of the Alaska Air National Guard. Fort Greely is located 103 miles southeast of Fairbanks on the Richardson Highway, in the Southeast Fairbanks Census Area. Fairbanks serves as the shopping and services hub for Army and Air Force personnel located at Fort Greely and Clear AFS. Even though these two military installations are not located within the FNSB boundaries, construction investments planned for both bases will affect the FNSB economy and the capacity of public service providers.

<sup>5</sup> Eielson AFB military bases web site (<http://www.militarybases.us/eielson-air-force-base/>) accessed 6/20/2017





## PLANNING CONTEXT

### Alaska's Strategic Military Location

In response to international conflicts and relationships, military spending in Alaska has experienced buildups and cutbacks since 1940. Alaska is consistently recognized for its strategic location to respond to calls for U.S. military intervention in Asia, the Pacific and Europe.<sup>6</sup>

According to the F-35 Pacific Operational Beddown Final Environmental Impact Statement (EIS), establishing the F-35s at EAFB addresses the following national security priorities:

- Supports the Pacific rebalance as directed by the President and the Secretary of Defense to counter the threats arising in the Pacific arena;
- Supports the location of robust fifth-generation aircraft capability to offset similar threats in the Pacific Air Force area of responsibility;
- Supports future significant peacekeeping requirements or conflicts that may occur in the Pacific region; and,
- Provides adequate war planning response times in the Pacific Air Force area of responsibility.

The FNSB is a beneficiary of Alaska's strategic location in the Pacific's operations. The vast, sparsely populated land base is ideal for military training needs for relatively unrestricted air space.

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<sup>6</sup> Briefing provided by Eielson AFB staff on June 7, 2017



Beaver Springs Slough Trail  
Photo credit: Agnew::Beck

## History of Planning and Growth at EAFB

In February 2016, Congress approved a federal budget expenditure of \$526.5 million for construction and enhancement of facilities at Eielson, Ft. Wainwright, Fort Greely and Clear AFS. This decision, along with announcements approving the location of two squadrons of F-35 fighter jets at EAFB, will bring changes to the FNSB.

Ten years ago, the future of EAFB was much less certain. In 2005, The Department of Defense (DoD) proposed a major realignment of the base as part of its Base Realignment and Closure (BRAC) program. EAFB was on the potential base closure list. The specific action recommended by the BRAC Commission was to reassign all the A-10 aircraft at Eielson 354th Fighter Wing to a variety of new locations, including the 917th Wing at Barksdale AFB in Louisiana, a new active duty unit at Moody AFB in Georgia and to backup inventory. The 354th's F-16 aircraft would be sent to the 57th Wing at Nellis AFB in Nevada. The Air National Guard Tanker unit and a rescue unit would remain at EAFB, essentially putting the base into "warm storage."<sup>7</sup>



The community argued against the warm storage status, stating the decision deviated from military value criteria, would not produce estimated savings, undermined joint military training and ignored the strategic value of military presence in Alaska. The BRAC sided with the Secretary of Defense justification, which stated the airspace and ranges around Eielson were valuable, but the base was expensive to operate and improve. The Secretary also argued that redistribution of Eielson's aircraft would be to other bases that also ranked high in military value.



While DoD opted not to close the base, it did continue to consider relocating EAFB's squadron of F-16 Fighting Falcons, which according to estimates from the Fairbanks Economic Development Corporation, accounted for over 2,300 military and civilian jobs in the community. During these potential realignment conversations and subsequent efforts to bring F-35s to EAFB, the FNSB community came together in strong support of EAFB. Alaska's U.S. delegation further reinforced the strategic importance of EAFB. In summer 2015, DoD ultimately decided to keep the F-16 squadron at EAFB.<sup>8</sup>

<sup>7</sup> Final Deliberations and Decisions, Department of Defense, Defense Base Closure and Realignment Commission, August 2005

<sup>8</sup> Fairbanks Daily News-Miner, "Air Force: F-16s to remain at Eielson Air Force Base." Published April 14, 2015.

Through a series of environmental reviews conducted by the US Air Force from 2007 to 2016, the Secretary of the Air Force determined there was a need to locate F-35 aircraft in the Pacific Air Force (PACAF) Area of Responsibility (AOR) for the 2nd operational beddown of F-35 squadrons.<sup>9</sup> After receiving the decision this second F-35 beddown would take place in the Pacific, PACAF, Air Combat Command, and Deputy Assistant Secretary of the Air Force Strategic Basing Division undertook an Enterprise-Wide evaluation to identify a suitable location to base the F-35 in the PACAF AOR. Eligible bases included U.S. Air Force main operating installations currently supporting the combatant commander for fighter operations. Based on strategic requirements, site survey results, and application of the selection criteria, the Secretary of the Air Force selected Eielson AFB as the preferred location for basing the two F-35 squadrons (48 Primary Assigned Aircraft [PAA] and 6 Backup Aircraft Inventory) in the PACAF AOR. Two alternatives were identified for analysis in the EIS – the no-action and proposed action alternatives.<sup>10</sup>

In April 2016, the United States Air Force released a Record of Decision announcement that EAFB had been selected for the two squadrons of F-35 aircraft.

<sup>9</sup> There are three main variants of the F-35 fighter jet; the F-35 is the conventional takeoff and landing variant. There is also the F-35B short takeoff/vertical landing variant and the F-35C carrier variant. To learn more, visit <https://www.f35.com/about/variants>.

<sup>10</sup> United States Air Force F-35 Operational Basing Environmental Impact Statement, February 2016







## Alaska's Evolving Economy

The F-35 Beddown is occurring against a backdrop of other economic changes, including a statewide recession. In the early days, Alaska's economy was driven by fishing, timber and government/military spending. Oil discoveries in the 1960s provided a new source of wealth for the state and attracted new residents and related growth. Alaska's economy remains heavily dependent on the price of oil, which has funded state government spending since the individual income tax was abolished in 1980.

Recent years of low oil prices have resulted in sharp declines in state revenue, causing annual deficits in Alaska's budget. State of Alaska savings accounts, which have been used to offset the annual deficits, are nearly exhausted, despite severe budget cuts. These budget cuts to state spending and employment, along with the fiscal uncertainty the budget issue creates, have resulted in the statewide recession. For the first time since the 1980s, the population of Alaska declined in 2017, with rising statewide unemployment over the past four years. Forecasts project that Alaska will continue to lose jobs in 2018, but at a slower pace than previous years.<sup>11</sup>

These statewide economic trends influence the FNSB economy. For example, FNSB has been losing residents to outmigration since 2012, and one of the largest employers in the region, the University of Alaska Fairbanks, has sustained deep cuts. The F-35-related growth should be viewed in context with these overall statewide declines and the local impacts of those losses.

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<sup>11</sup> Institute of Social and Economic Research: "What do we know to date about the Alaska recession and the fiscal crunch?" by Mouhcine Guettabi, February 12, 2018.

# PROJECT APPROACH

## Overview

Personnel and operational changes on military bases can have significant impacts on the economies of nearby communities. The FNSB community needs and wants to be prepared.

- **Will there be sufficient capacity for new students in local schools?**
- **Will there be enough housing units available off-base for the incoming families, and will available units meet the characteristics desired by Air Force personnel and their families?**
- **How will demand change for water and sewer, roads and trails, police and fire, and parks and open space?**
- **How can the community, local businesses and residents prepare to meet the needs of these incoming military personnel and their families, while still ensuring a high quality of life for existing families?**
- **Overall, how can existing residents and businesses leverage this opportunity to make longstanding improvements to community programs, services and infrastructure?**

To answer these and other questions, the Eielson Regional Growth Planning team initiated the project with a gap analysis, comparing need to existing conditions (infrastructure, programs and services). The planning team reviewed existing plans and reports, but also met with Borough staff, the business community, the school district, military planners, local, state and federal leaders,

developers and representatives from the housing, transportation, public service, health and other fields to gather and summarize information. Following the gap analysis, the team continued their work with local, regional, state and federal partners to prepare preliminary recommended solutions and strategies for each RGP focus area, with an eye toward meeting any known resource gaps, and ways to best support the F-35 mission.

Throughout the planning process, the FNSB Tiger Team, a group of elected local, state and federal officials, including Borough, City of Fairbanks and North Pole community leaders, led by FNSB Mayor Karl Kassel, has provided both individual and team input on draft planning products. Many Tiger Team members were interviewed and/or participated in focus area strategy sessions. Many of these same individuals were instrumental in the “Save Eielson” effort, and later, in the successful assignment of the two F-35 squadrons to Eielson AFB. The Tiger Team has provided valuable direction and information about issues of highest importance to the FNSB community, and provided feedback on the best ways to engage with the FNSB community and key stakeholders. This group’s ongoing support and leadership will be instrumental in the success of RGP implementation.

Equally important to the success of the planning process and future implementation, are the leadership and contributions of the FNSB Mayor’s Office and the FNSB Community Planning Department. The Regional Growth Plan team has worked closely with both offices to develop draft plan products, and to identify key issues and focus the public participation effort.

## Community Outreach and Involvement

The project community outreach plan was designed to share information, learn from and be guided by local and regional leaders and community members. The project planning team used a range of outreach techniques and tools to connect with stakeholders and residents through the planning process, including:

### Community and Stakeholder Presentations

The project team presented at and participated in many community discussions over a one-year period; highlights include:

- Throughout the project: meetings with FNSB, City of Fairbanks, City of North Pole, Eielson Air Force Base, Ft. Wainwright leadership and staff; and presentations and discussions with the Tiger Team
- June 2017: Greater Fairbanks Chamber of Commerce
- June 2017: FNSB Planning Commission
- June 2017: Fairbanks Economic Development Corporation (FEDC) Housing Summit
- August 2017: Community meeting in Salcha
- August 2017: North Pole City Council
- August 2017: Greater Fairbanks Chamber of Commerce
- August 2017: FNSB Planning Commission
- August 2017: Greater Fairbanks Board of Realtors (see photo below)
- August 2017: FNSB School District Superintendent and Directors
- August 2017: Fairbanks Community Healthcare Foundation Administrators
- August 2017: Interior State Delegation
- August 2017: FNSB Assembly
- September 2017: Fairbanks City Council
- October 2017: Air Force Site Activation Task Force (SATAF)
- November 2017: Foundation Health







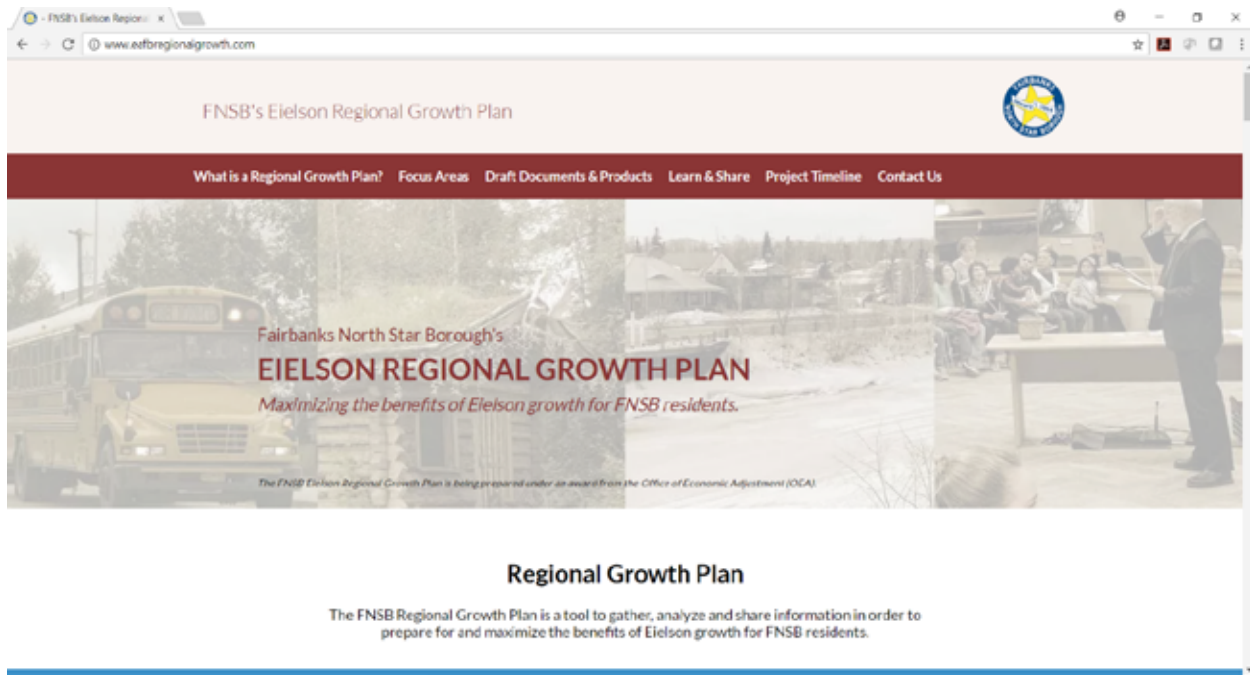
Source: Fairbanks Daily News Miner

- November 2017: Tiger Team meeting and RGP update to Governor Walker (see photo above)
  - November 2017: Workforce development strategy session with local and state education, workforce and training sector representatives
  - December 2017: Housing strategy session with housing sector representatives including local and other Alaska builders/developers, financial institutions, Borough and City municipal leaders and staff, Cold Climate Housing Research Center, Alaska Housing Finance Corporation, Alaska Industrial Development and Export Authority, Interior Regional Housing Authority, U.S. Department of Housing and Urban Development
  - April 2018: Greater Fairbanks Board of Realtors
  - April 2018: Air Force Site Activation Force
- Planned for June 2018**
- Community Meeting
  - FNSB Assembly
  - Greater Fairbanks Chamber of Commerce
- Already Completed**
- FNSB Planning Commission
  - May 2018: Fairbanks and North Pole City Councils
  - May 2018: FNSB Planning Commission

## Project Website

A project website (<http://www.eafbregionalgrowth.com/>) was established for the project and was used to announce upcoming events, share project

information and electronic copies of presentations and draft products.



## Email Updates

Interested community and other stakeholders could sign up for project updates by emailing the FNSB project manager, or submitting a request on the project website. Updates were emailed approximately once every three months with draft findings and new opportunities for resident and other stakeholder participation. Over 250 individuals requested and receive project updates.

## Interviews

Interviewing key community leaders and stakeholders provided useful background context early in the process and helped identify preliminary issues, opportunities and priorities. Later in the process, the project team used interviews and small group discussions to share and refine recommendations. Moving forward,

these community and other stakeholders will be key partners in implementation and evaluation of plan progress.

Each focus area was developed with input from stakeholder experts. For example, during the development of the Education and Early Childhood Development focus area, the project team spoke with the FNSB School District, the EAFB School Liaison Officer, the program manager for the Alaska Child Care Program office, representatives at the EAFB Child Development Center, Family Child Care Office and School Age Center, child-focused nonprofits Thrivalaska and Thread, and the UAF Community and Technical College's Early Childhood Education program. Overall, the project team conducted 80 interviews.



## Focus Groups

With coordination assistance from EAFB personnel, the planning team facilitated five focus groups with EAFB personnel and their families. Each focus group session was two hours, and included a range of interactive audience responses, of live voting, polling and discussion. The focus groups provided detailed information about perceptions, opinions and perspectives on a variety of RGP topics. While the information offered a level of detail unavailable through other planning tools and was one of the methods used to inform the planning effort, the focus group responses are not meant to be representative of all EAFB personnel and their families (see the Housing Appendix for a summary of focus group results).

Overall, the team held five focus groups with a total of 38 participants:

- Focus Group #1: Families who live on base with kids, 11 participants
- Focus Group #2: Families who live off base with kids, 8 participants
- Focus Group #3: Personnel on base with no kids, 10 participants
- Focus Group #4: Personnel on base with no kids, 7 participants
- Focus Group #5: Civilians, 2 participants

Direct quotes from community outreach efforts, including interviews, focus groups, strategy sessions and other events are integrated throughout the RGP.

Following, is a detailed overview of RGP growth projections, including an introduction and summary of the Alaska REMI Model; methodology; projections and limitations; and, exclusions of the model and the RGP process.



Source: Agnew::Beck





# Growth Projections

## OVERVIEW OF ALASKA REMI MODEL

The Alaska Regional Economic Model Inc. (REMI) was developed for Northern Economics (NEI) in a collaborative process with Regional Economic Models, Inc.

The Alaska REMI model, a dynamic multi-year forecasting tool, has been designed specifically to overcome theoretical issues inherent in “static models” such as IMPLAN. All REMI Models incorporate a complete input-output model, as well as a robust general equilibrium model, a population cohort model, and an economic geography model. The combination of these tools results in a model, that in conjunction with information on direct changes from the F-35 beddown, will yield realistic estimates of borough-wide changes in employment and population in the FNSB. The Alaska REMI model was customized to specifically recognize the relationship between population and employment, as well as the inherent population growth through migration and natural growth that is expected to occur over time.

NEI utilized the Alaska REMI Model to develop a robust and reliable forecast of the population and employment impacts of the F-35 beddown. The model uses a complex set of historical trends and data sources that help identify relationships between different economic indicators and predict the impacts of certain changes.

REMI can provide economic projections through 2060. The project team selected the 2030 timeframe based on the time needed to show the full impacts of the F-35 expansion on the FNSB economy. Initially, there will be far more jobs created through construction and construction support, but further out, especially beyond 2022 when most construction will be complete and F-35 personnel would have

arrived, those indirect and induced jobs will reduce until the impacts are more constant over time. 2030 is an appropriate window to draw impacts out to their full lifespan. Additionally, the REMI baseline, which can be affected by an infinite number of unexpected economic shocks, becomes less certain the further the outlook. The F-35 impacts estimates are much more certain in 2030 because that labor force and population is explicitly defined, regardless of what’s going on in the baseline economy.

The Alaska REMI model is a top-down forecasting model, using econometric relationships from historical data to project future outcomes within the local and national context. REMI forecasts start with a national forecast of future economic activity. The national forecast is the driver of change in the state level forecast, and then state level forecasts becomes the driver of change in the regional level forecast. The speed of economic responses is also estimated, since different adjustment periods will result in different policy recommendations and different economic outcomes. All forecasts rely on a broad and consistent set of historic economic and demographic indicators generated by the U.S. Census Bureau, the U.S. Bureau of Labor Statistics, and the U.S. Bureau of Economic Analysis.

For more detailed information on REMI, visit [www.remi.com](http://www.remi.com).

## METHODOLOGY

### Baseline Projections

NEI used the Alaska REMI model to predict the projected population, employment and other changes in the FNSB as a result of the F-35 beddown. As a start, the team developed the baseline forecast for the region, or the projected population and employment numbers for the FNSB assuming status quo, with no additional changes or impacts such as the F-35 beddown. The baseline forecast for FNSB comes standard with the Alaska REMI model and projects population, employment, demographic, and other economic variables through 2030. The baseline forecast is the “control” against which the potential scenario is evaluated. In this case, the scenario is the revised forecast that captures the direct changes expected to occur with the F-35 beddown.

The historic population estimates in the REMI model come from the Alaska Department of Labor and Workforce Development (DOLWD) and the U.S. Census Bureau. The baseline regional economic forecast is largely derived from national Bureau of Labor Statistics (BLS) and Bureau of Economic Analysis (BEA).<sup>1</sup> This forecast is estimated through a system of equations that estimates the region’s share of state and national employment, product, migration, etc. Most important – the REMI model uses both historical datasets to draw basic proportions and trends and historical data from multiple sources to establish statistical relationships over time between local, state, and national historical indicators.

<sup>1</sup> A discussion of REMI data sources can be found in full here: [http://www.remi.com/wp-content/uploads/2017/10/Data-Sources-and-Estimation-Procedures-v2\\_1.pdf](http://www.remi.com/wp-content/uploads/2017/10/Data-Sources-and-Estimation-Procedures-v2_1.pdf). Tables of data references begin on page 60.

A simple, and applicable, example of how the model can “foresee” changes in the future is the relationship between Alaska employment and national commodity prices, such as oil. The model will start with a simple employment assumption from the BEA. The model will next look back through history to identify what, if any, relationship has been between oil prices and employment at the state and local level, and if so, to what degree. Once some relationship is established (positive or negative), the model adjusts the base employment over time by that amount. The REMI model estimates these types of relationships at the state and regional level, since what is positive for one economy may be negative for another.

A change in any national or state indicators would likely not immediately impact the local level, or FNSB in this case. For this reason, REMI equations also estimate the speed at which a change in the national or state forecast effects the regional or local level. These relationships are also established through historical data. For example, the same equations that estimate how employment reacts to national oil prices, also observe how fast those reactions occur within larger or smaller populations. The larger the population, the more diverse the economy, and the less impact and slower rate at which national trends will impact the local economy. This estimated delay helps explain the delay we see in the baseline employment declines in FNSB.

The Eielson Regional Growth Plan team made two customized exceptions to the baseline projections:

First, the REMI model incorporated recent (2016 and 2017) population and employment data. This was an important modification because without this data, the historical trends were not fully capturing Alaska’s recession, and with 2016 and 2017 added, the baseline should more accurately reflect the



current economic and population declines due to the statewide recession.

Second, the baseline forecast for military was also customized to create a stable and constant baseline military presence in the FNSB; the standard REMI forecasts assume that military populations in all areas will decline in the future in line with the long-term national trend for the size of the active duty military population.

### **F-35 Beddown: Direct Impacts are Input into Alaska REMI Model**

To incorporate F-35 beddown impacts to the FNSB, NEI identified three specific phases to insert into the Alaska REMI model. These phases are direct estimates and known effects on the local economy. For each component, NEI identified a set of variables to input into the Alaska REMI model's calculations. The three phases include: 1) Construction, 2) Personnel Build-up; and 3) Full Operations. The inputs for each of the components are summarized in more detail below.

**Direct Input: Construction.** A total of \$324 million in construction spending was entered into the Alaska REMI Model to capture anticipated FNSB construction growth. Construction inputs are based on the following primary sources of information:

1. U.S. Under Secretary of Defense (Comptroller), Department of Defense Budget.<sup>2</sup>
2. Federal Business Opportunities.<sup>3</sup>
3. Electronic communications August 2017 through May 2018 with Kevin Blanchard, 354 FW/F-35 Director; Michael Levelier, Contracts Officer for EAFB; Michelle Mandel, Contracting Officer for the U.S. Corps of Engineers; and Nathan Bergerbest, Deputy

<sup>2</sup> <http://comptroller.defense.gov/Budget-Materials/>.

<sup>3</sup> <https://www.fbo.gov/index?s=main&mode=list&tab=list&tabmode=list>.

Chief of Staff for U.S. Senator Lisa Murkowski (Alaska).

Inputs include:

1. \$177.3 million for EAFB projects (of an approximate \$532 million<sup>4</sup>, FY 2018 through FY 2030). This estimate, with approximately 33.3 percent of total contract dollars going to FNSB contractors, is based on known FY18 through FY21 budget allocations<sup>5</sup>, contract awards, contractor origins (i.e., FNSB community-based or not), and estimated annual spending for F-35 operations, 2021-2030.
2. \$6.1 million for Fort Wainwright projects (of an approximate \$18 million<sup>6</sup>, FY 2018 through FY 2021). This estimate, with approximately 33.3 percent of total contract dollars going to FNSB contractors, is based on known FY18 through FY21 budget allocations, contract awards, and contractor origins (i.e., FNSB community-based or not).
3. \$63.8 million for Fort Greely projects (of an approximate \$191 million<sup>7</sup>, FY 2018 through FY 2021). This estimate, with approximately 33.3 percent of total contract dollars going to FNSB contractors, is based on known FY18 through FY21 budget allocations, contract awards, and contractor origins (i.e., FNSB community-based or not).

<sup>4</sup> The remaining approximate \$354.7 million in construction projects on EAFB are projected to go to Anchorage and Mat-Su-based contractors.

<sup>5</sup> FY16 and FY17 dollar amounts are not included, as those "economic impacts" or "shocks" to the economy have been considered in the Alaska Department of Labor and Workforce Development Employment and Wages data for 2016 and 2017.

<sup>6</sup> The remaining approximate \$11.9 in construction projects on Ft. Wainwright are projected to go to other Alaska contractors (outside of the FNSB community).

<sup>7</sup> The remaining approximate \$127.2 in construction projects on Ft. Greely are projected to go to other Alaska contractors (outside of the FNSB community).

4. \$76.9 million for Clear Air Force Station projects (of an approximate \$308 million<sup>8</sup>, FY 2018 through FY 2021). This estimate, with approximately 25 percent of total contract dollars going to FNSB contractors, is based on known FY18 through FY21 budget allocations, contract awards, and contractor origins (i.e., FNSB community-based or not).

Additionally, the estimated project period and associated dollar amount is input into the model for every project. This level of detail is critical to understanding the timing and intensity of growth resulting from F-35 spending on EAFB. For example:

- A project estimated to start January 1, 2019, with a completion date of June 30, 2020 (547 days), with a total cost of \$10,000,000;
- Spending has been evenly allocated across the project period, on a per day basis, or,  $\$10,000,000/547 = \text{Approximately } \$18,282 \text{ per day}$ , across the project period (1/1/19 through 6/30/20).

**Direct Input: Personnel Build-up.** The personnel build-up phase includes active duty and civilian personnel (along with their families, or dependents) that will come to EAFB as part of the F-35 mission between 2017 and 2022. These include 1,353 active duty personnel, 66 federal civilian employees, 55 technical consultants, and an estimated 1,783 dependents. An overview of arrival times for F-35-related active duty military personnel on EAFB is shown Figure 1. The active duty personnel and the civilian hires are added to the REMI model as “additional employees” within the FNSB, while their dependents are added as additional population.

By adding these new personnel, we also add income and income supplements that are paid to military personnel such as basic allowance for housing. The EAFB population growth estimates for this plan came from the estimated EAFB personnel timeline and the construction projects planned for the Fairbanks area related to the F-35 beddown, as shared directly by Air Force leadership and planners. The personnel timeline includes details such as the anticipated arrival time and projections on the rank, marital status, number of dependents and other characteristics of expected F-35 active duty personnel; much of this information has been applied to the housing discussion to estimate housing needs and available supply (and gaps) for incoming EAFB personnel and their families.

When inputting new personnel into the model, the project planning team assumed 100 percent of technical consultant positions and 80 percent of new Department of Defense civilian employee positions will be filled by persons already employed by Lockheed Martin or at Air Force bases outside the FNSB. These civilian employees and technical consultants would become permanent residents. All active duty personnel will regularly rotate in and out of EAFB, typically serving three-year assignments. This means after the transition period, approximately one-third of all active duty personnel will leave FNSB each year to be replaced by new personnel, who are demographically similar to the outgoing personnel.

<sup>8</sup> The remaining approximate \$231.1 in construction projects at Clear Air Force Station are projected to go to other Alaska contractors (outside of the FNSB community).

FIGURE 1: ESTIMATED ARRIVAL TIME OF EAFB PERSONNEL BY CALENDAR YEAR

Year	2017	2018	2019	2020	2021	2022	TOTAL
Active duty personnel added to EAFB	18	9	77	465	617	166	<b>1,353</b>
EAFB dependents (using multiplier of 1.3)	23	12	100	605	802	216	<b>1,758</b>

By adding in the approximately 121 federal employees and technical consultants and their families, the project team projects there will be an additional 3,256 direct employees and dependents by 2030.

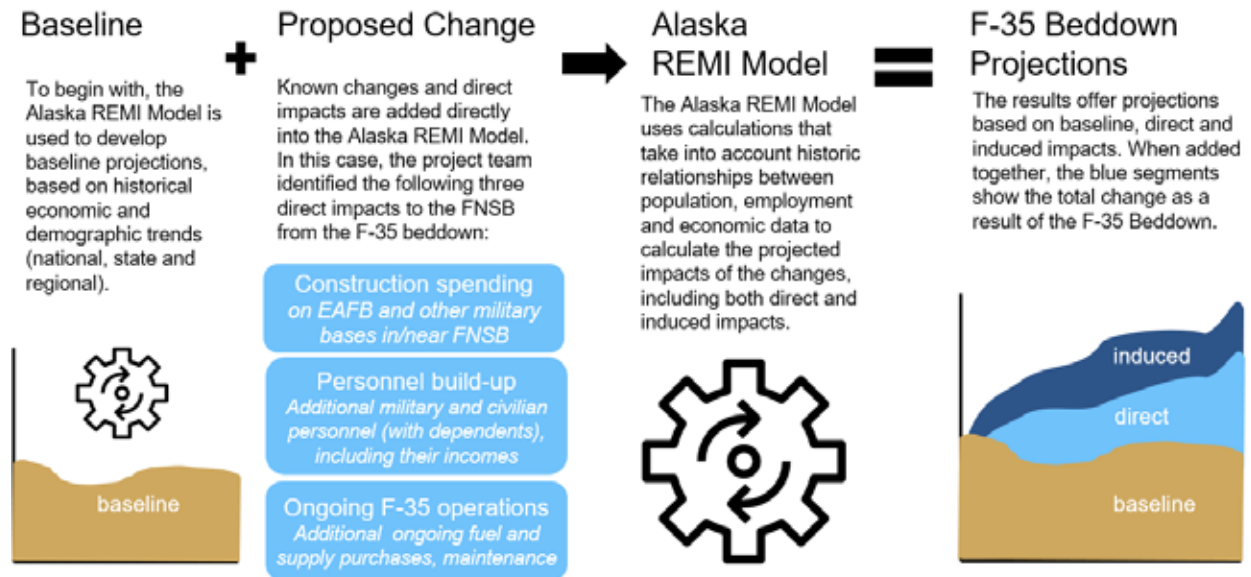
While direct personnel build-up estimates are useful, they do not account for all the anticipated population growth resulting from the increase in economic activity created by the increased population and new construction. To make a fully developed projection of population growth after the F-35 beddown, the Alaska REMI model uses the direct inputs to anticipate changes to baseline births, deaths and migration in the FNSB, which are considered “induced” changes. These induced changes are factored into the growth projections below.

**Direct Input: Full Operations.** The operational phase begins in late 2022, once the full complement of additional personnel has arrived at Eielson. During the operational phase, purchases of jet fuel and coal continue, as do expenditures for base maintenance. These base maintenance levels are included because they will be greater than pre-F-35

levels and are considered an ongoing addition to the baseline activity. In addition, the ongoing cycle of personnel rotations every three years as military personnel undergo permanent change of station (PCS) to other military bases creates a significant boost in the demand for household moving services in the FNSB, and was therefore entered as an additional direct impact into the Alaska REMI model.

After adding these inputs, the REMI model is run, and the revised forecast (relative to the baseline) is generated. The revised forecast is then compared to the control (baseline) forecasts, and the differences are calculated. The differences between the baseline forecast and the revised forecast are the impacts of the F-35 beddown. Figure 2 depicts a simple graphic outlining the Alaska REMI model methodology.

FIGURE 2: OVERVIEW OF THE ALASKA REMI MODEL METHODOLOGY



## PROJECTIONS

This section contains a brief summary of findings from the Alaska REMI Model projections. For detailed tables and figures, visit the Growth Projections Appendix. For further discussion on the fiscal impacts of the F-35 beddown on the local, regional and state economy, see the Fiscal Impacts focus area. For further discussion on projections of school-age children, see the Education and Early Childhood Education focus area. For more information on employment and occupational projections, refer to the Workforce Development focus area.

### Population Projections

Alaska REMI model projections indicate the FNSB will see a 5.4 percent increase over baseline population numbers over the coming years, for an estimated “increase” of 5,671 residents in FNSB by 2030. In other words, there will be approximately 5,671 residents in the FNSB that would otherwise not be in the community, were it not for the F-35

beddown. There are two primary factors driving this increase, summarized below, and available in table form in Figure 3 and graphical form in Figure 4.

- An estimated direct increase of 3,256 active duty personnel, civilians, consultants and dependents by the year 2022 arriving through the F-35 beddown.
- Indirect population growth of 2,415 by the year 2030, relative to the baseline. The indirect growth has two components:
  - Induced population growth that occurs as new money is spent, jobs are added, and the economy grows and re-spends in response to the activity from the F-35 beddown. With the addition of the F-35 beddown into the model, FNSB still experiences a net loss of residents due to out-migration, but at a reduced rate from the baseline. The resulting induced population growth seen in the model is more a factor of people deciding to stay in Fairbanks versus more people moving to

Fairbanks; it results in increased retention of existing residents, which shows as induced population growth as a result of the F-35 beddown.

- Natural growth resulting from more births due to the higher population in the FNSB.

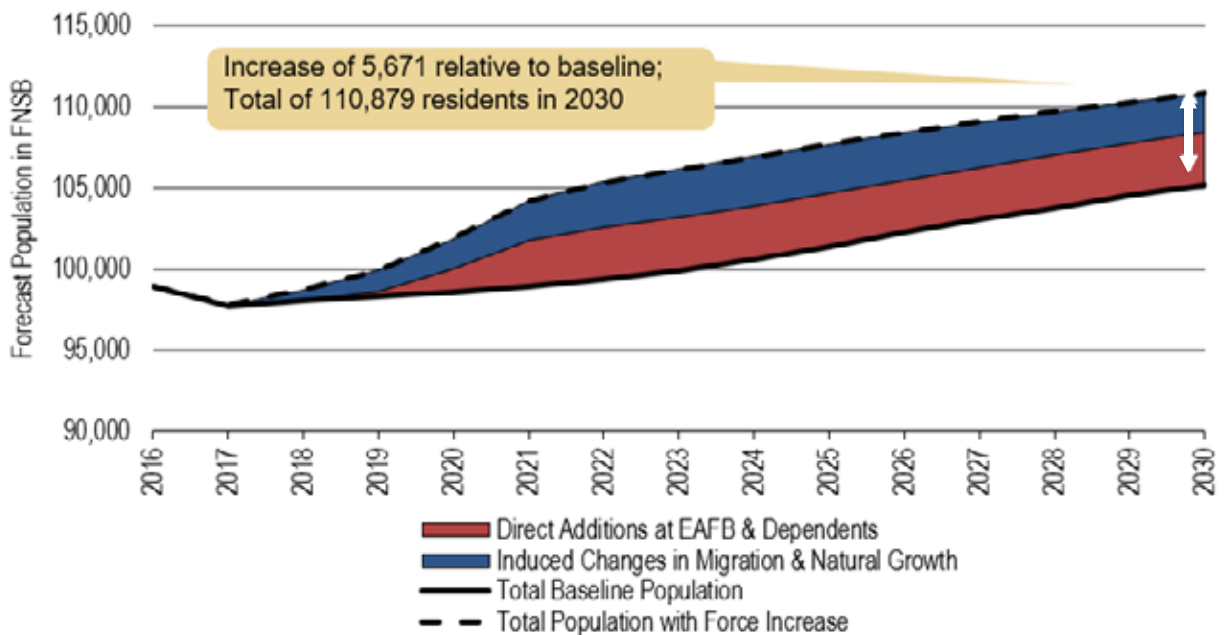
For a detailed table outlining the annual changes in baseline, indirect and total population, refer to Growth Projections Appendix.

**FIGURE 3: BREAKDOWN OF FNSB POPULATION INCREASES**

Component of Population Change	Estimated Increase	Timing
Direct EAFB Employees and Dependents	+ 3,256	By 2022
Active Duty Personnel	1,353	Start to arrive in 2017
Federal Civilian Employees	66	
Technical Consultants	55	
Dependents of Direct Employees	1,782	
Indirect Growth (includes "Induced" and Natural Growth)	+ 2,415	By 2030
<b>TOTAL</b>	<b>= 5,671 additional/ retained residents</b>	<b>By 2030</b>

Source: Northern Economics; Alaska REMI Model

**FIGURE 4. BASELINE AND F-35 BEDDOWN PROJECTIONS OF FNSB POPULATION, 2016–2030**

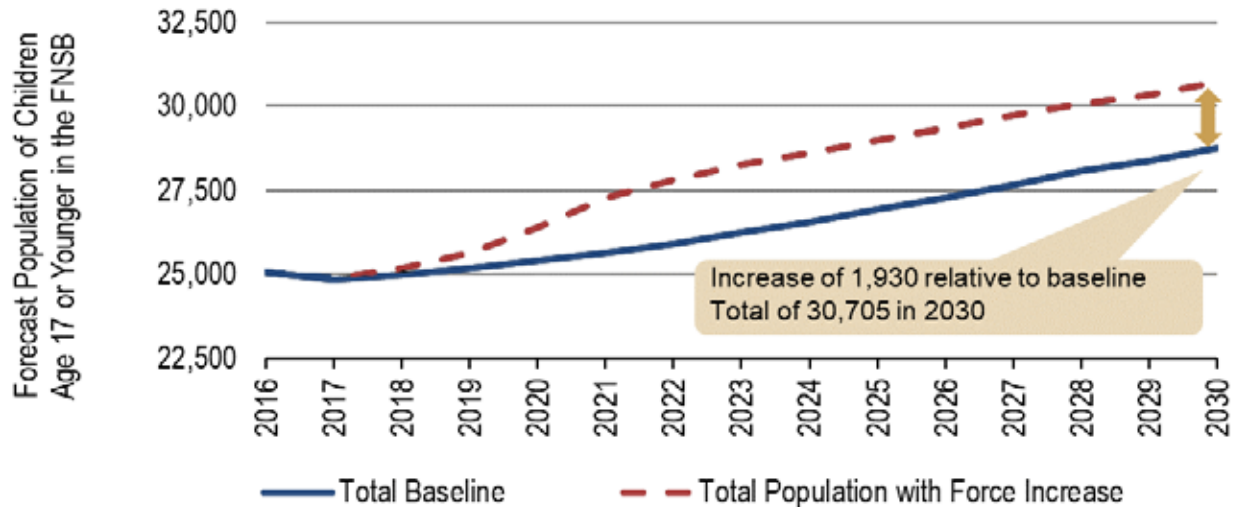


Source: Northern Economics using the Alaska REMI Model

Considering the new Air Force households and induced growth forecasts, the Alaska REMI model estimates that by 2030, FNSB will have an additional 1,930 individuals under the age of 17 above the baseline population without the F-35s, for

an estimated total of 30,705 individuals age 17 and under by 2030 (see Figure 5). These projections are broken down further by year and age group in the Education and Early Childhood focus area of the plan.

**FIGURE 5: PRELIMINARY POPULATION PROJECTIONS FOR INDIVIDUALS AGE 17 AND UNDER**



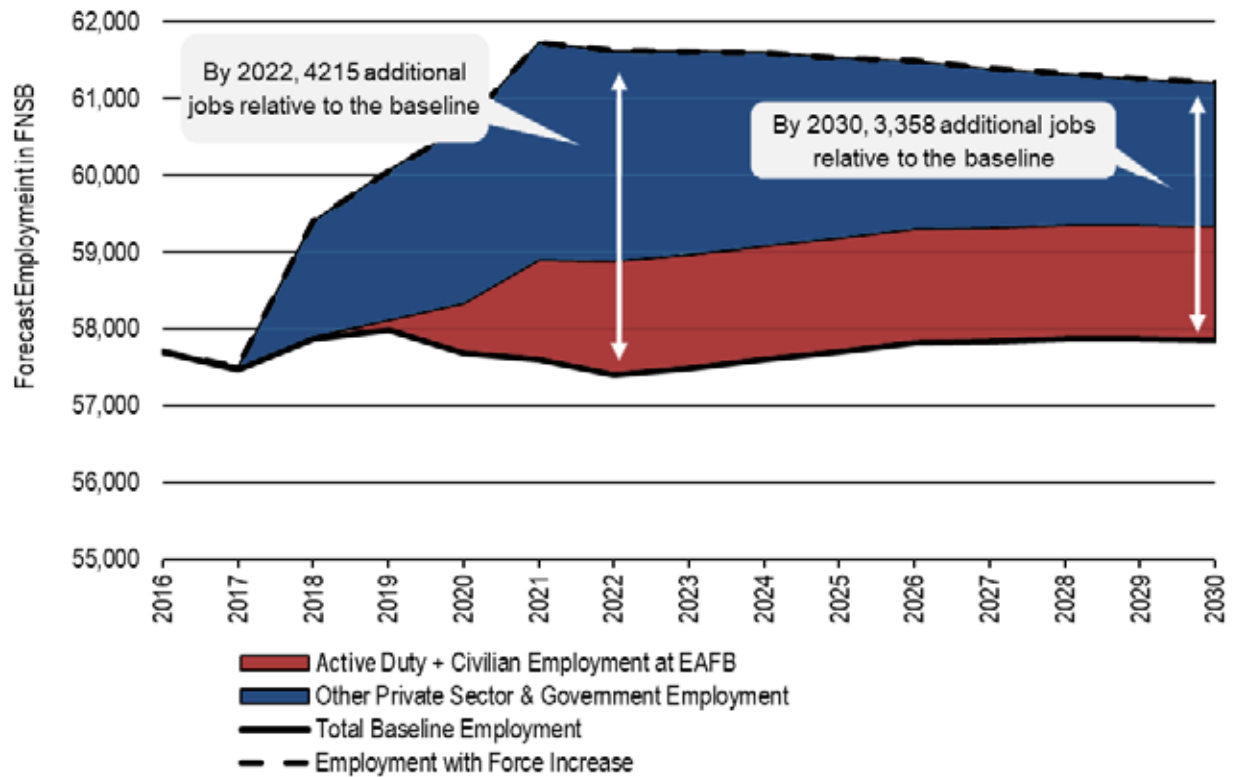
Source: Northern Economics REMI Model

## Employment Projections

The Alaska REMI model F-35 baseline employment projections for FNSB forecast relatively flat employment. This stagnation is due to the State’s ongoing economic challenges and the outmigration of working-age residents away from FNSB. The F-35 beddown is expected to create an estimated 4,215 additional jobs relative to the baseline by year 2022, which will slightly decline to 3,358 additional jobs above baseline levels by 2030 (see Figure 6). Construction jobs peak in 2019 and overall jobs peak in 2022 with the full force increase at EAFB, with decreased intensity moving out toward 2030.



**FIGURE 6: PRELIMINARY EMPLOYMENT PROJECTIONS FOR F-35 BEDDOWN OPERATIONS AT EAFB**

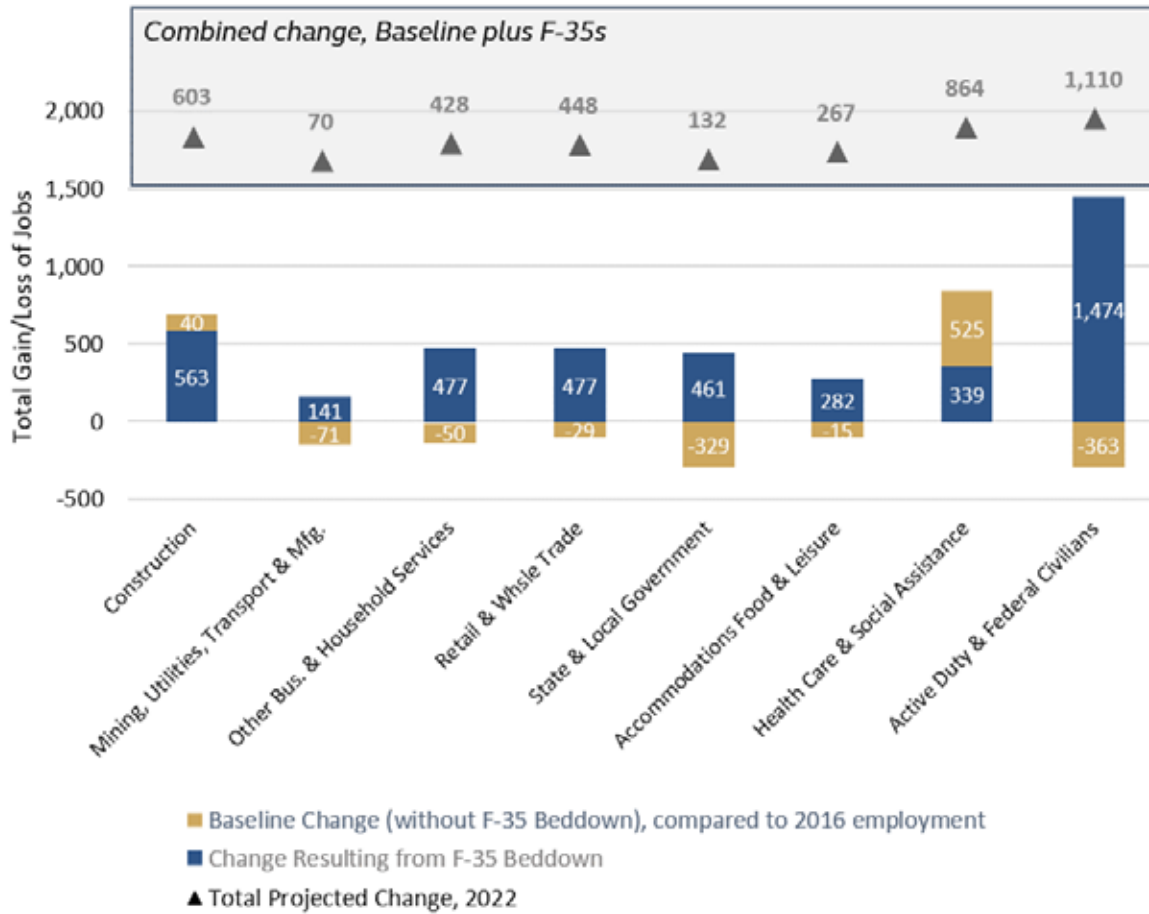


Note: “Civilian Employment” includes federal civilian employees and technical consultants working at EAFB.

Source: Northern Economics; Alaska REMI Model

As shown in Figure 6, approximately one-third of F-35-related gains will be from active duty and civilian employment at EAFB; the remaining are from other private sector and government employment changes. These projections consider both baseline employment projections plus new growth from the F-35 beddown. In some industries, F-35-related growth balances a forecasted decline in baseline employment.

FIGURE 7: FNSB PROJECTED CHANGE IN EMPLOYMENT BY INDUSTRY: 2022, PEAK OF F-35-RELATED GROWTH



Source: Agnew::Beck Consulting with data from Northern Economics; Alaska REMI Model

Figure 7 shows a breakdown of the projected change in employment in year 2022, the peak of F-35-related growth. The light brown bars show the estimated change in the baseline number of jobs for each industry compared with 2016 numbers; the blue bars show the estimated number of new jobs created as a result of the F-35 beddown within each industry category. The grey bar at the top highlights the combined change for each industry; in some cases, such as the state and local government

category, the F-35-related growth projection of 4,614 new jobs nearly balances out the baseline employment losses of 329 jobs for a total increase of 132 jobs. In other categories such as health care and social assistance, both the baseline and the F-35 projections forecast industry sector growth for a combined 864 new jobs.

## LIMITATIONS AND EXCLUSIONS

The projections developed in this RGP are derived from historical trends and patterns, with F-35 beddown direct and induced impacts added into the model. As a result, the projections are intended to compare baseline FNSB population and employments with new activity resulting from the F-35 beddown. The projections are not meant to offer a comprehensive prediction of the future FNSB economy. For example, the following trends, changes and potential projects are not factored into the modeling and projections:

- The projections do not include emerging or recent industry changes such as the legalization and expansion of the marijuana industry. The marijuana industry is new and does not offer a robust historical record for inclusion in the REMI Model projections.
- Major changes to resource extraction projects in the region. For example, in the mining industry, the model considers historical mining trends and global mineral prices, but does not include specific inputs such as proposed new mining developments or mining closures. Three of the state's largest mining operations (Usibelli, Fort Knox and Pogo mines) all occur within 150 miles of Fairbanks, and increases or decreases in mining operations have the potential to impact the FNSB economy.<sup>9</sup> A \$100 million expansion at the Fort Knox Mine due to the Gilmore Tract acquisition will secure high-paying employment demand at the mine until at least 2030.
- The Alaska Gas Line project and the Alaska Interior Energy Project, which seek to bring natural gas and lower-cost energy to the interior.
- Expansion of the Alaska Railroad in the FNSB region.
- Ongoing impacts from the State of Alaska's fiscal crisis, ongoing budget deficits and lack of comprehensive fiscal plan for generating state revenues.
- Development of new infrastructure projects such as a convention center or rail car storage in Fairbanks, and water and sewer distribution systems in and around the City of North Pole.
- Economic and health impacts from water and air quality issues, including the potential for tighter regulations for businesses, industries and homeowners.
- Expansion of the tourism and visitation market due to growing demand from Asia's rising middle class and increasing activity in the Arctic.
- Future military expansion projects such as the recently-awarded missile field expansion at Fort Greely. FNSB also could see growth as additional military units are stationed in the region; for example, the Air Force is seeking out additional locations for the new KC-46 aerial refueling tanker within the Pacific Theater.

The remaining sections of the RGP include by focus area overviews of needs, existing conditions, identified gaps in needs and existing resources, and preliminary recommendations for how to address potential gaps.

<sup>9</sup> Source: FNSB Comprehensive Economic Development Strategy (CEDS), 2016.

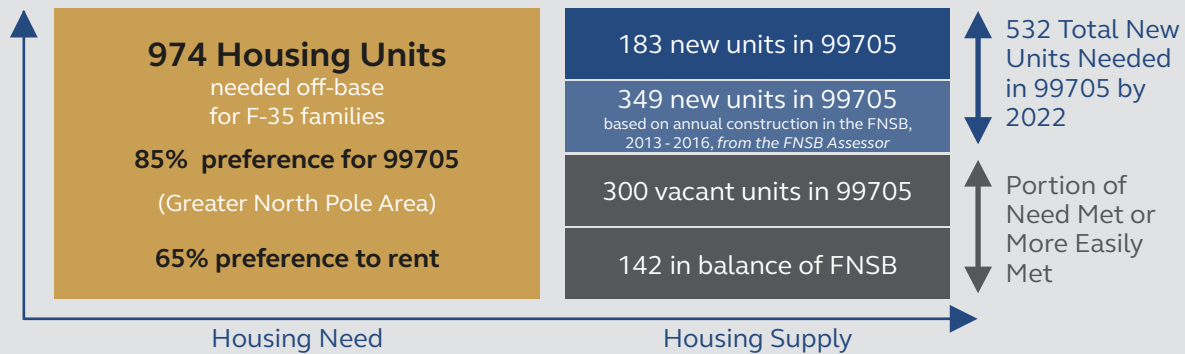


# Housing

## KEY TAKEAWAYS

### BOROUGH-WIDE SUPPLY WILL MEET NEED

#### GAP IN 99705 AREA, WHERE 85% OF F-35 FAMILIES WILL PREFER TO LIVE



- **Housing Demand.** The F-35 Beddown at Eielson Air Force Base will bring 1,474 new personnel and their families who will need 974 housing units off-base.
- **Housing Supply Compared to Demand Borough-wide.** Borough-wide, the combination of vacant rental housing and the continued pace of new construction, is anticipated to be sufficient to meet the housing demand from the F-35 Beddown.
- **Preference for Housing in the North Pole Zip Code (99705).** Currently, 85 percent of Air Force personnel who live off base opt to live in the Greater North Pole area, or 99705 zip code. That trend is expected to continue for the new personnel.
- **Housing Gap is Anticipated in Greater North Pole (99705).** Unlike the borough-wide estimates, vacant rental units alone are not sufficient to meet the demand for housing in 99705. If the pace of construction in 99705 continues at a rate of 70 units per year, as has been the case over the past five years (2013-2016), an additional 183 units will need to be constructed to meet the off-base housing demand for the F-35 Beddown personnel. This is a total of 532 new units in 99705.
- **Air Force Partnership is Necessary for a Large Military Housing Project.** Stakeholders, investors, and developers indicate that large scale (100 to 200 units) of speculative rental housing development to serve military personnel is not feasible without some type of non-compete clause, master lease agreement, or base closure guarantee. Some certainty associated with the Air Force presence and housing development decision is necessary to mitigate the potential for changes in Air Force personnel plans; this is necessary to secure financing for such large projects.
- **Locally-driven Private Sector Approach with Incentives.** Absent an Air Force partnership to support the development of a larger scale military housing project, a more incremental locally-driven approach is recommended and is already happening in the 99705 zip code. The private sector is currently developing subdivisions, building custom homes, and creating new models of detached four-plex projects near EAFB.

## KEY TAKEAWAYS

- **Establishing a Housing Task Force and Shared Knowledge Base a Critical First Step in Addressing Existing and Future Housing Needs.** The projected housing need, supply and gap summarized in the RGP is based on the best and most comprehensive information available during the project period, but also assumptions regarding historical and existing trends grounded in multiple and robust conversations with Borough staff, local builders and developers, property owners, real estate brokers and lenders. To better understand and respond to current and future housing needs, the community needs a tool, a body and a process for assessing, monitoring and addressing housing needs and development projects in the Fairbanks North Star Borough. A comprehensive tool that summarizes details on and status of existing and newly approved subdivisions, including: location and overall goal for the development; number and type of newly constructed and/or rehabilitated units; quality of existing units; proposed construction; and population data such as in/outmigration patterns, would assist the community in addressing both short-term (incoming F-35 population) and longer-term planning (anticipated growth resulting from planned and/or potential economic development projects). In the short-term, a comprehensive picture of the pace of new construction, and the rate at which new units are (or are not) being absorbed by existing residents, and what is happening to the homes they leave behind, will provide the community a more accurate picture for strategically addressing anticipated gaps. A representative body, like a Housing Task Force, could develop and update the tool, and then work together, with other public, private and non-profit sector partners, to create and implement targeted strategies that will meet the community's housing goals and vision.



## New Military Housing Project: Requires Air Force Partnership

Produce a 100 to 200-unit rental housing community located within the 99705 zip code, developed to serve Air Force personnel, with homes ranging from two to four bedrooms. To do this, a partnership with the Air Force is necessary. Stakeholders, investors, and developers indicate that speculative housing development of that size to serve military personnel is not feasible without some type of non-compete clause, master lease agreement, or base closure guarantee. Some certainty associated with the Air Force presence and housing development decision is necessary to mitigate the potential for changes in Air Force personnel plans; this is necessary to secure financing for such a large project.

## Incremental Approach

The second solution is more incremental and is already happening. Developers, including local entities, and others from Anchorage and the Matanuska-Susitna Borough, are developing subdivisions, building custom homes, and creating new models of detached four-plex projects near EAFB. There are ways the FNSB can foster high quality development projects and improve financial feasibility to allow a range of housing projects to be part of the housing solution associated with the F-35 Beddown. For example, according to FNSB Assessor raw data, 89 housing units were built in the Greater North Pole area during calendar year 2017, of which 72 were single family. This category of solutions also includes implementing incentives to improve the feasibility of multi-family rental housing, and rehabilitating older multi-family properties throughout the FNSB and in areas close to downtown Fairbanks.

The following sections provide additional detail on housing demand, supply, and potential strategies to support the F-35 Beddown.



## HOUSING DEMAND

This section characterizes the demand for housing by modeling housing preference for location, cost and type based on the projected number, rank, marital status and presence of children in the personnel who will be stationed at EAFB as part of the F-35 Beddown.

### Housing Demand from New F-35 Related Personnel

Based on current estimates, the F-35 Beddown includes 1,343 active duty Air Force and 121 civilian employees and technical consultants, creating a demand for 974 off-base housing units. To estimate the demand for housing, the consultant team applied national percentages of married and single Air Force personnel, and dependent status by rank, to the projected ranks who will be stationed at EAFB as part of the F-35 Beddown.<sup>1</sup> Key factors that went into the housing forecast are listed below, shown on the following graphic, and detailed in Appendix A.

- Percent of personnel who are married by rank (54% married)
- Percent of personnel with children both married and single (10% of singles have children)

- Split between married to civilian versus married to other military personnel (81% of married personnel are married to a civilian). This is important because military-to-military married couples who are stationed together only need one housing unit. Additionally, the model accounts for married but unaccompanied; this can include personnel whose spouse cannot travel or who are married to other military personnel stationed at a different installation.
- At the time of orders, unaccompanied active duty personnel who rank E-1 to E-3 and E-4 with under three years of service are required to live in EAFB dorms.
- All unaccompanied personnel are assumed to share one unit. Actual preferences could include a single individual living on his/her own, or as many as four or five individuals sharing a house.

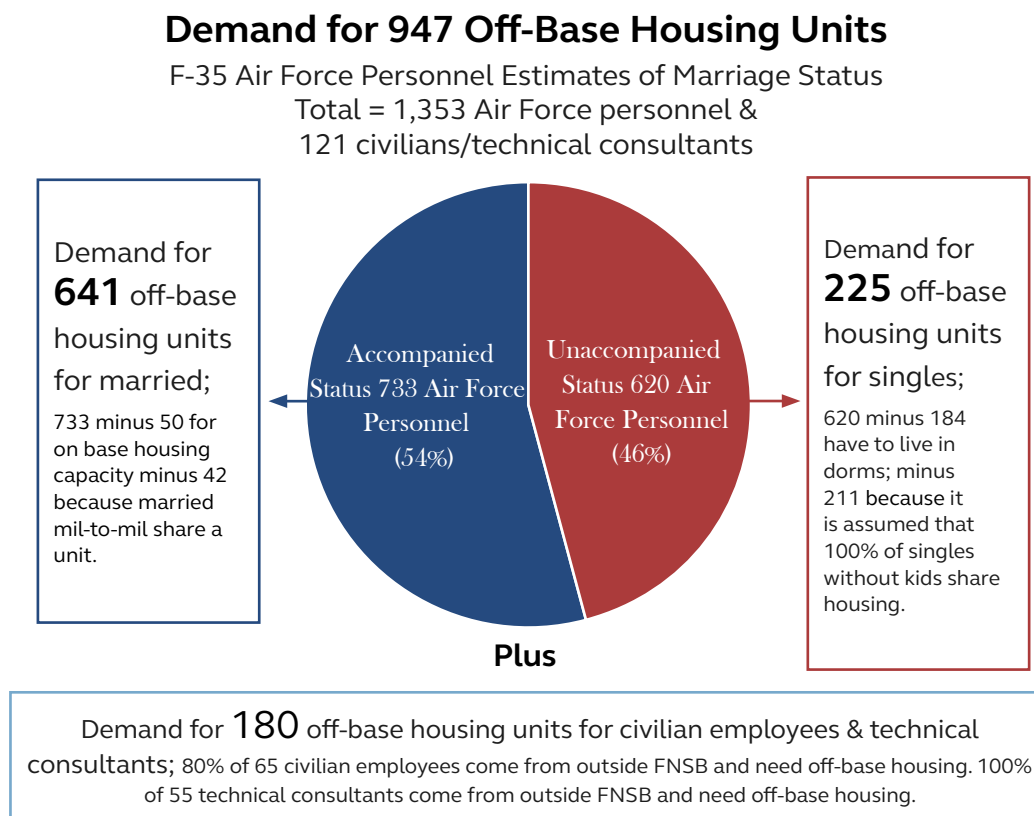
### Basic Allowance for Housing

Military service members receive a basic allowance for housing (BAH). Understanding the BAH

<sup>1</sup> National demographics from 2015 Demographics Profile of the Military Community



FIGURE 1: DEMAND FOR OFF-BASE HOUSING UNITS



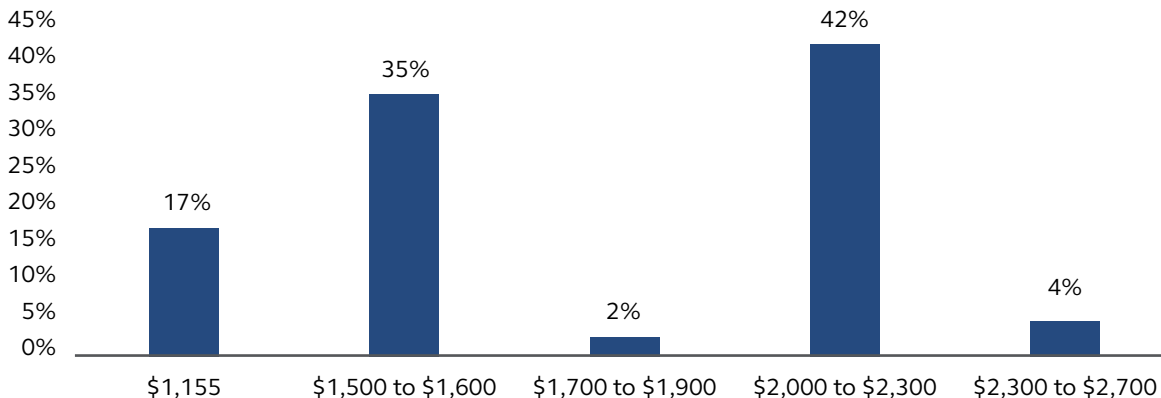
amount helps estimate the potential rents or monthly mortgages of the new F-35 personnel. The BAH can be used for private sector housing off-base or privatized housing on base. If the service member chooses to live off-base, they receive their BAH - any amount they do not spend can be kept. Military personnel living in privatized housing on-base, such as at the Corvias development, authorize the use of their BAH to go directly to the developer. If utilities are not included in the rent, the tenant can utilize what is left of the BAH to pay the utilities. If unaccompanied individuals share a housing unit, both receive BAH that can be used for mortgage or rent. If a married couple who are both Air Force rent a house or apartment, both personnel receive a BAH to use for the cost of housing. Similar to singles, if a married couple receives more BAH than their rent, of the extra BAH is kept to use at their discretion.

The BAH amounts are set based on rent and utility costs in each location each year. Amounts vary based on rank and whether personnel are unaccompanied or accompanied by a spouse or child. For example, an EAFB Junior Enlisted Rank E-3 with no dependents receives \$1,155 per month in 2017. A top ranked officer (O-6) with dependents receives \$2,688. Figure 2 shows the estimated BAH amounts for the incoming F-35 personnel.<sup>2</sup>

<sup>2</sup> Due to budget reductions, the Department of Defense considering reducing the BAH rates for married military couples with children. <https://federalnewsradio.com/defense/2017/07/senate-considering-cuts-to-military-housing-allowance-for-second-year-in-a-row/>



**FIGURE 2: ESTIMATED BASIC HOUSING ALLOWANCE (MONTHLY) BREAKDOWN FOR F-35 BEDDOWN PERSONNEL**

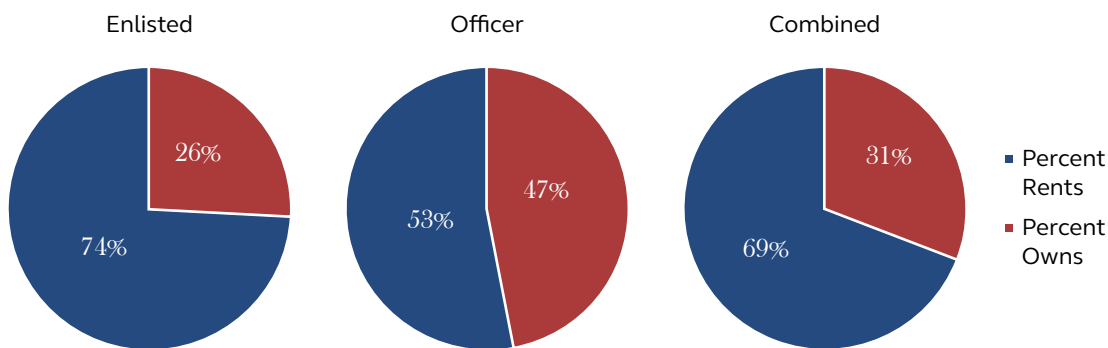


### Renting Vs. Owning Preference

In contrast to the public, most military personnel prefer to rent (69 percent) rather than own. In 2015, the Air Force conducted a housing preference survey at EAFB as part of the Housing Requirements Market Analysis (HRMA). When those survey results are applied to the projected

F-35 Beddown personnel by rank, 53 percent of officers, and 74 percent of enlisted personnel, prefer to rent rather than own. Combined, almost 70 percent of all Active Duty personnel at EAFB prefer to rent.

**FIGURE 3: ESTIMATED BASIC HOUSING ALLOWANCE (MONTHLY) BREAKDOWN FOR F-35 BEDDOWN PERSONNEL**

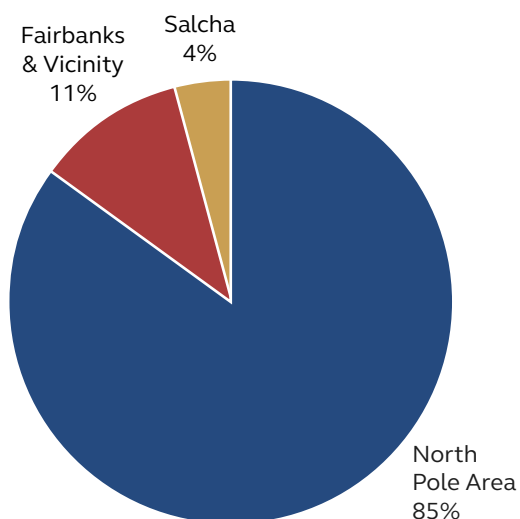


Source: EAFB 2015 Housing Preference Survey as part of HRMA

## Location Preference

A substantial share of off-base Air Force personnel (85%) currently choose to live in the Greater North Pole area (99705 zip code). Another four percent opt to live in 99714, or the Salcha area, and about 11 percent live closer to Fairbanks. This data is based on a zip code sample of approximately 60 percent of current off-base personnel provided to the consulting team by the Air Force in October 2017. The consulting team also conducted four focus group sessions that same month with current EAFB active duty personnel and their families to better understand needs, issues and potential strategies on housing and other RGP topics. Most of the off-base focus group participants lived in the 99705 zip code, with one participant living in Salcha. As presented in the education chapter of the RGP, data from the Fairbanks North Star Borough School District confirms the location patterns of off-base EAFB households, with an average of approximately 85 percent of Air Force-connected students living within the 99705 zip code.

**FIGURE 4: LOCATION PATTERNS FOR CURRENT EAFB PERSONNEL LIVING OFF-BASE**



## Housing Type vs. Tenure

It is important to distinguish between housing product type (single family detached, duplex, multi family, etc.) and tenure (renting versus owning). People who own their homes do so predominately in single family detached housing, but not always. Appendix F provides a breakdown of tenure by housing type for Alaska, the FNSB, and each of the subareas in the borough. Borough-wide, 89 percent of owner occupied households are living in single family detached housing; this is closer to 94 percent in the 99705 zip code. In contrast, for renter occupied households, only 27 percent rent single family detached housing borough-wide. In 99705, 45 percent of renter occupied homes are single family detached.

## Housing Type Preference

As is the case for the general population, there are no explicit data sources that identify the preferred housing type for the F-35 personnel or existing EAFB Air Force personnel. Real estate developers integrate a range of data sources to identify preferred housing types that buyers will purchase and renters will move into. With regard to the F-35 Beddown population, existing trends indicate that single family detached homes are preferred. This estimate is based on earlier data showing approximately 85 percent of EAFB active duty personnel that live off-base chose to live in 99705. Adding to that - approximately 74 percent of the housing in the 99705 zip code is single-family detached. Additionally, the majority of the current EAFB Air Force personnel who participated in the focus groups indicated they preferred single family detached when given the choice. However, this does not mean that single family detached housing



is the only housing type to consider for Air Force personnel.

For the military, attached housing and is a viable option along with single family detached. Apartments are also part of the solution, particularly for personnel who are unaccompanied or married without children. Throughout the FNSB, housing specifically for military personnel often includes attached product mixed with single family homes in planned communities that also include walking trails, playgrounds, community centers, and dog parks as neighborhood amenities. A good example is the Birchwood Homes project adjacent to Ft. Wainwright. This project was developed and is owned by Fischer Properties. It offers 400 rental units that are mostly attached; 3, 4 and 5 bedroom-attached townhomes. There are a few detached units. In comparison, the Corvias on-base housing at EAFB is 910 units of attached 3, 4, and 5-bedroom housing for Air Force families. Focus group results also indicated a preference for housing with more bedrooms.

Looking forward, better understanding the demographics, ranks, and overall household types of the incoming F-35 population will help define projected housing types needed. As outlined below, this can be achieved through an analysis of national Air Force demographic trends, and through EAFB F-35 population-specific data.

## Unaccompanied Personnel (253 households)

Single personnel who share housing will likely want to live in a house, townhouse or apartment. An estimated 620 active duty personnel will arrive unaccompanied with approximately 184 required to live in the dorms. The remaining will often choose to share a housing unit; this could be a single family detached house, townhouse, or apartment for approximately 253 housing units (including

civilian employees and technical consultants). For the housing forecast, it is assumed that 100 percent of unaccompanied personnel will share a house with one other person. Eighty-five percent will have a BAH of \$1,100 or \$1,500; combined with a roommate, between \$2,200 to \$3,000 per month in BAH would be available (or more if single individuals choose to live with more than one other person).

## Married Personnel without Kids (210 households)

Married personnel without kids might desire a two-bedroom house, townhouse or apartment; but a three-bedroom home may be preferred to allow more space for visitors. Approximately 210 households are expected to arrive at EAFB married without kids (including civilian employees and technical consultants). Sixty-five percent of the married personnel are forecast to have BAH of around \$2,100; 23 percent are forecast to have BAH of around \$1,500. Approximately 34 households are dual military couples traveling to EAFB together, with no kids and two BAHs.

## Households with Kids (511 households)

Households with kids likely prefer three-bedrooms or more in a house or large townhouse. A little over 500 F-35 households are expected to arrive at EAFB with kids, 61 percent are forecast to have BAH of around \$2,100; 29 percent are forecast to have BAH of approximately \$1,500. Twenty-four of these households are dual military households with kids and have two BAHs. Nationally, the average number of kids in Air Force households is two and the estimates calculated for the EAFB RGP based on the estimated Air Force personnel by rank indicate an average of 2.3 kids for those households with kids.



## HOUSING SUPPLY

This section characterizes the existing FNSB housing supply that could help meet incoming F-35 population demand. On-base, vacant housing and recent new construction are considered.

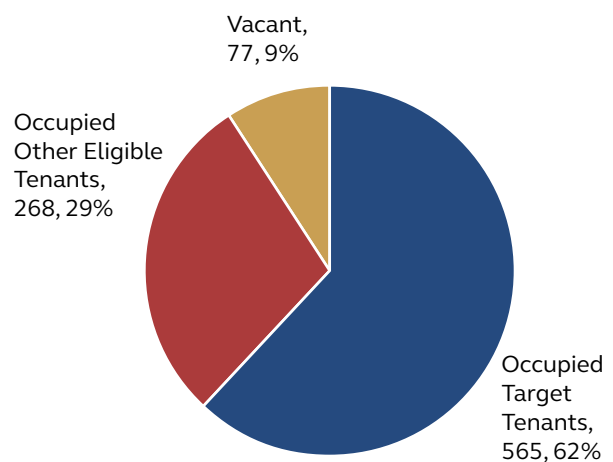
### On-Base Housing Capacity

There are two options for on-base housing at EAFB; the dorms and Corvias family housing.

**Dorms.** Approximately 600 dorm spaces are available on-base and are owned and managed by the U.S. Air Force. Currently, about 400 dorm spaces are occupied. At EAFB, the dorms are required housing for unaccompanied personnel rank E-1 to E-3 and E-4 with under three years of service. At EAFB, there are no senior non-commissioned officer (NCO) dorms for rank E-7 and above, nor any officer dorms. Personnel with an E-4 rank, and more than three years of service, can technically live in EAFB dorms if space is available, but this is not typical; once they are able, personnel are typically looking for opportunities to move off-base.<sup>3</sup>

<sup>3</sup> Email communication with EAFB personnel, October 2017.

FIGURE 5: PERCENT OF 910 CORVIAS ON-BASE HOUSING UNITS BY OCCUPANCY STATUS



Source: Corvias & EAFB data provided in October 2017

**Family Housing.** There are 910 housing units on-base in the Corvias privatized housing development; 833 units, or 91 percent, are occupied. The units were intended as Air Force family housing. At EAFB, the on-base family housing has a 45 percent capture rate; this means that 45 percent of those who have a choice about whether to live on-base or off-base, opt for housing in the Corvias units. The national Air Force trend is more like a 35 percent capture rate.<sup>4</sup> Even with a slightly higher on-base capture rate, currently, there is not enough demand by Air Force families to fill the on-base family housing. If vacancies exist, operators may rent to “other eligible tenants” including unaccompanied personnel who have graduated from the dorms, other military affiliated groups such as the Air National Guard, Ft. Wainwright personnel, federal civil servants, retirees, Department of Defense contractors, and even the general public, if occupancy is still below 95 percent for over 90 days. Of the Corvias occupied units, 268 units are occupied by other eligible tenants, including unaccompanied Air Force personnel and non-Air Force tenants.

Figure 6 captures the existing configuration of other eligible tenants living on EAFB. As new Air Force personnel with families require housing, other eligible tenants will be removed, starting with the general public and moving up the category scale in Figure 6. This approach to populating on-base privatized housing is called “the waterfall” effect. Ideally, this will be done by not allowing lower priority categories to take new leases as the inbound Air Force personnel get closer to arrival. Regardless, the impact to the community in terms of overall housing needs will be the same in demand; a person who now rents from Corvias that is displaced by an F-35 personnel will need to live somewhere in the area. However, it is possible that those who are displaced will have different housing preferences than Air Force personnel.

<sup>4</sup> Communication with Corvias personnel August 2017.

**FIGURE 6: OTHER ELIGIBLE TENANT SUMMARY CURRENTLY LIVING IN CORVIAS ON-BASE HOUSING**

<b>Category 1</b>	Unaccompanied Air Force (graduated from dorms)	<b>88</b>
	Other Armed Service (Ft. Wainwright)	<b>74</b>
<b>Category 2</b>	Air National Guard	<b>13</b>
<b>Category 3</b>	Federal Civil Service Employees	<b>21</b>
<b>Category 4</b>	Retired Military Members	<b>14</b>
<b>Category 5</b>	Retired Federal Civil Service	<b>1</b>
<b>Category 6</b>	DoD Contractor	<b>53</b>
<b>Category 7</b>	General Public	<b>2</b>
<b>Total</b>		<b>268</b>

Source: Corvias & EAFB data provided in October 2017.

## Existing Vacant Housing Units

Using 2015 American Community Survey data, there are approximately 1,411 vacant units for rent or for sale in the FNSB, excluding EAFB and Ft. Wainwright. Using data from the U.S. Census Bureau's American Community Survey (ACS)<sup>5</sup>, Figure 7 shows vacant housing by type in Fairbanks, North Pole (99705) and Salcha (99714). The ACS rental vacancy was 8.0 percent and the home ownership vacancy rate was 1.4 percent. The FNSB Quarterly Survey indicates a current rental vacancy rate of 10 percent, up from 8.7 percent in summer 2017, and down from 11.5 percent in Spring 2017.

While there are almost 6,000 vacant units in the FNSB, excluding EAFB and Ft. Wainwright, most

cannot be considered as potential housing stock. For example, almost half the vacant units are for seasonal, recreational, or occasional use. Another category is "other vacant," which includes homes used for storage, those that are in probate court, or for other reasons the homes are not on the market and available. The total potential number of vacant units that could be used to absorb the F-35 Beddown demand is estimated by summing the vacant units for rent and the vacant units for sale.

<sup>5</sup> 2011-2015 American Community Survey 5-Year Estimate

FIGURE 7: VACANT HOUSING UNITS IN THE FNSB

Item	FNSB Total Excluding EAFB & Ft. Wainwright	Fairbanks & Vicinity	North Pole Area	Salcha Area
Vacant				
<b>For Rent only</b>	<b>1,110</b>	<b>804</b>	<b>306</b>	<b>-</b>
Rented, not occupied	392	252	106	34
<b>For Sale only</b>	<b>301</b>	<b>159</b>	<b>122</b>	<b>20</b>
Sold, not occupied	-	-	-	-
For seasonal, recreational, or occasional use	2,256	1,457	164	635
For Migrant Workers	-	-	-	-
Other Vacant	1,610	1,315	214	81
Total Vacant	5,669	3,987	912	770
<b>Total Vacant &amp; Potentially Available</b>	<b>1,411</b>	<b>963</b>	<b>428</b>	<b>20</b>

Source: 2011-2015 American Community Survey 5-Year Estimate Data compiled at the zip code level. Fairbanks & Vicinity zip codes: 99701, 99703, 99709, 99712. North Pole is 99705. Salcha is 99714.



## Quality & Condition

During interviews and in the on-base focus groups, many people suggested that vacancy rates are not a good indicator of available housing, noting the quality of existing stock as substandard. To quantify this community sentiment, the consulting team worked with the FNSB assessor to collect and analyze raw data from FNSB’s system for assessing housing condition.<sup>6</sup> The assessor records two types of data points. The first is effective date; if the effective date of a property is older than the construction date, the property likely has some neglect wear/tear. If the effective date equals the construction date, minimal work has been done. And finally, if the effective date is newer than the construction date, the building has been improved. Using the effective date index, 45 percent of multifamily properties have had minimal work or have been subject to neglect/wear and tear. The assessor uses a second index based on a quality grade; 53 percent of properties are considered in fair or below condition.

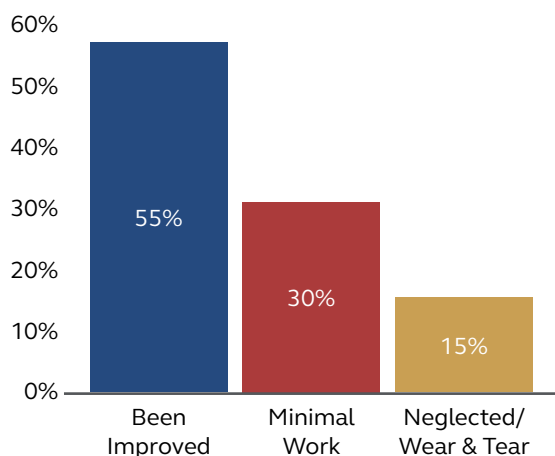
A composite of these two factors, effective date and quality grade, considers the percentage of properties that received a “fair condition rating” and had “older effective dates than construction dates”. The average of all three factors – effective date, quality grade and the composite – was used to reduce the supply of vacant units to estimate the total vacant housing supply in decent condition, as shown later in this chapter.

## New Construction

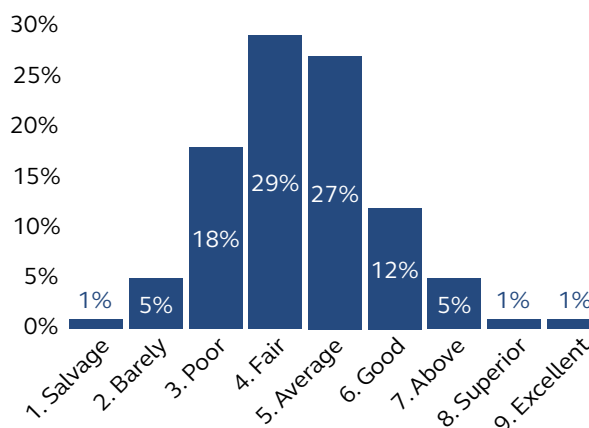
Raw data from the FNSB assessor indicates that approximately 1,309 new units have been built over the last five years, or around 262 per year.<sup>7</sup> Most of these units are single-family detached houses (56%) and cabins (32%). Cabins built by owners (5%) are

<sup>6</sup> FNSB Assessor, 2017. This survey is conducted on a subset of multifamily properties, mostly with fewer than 20 units per building.

**FIGURE 8: VACANT HOUSING UNITS IN THE FNSB**



**FIGURE 9: CONDITION BASED ON QUALITY GRADE FROM ASSESSOR**



Source: FNSB Assessor, 2017 raw data pulled for a sub-set of multi-family properties, mostly less than 20 units per building



not typically available for rent or purchase. Other cabins (27%) can be part of the housing stock for rent, particularly for unaccompanied personnel. Six percent of the units were multifamily (80 units) and six percent were duplexes or town homes (85 units). For the purposes of estimating supply, cabins built by owners were not considered as part of the supply forecast for future years.

The units have been built mostly in the Fairbanks area and vicinity, at an average of 198 per year. North Pole (99705) added approximately 67 per year, and Salcha (99714), nine units per year.

<sup>7</sup> Source: FNSB Assessor raw data for 2013, 2014, 2015, and 2016. Data excludes Ft. Wainwright new housing.

FIGURE 10: NEW HOUSING CONSTRUCTION IN THE FNSB BY TYPE AND LOCATION

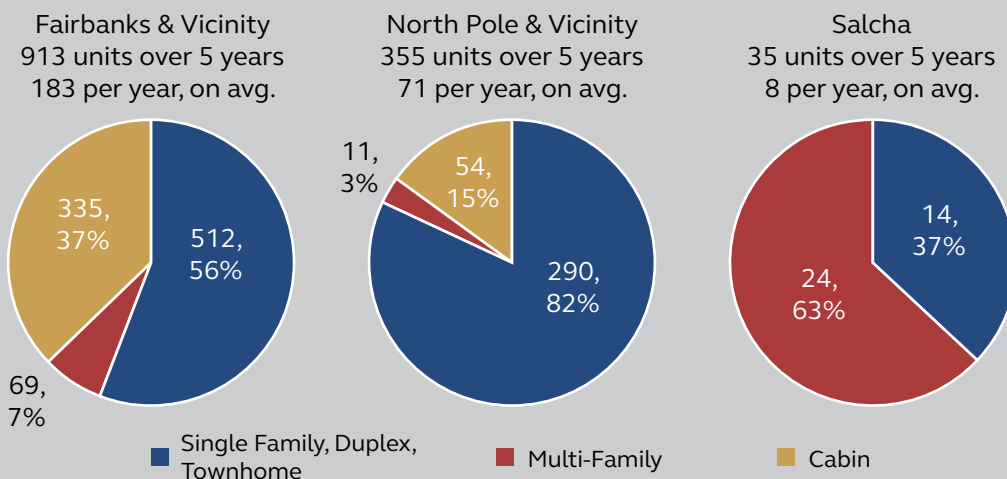
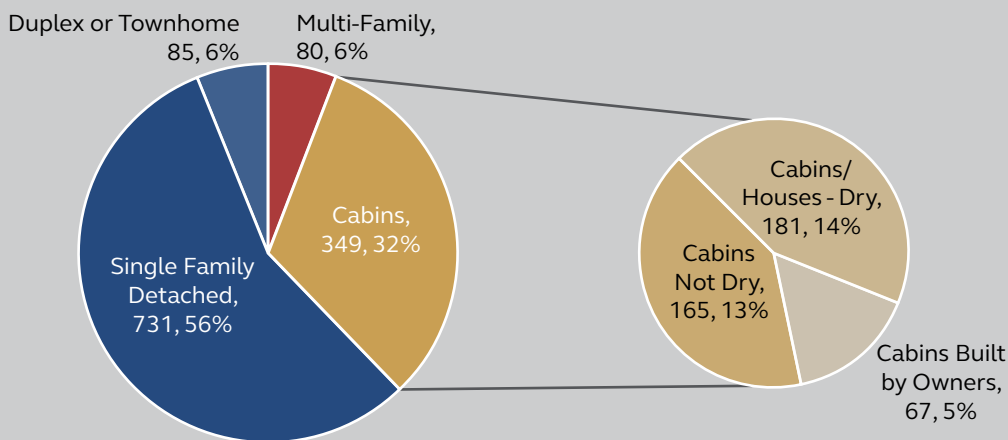


FIGURE 11: NEW UNITS BUILT IN THE FNSB OVER FOUR YEARS



Source: FNSB Assessor, Raw data for 2013, 2014, 2015, and 2016. Data excludes Ft. Wainwright new housing.

## HOUSING GAPS

To determine the gap in housing units needed to support the F-35 mission personnel, a comparison of housing demand to supply was conducted.

### Borough-wide Housing Demand Compared to Supply

Demand for off-base housing direct from F-35 households is estimated at 974 housing units, the majority of which are needed by federal FY 2020 and FY 2021.

The model takes the total amount of rental units in the FNSB and reduces them by 43 percent to account for poor condition. Next, an estimate of new construction is included and is based on the

pace of new construction over the previous five years. The basis for this is that without any special incentives, about 248 new units have been built each year in the FNSB; it is reasonable to assume that trend continues.<sup>8</sup> The end result borough-wide is that the combination of vacant housing units, after accounting for poor condition, and new construction at the pace occurring most recently, will provide adequate housing to meet the demand generated by the new F-35 personnel.

<sup>8</sup> Some cabins have been netted out of the new construction totals. The FNSB Assessor records a new housing unit in the year that it starts construction; not all homes are completed in one construction season. This means that the pace of construction may need to increase to accommodate the demand for the F-35 households.

FIGURE 12: FNSB HOUSING DEMAND COMPARED WITH SUPPLY: BOROUGH-WIDE

ITEM		FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	TOTAL
Demand for Housing Off-Base							
Direct from F-35 Related Households		18	-	63	429	465	974
Supply							
Estimated Vacant Units							
Rental		1,110					1,110
(less) poor conditional rental	43%	(483)					(483)
Rental excluding poor condition		627					627
For Sale		301					301
Subtotal Vacant Units		928					928
Average Annual New Construction		248	248	248	248	248	1,242
Carryover Not Used in Previous Year		-	1,159	1,408	1,593	1,413	
Subtotal Supply		1,177	1,408	1,656	1,842	1,661	2,170
<b>Surplus (Gap)</b>		<b>1,159</b>	<b>1,408</b>	<b>1,593</b>	<b>1,413</b>	<b>1,196</b>	<b>1,196</b>
<b>Total New Construction Required to Meet Demand</b>							<b>1,294</b>

## Greater North Pole Area (99705) Housing Demand Compared to Supply

Though there appears to be available housing now, and an ability to generate enough new houses to meet demand borough-wide, most of the demand for new housing will likely be concentrated in the Greater North Pole area (99705 zip code). As outlined above, location preference for the incoming F-35 population is based on current residence locations for Air Force personnel that live off-base.<sup>9</sup> If 85 percent of the F-35 demand for housing occurs in the North Pole zip code, there will be a demand for 832 housing units in that area.

Excluding those in poor condition, the housing supply in the North Pole area includes 178 vacant rentals, 122 vacant properties for sale, and an

average of 70 new units of construction each year. This supply will be sufficient to meet the demand through FY2020, assuming 349 new units are constructed over the next five years. However, by 2021, all personnel will have arrived and there is an estimated gap of 183 units, mostly in the rental market.<sup>10</sup> In total, 532 new units need to be constructed in 99705 to meet the expected demand for the F-35 families through FY2021.

<sup>9</sup> Input from focus groups and data from school district on locational patterns of students with Air Force families could change assumptions.

<sup>10</sup> A model was prepared that looked at preference for renting and compared that to the rental market supply now and in the future; the results are a gap of 324 rental units within 99705.

**FIGURE 13: ZIP CODE 99705 (NORTH POLE) HOUSING DEMAND COMPARED WITH SUPPLY**

ITEM		FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	TOTAL
Demand for Housing Off-Base							
Direct from F-35 Related Households		18	-	63	429	465	974
North Pole (99705) Demand	85%	15	-	54	366	397	832
Supply							
Estimated Vacant Units							
Rentals in 99705		306					306
(less) poor condition rentals	42%	(128)					(128)
Rentals (excluding poor condition)		178					178
For Sale in 99705		122					122
Subtotal Vacant Units		300					300
Average Annual New Construction in 99705		70	70	70	70	70	349
Carryover Not Used in Previous Year		-	355	424	441	144	
Subtotal Supply		370	424	494	510	214	649
<b>Surplus (Gap)</b>		<b>355</b>	<b>424</b>	<b>441</b>	<b>144</b>	<b>(183)</b>	<b>(183)</b>
<b>Total New Construction Required to Meet Demand</b>							<b>532</b>
<b>Surplus (Gap) Excluding Avg Annual New Construction</b>		<b>335</b>	<b>396</b>	<b>402</b>	<b>96</b>	<b>(241)</b>	<b>(241)</b>

## Salcha (99714) Housing Demand Compared to Supply

Current location patterns indicate four percent of current EAFB personnel reside in Salcha. If that preference holds for new F-35 personnel, there will be a demand for 36 housing units in 99714.

The American Community Survey reported there are no vacant rentals in Salcha; thus, estimated

supply includes 20 vacant homes for sale and an estimated seven new units constructed each year. Based on these assumptions, housing supply will total around 57 units by FY 2021 when the F-35 Beddown is complete, or a surplus of 21 housing units in 99714.

FIGURE 14: CODE 99714 (SALCHA) HOUSING DEMAND COMPARED WITH SUPPLY

ITEM		FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	TOTAL
<b>Demand for Housing Off-Base</b>							
Direct from F-35 Related Households		18	-	63	429	465	974
Salcha (99714)	4%	1	-	2	16	17	36
<b>Supply</b>							
Estimated Vacant Units							-
Rentals in 99705		-					-
(less) poor condition rentals	42%	-					-
Rentals (excluding poor condition)		-					-
For Sale		20					20
Subtotal Vacant Units		20					20
Average Annual New Construction in 99705		7	7	7	7	7	37
Carryover Not Used in Previous Year		-	27	34	39	31	
Subtotal Supply		27	34	42	47	38	57
<b>Surplus (Gap)</b>		<b>27</b>	<b>34</b>	<b>39</b>	<b>31</b>	<b>21</b>	<b>21</b>
<b>Total New Construction Required to Meet Demand</b>							<b>-</b>

## HOUSING OBSTACLES & OPPORTUNITIES

Based on interviews with developers, banks, project designers, Air Force personnel, and policy makers, a set of obstacles and opportunities related to the development of new housing in the FNSB have been identified. At the EAFB RGP Housing Strategy Session held on December 6, 2017 in Fairbanks, a preliminary set of housing obstacles and opportunities was shared with a group of developers, financiers, policymakers and funders. Additional feedback was received and modifications were made to the preliminary ideas. Some of the obstacles are specific to housing for the Air Force F-35 personnel, while others are relevant to overall housing development in the FNSB. The

following obstacles and opportunities are described in the next section.

- Unpredictable market demand
- Air Force partnership necessary for larger housing projects
- Financial feasibility limitations for multi-family product
- Limited equity in local market
- Infrastructure limitations
- Lack of energy efficient homes
- Opportunities for single family, duplex and townhomes



*Pioneer Park lit up for the winter season in Fairbanks, Alaska  
Photo by Sherman Hogue/Explore Fairbanks*



## Unpredictable Market Demand

The military responds to evolving national priorities with personnel at installations increasing and decreasingly, accordingly. This makes housing investment decisions for banks and equity partners challenging. The future of military installations is not predictable. For example, in 2005, the Fairbanks region mounted a community-wide effort to “Save Eielson” as part of the 2005 Base Realignment and Closure Commission (BRAC) process. Ultimately the BRAC modified the Secretary of Defense’s recommendation to realign EAFB and reduce it to “warm” status with only the Air National Guard remaining. In reviewing the

value of EAFB, the BRAC found that “a risk of the realignment of Eielson would be under-use of the Air Force’s best airspace and range complexes” among other reasons. Following the 2005 BRAC, EAFB remained open but without a squadron of twin-engine A-10 Thunderbolts. Then, in April 2016, the Department of Defense announced the arrival of the F-35s to EAFB. Since then, there have been efforts in Congress to implement another BRAC but nothing has materialized.<sup>11</sup>

<sup>11</sup> 2005 Defense Base Closure and Realignment Commission Report, Department of Defense; “On Guard for Military Closings,” Daily News-Miner, September 15, 2017 and Association of Defense Communities newsletter.

### “ Private Sector Input

The problem with any private money coming into the housing market in order to address the housing needs in Fairbanks / North Pole is that the military will not sign a lease for that housing. Any private investor would need to build the housing on a spec-basis with no certainty that in the near future the military might decide to build competing housing.

The keys to attracting investors are: to get the military to commit to leasing at least a majority of the housing for a reasonable period of time and to have the military agree to a non-compete that would prohibit it from building new housing in the Fairbanks/North Pole market.

Short of getting those two things, the chances of attracting investment capital to address the housing issue is very likely impossible.

– Anchorage-based private equity firm

Whether another BRAC occurs, and whether EAFB will be on that list is unknown, as is the case for installations across the globe. The EAFB has a strategic location and a substantial amount of air space, which bodes well for the installation. However, investment decisions for new housing must be able to rely on a reasonable expectation that market demand will continue, at least for the duration of the loan term or equity position. While Fairbanks investors and stakeholders feel confident that the F-35s will arrive at EAFB given the investment the Air Force has already made in facilities to support the new mission, many express concerns that future Congressional and Department of Defense decisions could reduce the personnel needed at EAFB. This would be less of an issue if broader economic expansion was predicted in the FNSB; however, the baseline economic forecast for the FNSB is that jobs decrease due to reduced economic activity from low oil prices and State budget reductions.

Further exacerbating the market uncertainty are higher than healthy vacancy rates for rental products in the FNSB. As reported by the FNSB, as part of their quarterly rental market survey, the September 2017 rental vacancy rate was 10 percent, up from 8.7 percent in the summer and down from 11.5 percent in the spring. A healthy vacancy rate is around five percent. For the home ownership market, vacancy rates have been closer to 1.4 percent.<sup>12</sup> When investors consider providing financing, home ownership products with demonstrated demand often makes more sense than larger rental projects. Larger rental projects often need to be completed in one phase and require a substantial amount of capital to construct. For example, costs can range from \$11 million for a 30-unit apartment building to \$36 million for a 100-unit rental project, assuming \$300 per square foot in cost for 1,200 square foot housing units. This is different than funding a construction loan to

support several \$300,000 single family homes built in phases.

It is important to note that higher than healthy rental vacancy rates are both an obstacle (as described above) and an opportunity for the Borough and EAFB. Without the supply of vacant units currently available, it would be harder for the Air Force and the region to accommodate a successful F-35 mission. The housing supply may not be entirely of the quality and size that Air Force families prefer, but it offers a housing opportunity for construction workers who are building F-35 facilities, as well as new F-35 personnel when they arrive.

<sup>12</sup> American Community Survey 2015 5 Year and FNSB Quarterly Survey



Photo by Agnew::Beck

## Air Force Partnership Necessary for Larger Housing Projects

Historically, in Fairbanks, Anchorage, and other military communities, when a new military mission requires a substantial amount of housing to meet personnel needs, the military either builds the housing, or releases a competitive process for privatized housing either on or off-base (or installation). These types of projects typically come with a base closure guarantee or some type of military partnership; the lack of predictability related to military personnel decisions limits long-term investment by financiers. For example, the Alaska Housing Finance Corporation (AHFC) has been involved in four of Alaska's most recent military housing projects, all of which included a base closure guarantee by the Department of Defense.<sup>13</sup>

- **Mid-1990 at EAFB.** AHFC provided a conglomerate called HEBL, a \$54 million, 30-year term loan for the construction of 366 units occupied by military personnel on EAFB. The loan was funded in phases. This loan is no longer in AHFC's loan portfolio. A base closure guarantee was provided by the Department of Defense.
  - **2001 at Elmendorf Air Force Base (Phase I).** AHFC provided JL Properties a \$48 million, 30-year term loan for the development of Phase I housing for military personnel on Elmendorf Air Force Base. The development involved 980 units consisting of new construction, renovation, and demolishing units. At the completion of the project,
- there were 828 units. The loan was funded in phases and successfully developed. This loan is no longer in AHFC's loan portfolio. A base closure guarantee was provided by the Department of Defense.
- **2004 at Elmendorf Air Force Base (Phase II).** AHFC provided JL Properties a \$96 million, 35-year term loan for the development of housing for military personnel on Elmendorf AFB. The development involved 1,194 units consisting of new construction, renovation, and demolishing units. This loan was also funded in phases and successfully developed. This loan is no longer in AHFC's loan portfolio. A base closure guarantee was provided by the Department of Defense.
  - **Current at Ft. Wainwright/Ft. Greely.** AHFC provided Lend Lease a loan for up to \$159,425,000 with a 40-year term involving 1,815 units; the loan is funded in phases with one more phase remaining to be funded no later than July 2018. Maturity is July 2058 and the loan is currently on AHFC's books. A base closure guarantee was provided by the Department of Defense.

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<sup>13</sup> From email communications with Mark Romick and Jan Miyagishima, AHFC, September 28, 2017.



As stated publicly in response to the F-35 Beddown<sup>14</sup>, the Air Force has no current plans for privatized on-base or off-base housing construction, plans to construct housing, nor to partner with the private sector through a base closure guarantee or similar structure. This means the private sector has an opportunity to respond to market demand. Given that a larger scale rental housing project designed specifically for the military will likely require a partnership with the military, the market response by local and out of region developers to incoming F-35 population housing need will occur in a more incremental way. A mix of single family detached and cabin products, as well as potential multi-family housing if obstacles (see below) can be addressed, will meet demand. Incentives and policies (see next section) can help shape the type of housing produced, but a large scale (100 to 300 unit) planned development of a scale similar to Birchwood, or the on-base Corvias housing, is not likely without a partnership with the Air Force.

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<sup>14</sup> Personal communications between the Eielson Regional Growth Plan team with the EAFB personnel and public presentations between June 2017 and October 2017.

## Financial Feasibility Limitations for Multi-Family Product

Developers and investors in the FNSB express that multi-family rental product is difficult to “make pencil.” The most widely cited issue is the bank’s project valuation and appraisal process, or the inability of the project to secure a bank loan that covers closer to 75 or 80 percent of the total project development cost. Banks typically lend no more than 80 percent of the value of the project, which is often less than the total development costs. For example, when the appraisal is ordered, comparable sales are often older apartment buildings that have sold for lower valuations than the cost to build a new building. This means banks are lending at 75 to 80 percent based on a non-representative value. This often equates to funding closer to 50 percent of the project’s total development cost. A smaller bank loan means the equity portion of the project is closer to 50 percent and requires more equity investors and developers with access to substantial capital (see next issue). This issue is not isolated to providing housing that supports the F-35 Beddown population. Newer, higher density rental housing products throughout the Fairbanks region also face similar financing issues; this is also an issue for multifamily rental product in Anchorage.



## Variation on Condominiums

It is important to note that a variation of multi-family rental apartment product is a condominium project that offers opportunities to provide for-sale housing. Condominiums can take many forms, but the type that is multi-story and built as one larger building has unique financing issues. Banks require 50 percent of the condominium units be pre-sold to buyers before the condominium certification can be approved and the construction loan funded. Pre-sold means that the buyer must provide their 20 percent down, beyond the normal \$500 escrow payment. The challenge with this model is difficulty to pre-sell 50 percent of a 50-unit project, making it difficult to fund the construction loan. Instead, a townhouse project that can be added onto and/or grouped into four or five-unit phases is easier to pre-sell at 50 percent to secure construction financing.<sup>15</sup> Again, this is a housing obstacle that is broader than just the F-35 Beddown mission.

<sup>15</sup> Personal communication with developers and bankers.

## Limited Equity in Local Market

Stakeholders indicate the next generation of local developers in the FNSB have limited access to equity to fund even 20 percent of the total development costs of a multi-family rental project; finding 50 percent of the total development costs is even less likely. Developers who have been in the business of building housing in the Fairbanks area for many years, particularly multi-family, are of retirement age, and are less interested in riskier investments. The next generation of developers are expressing interest in developing new housing product in the multi-family rental category, but again, are unable to secure the necessary capital. Additionally, returns may be lower on these multi-family rental projects when compared to other competitive markets. This is due to the large amount of equity required; this makes attracting capital even more difficult.<sup>16</sup>

<sup>16</sup> The NOI divided by the Total Development Cost (TDC) is the Return on Cost (ROC) and is a simple measure of project viability. A ROC above seven percent and closer to 12 percent is typically considered a feasible project. For equity investors, the Before Tax Cash Flow (BTCF) is also critical. The BTCF is the available NOI after paying debt service on a bank loan that is available as a return on the equity investment. The cash-on-cash return is the BTCF divided by the equity investment and this return should definitely be above what can be secured in the stock market, given that the equity investor is subordinate to the banks (meaning they get paid last). If the equity investment required is 50 percent of the TDC, even if the rental stream is strong, the cash-on-cash return will be low because it must generate returns to cover a very large investment amount.

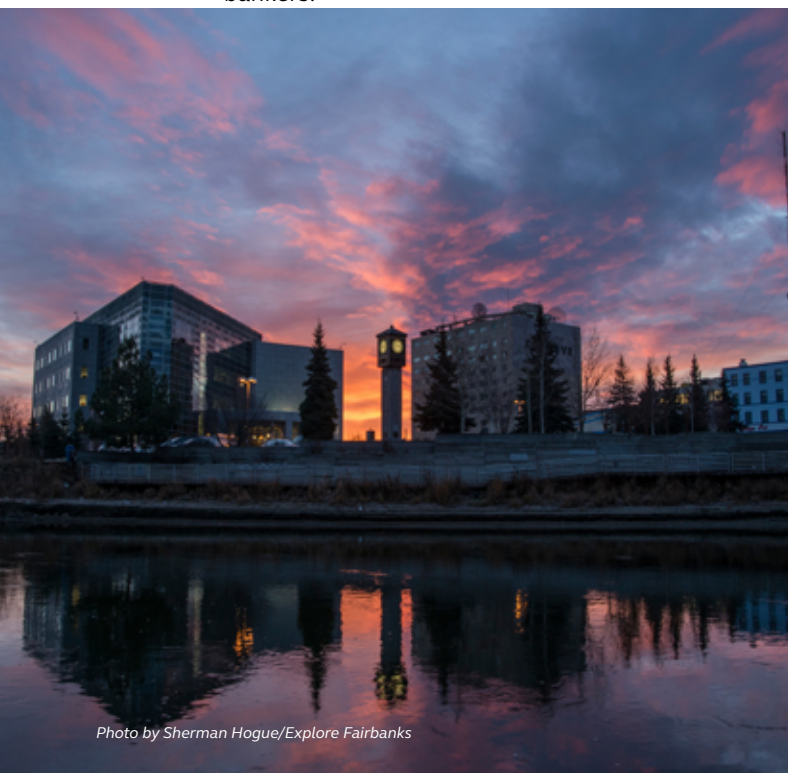


Photo by Sherman Hogue/Explore Fairbanks





Photo by Sherman Hogue/FCVB

## Infrastructure Limitations

Adequate access to water and sewer utilities is a requirement of more intensive multi-family housing, most of which is often rental units. Developing housing for F-35 families that want to live in the Greater North Pole area requires additional units and the infrastructure to support those units. Most housing units in 99705 are on independent water wells and septic tanks. The land use chapter of this Regional Growth Plan provides more specifics on this issue.

## Lack of Energy Efficient Homes

As Fairbanks developed rapidly in the 1970s and 1980s, many homes in the area were constructed without high energy standards. For example, according to the AHFC 2018 Housing Needs Assessment, there are an estimated 10,000 homes built before the 1980s in the FNSB that have not be retrofitted via the State of Alaska energy efficiency program. This is about 25 percent of the overall housing stock. With annual energy costs averaging \$5,300 per household in the FNSB, homes that are energy efficient are a critical part of ensuring housing affordability for the community, and for the new F-35 families who will be arriving. Currently, there is no borough-wide building code requirement related to energy efficiency.



Photo credit: Agnew::Beck

## Opportunities for Single Family, Duplex & Townhomes

Raw data from the FNSB Assessor indicates that 591 single family detached units and 75 duplex and townhome units were built in the FNSB over the past four years. This is 61 percent of new housing over the past four years; versus seven percent in the multi-family market and indicates that constructing single family, duplex, or townhome housing has been more feasible than multi-family housing.<sup>17</sup>

In terms of financial feasibility, some developers of single family homes indicate the appraisal process is still difficult and that costs can be higher for new product than the value of existing for-sale housing, making construction loans difficult to obtain.

However, it appears that financial feasibility and access to equity is less of an issue for the single family detached, townhome, and duplex product types. This is due to demonstrated market demand given a less than two percent vacancy rate in the owner-occupied market, which is largely single family or townhouse product (89 percent of the time in the FNSB, and 94 percent of the time in 99705). Additionally, the ability to phase one or two units at a time when buyers are identified improves the financial viability of this product type.

<sup>17</sup> Source: FNSB Assessor raw data 2013, 2014, 2015, 2016; Note: balance of new housing (32%) is cabins.

### Bank Lending

A typical real estate pro forma for a multi-family rental project adds up all the costs associated with the project, including land, site improvements, and soft costs (legal, marketing, etc.) to estimate the total development cost (TDC). Next, the pro forma estimates the net operating income (NOI) of the project once it has stabilized (fully leased-up). The NOI is the gross rent from the project minus all operating expenses and allowance for bad debt and vacancy.

A bank will review the NOI and apply a capitalized value to the income stream to estimate project value; in other words, when considering the amount of a loan the income stream dictates the value of the project, not the cost to construct. Capitalization rates are often higher for real estate product that is considered riskier and less financially viable. Additionally, when a bank is considering a loan, they are required to have an appraisal completed. The appraiser can use one or a combination of three valuation methods: comparable sales, documented income stream of comparable projects, and replacement/construction costs. However, comparable sales often bring down value if the projects are older and deteriorated. Ultimately, the bank loan may be much less than 75 percent of the TDC.



Photo by Sherman Hogue/FCVB



## HOUSING STRATEGIES – WHAT ARE OUR RECOMMENDED SOLUTIONS FOR MEETING ANTICIPATED GAPS?

Borough-wide there appears to be adequate housing supply to meet demand for the new housing from the F-35 personnel, yet there is a projected gap in housing within the North Pole area (99705) where Air Force personnel prefer to live and that gap is largely in rental housing.

Some product types, such as multi-family rental housing face more obstacles than others. Based on these key findings, the following are housing recommended strategies as part of this Regional Growth Plan. The housing recommended strategies are grouped according to the following categories.

CATEGORY	STRATEGY
Stakeholder Involvement & Implementation	Strategy #1: Create a Housing Task Force
Market Response to Housing Need	Strategy #2: Allow the Market to Absorb Available Rentals Strategy #3: Monitor the Market’s Response Strategy #4: Work Toward a Mix of Housing Types
Financial Incentives	Strategy #5: Develop an Expanded Tax Exemption Program Strategy #6: Create New Sources of Capital and Fully Maximize Existing Opportunities
Housing Supportive Policies	Strategy #7: Utilize Military Facility Zones, as Appropriate Strategy #8: Improve Land Use Planning in 99705

## H1: Create a housing task force.

The FNSB in partnership with City of North Pole, City of Fairbanks, the Fairbanks Economic Development (FEDC) Corporation, the Interior Area Building Association (IABA) should create a Housing Task Force to monitor the housing situation in the region and help implement recommended strategies to improve housing opportunities for the F-35 personnel and for the broader Fairbanks community. This group should include bankers, investors, developers, policymakers and professionals involved in housing market analysis and/or design.

Two initiatives the Task Force could take on include:

- Provide an appraisal workshop and working with HUD to do a workshop that showcases relative loan guarantee programs. The Task Force could collaborate with AHFC to hold an appraisal workshop to include developers, AHFC appraisers, and local appraisers to share ideas on how to integrate and utilize the various appraisal techniques, including the income approach for projects that are newer to the market.
- The HUD Alaska Field Office has offered to help host a video conference with project developers and other HUD offices from outside of Alaska to share specific examples of how certain HUD programs work. Specifically, the HUD 184 loan guarantee and the HUD 221 D4 loan program (see Strategy #6) are options that could help with housing development to meet growing demand. A seminar that focuses on specific project examples that have used these funding options could help developers and financiers understand how to apply these programs in Fairbanks.

### Housing Task Force Example

In Anchorage, the Anchorage Economic Development Corporation sponsors the Live Work Play initiative with housing as one of several focus areas. Led by Cook Inlet Housing Authority and DOWL Engineers, this housing group meets monthly to review land use policies and advocates for housing initiatives that support the development of a range of housing options. Recent successes include passing a unit lot subdivision ordinance, developing a workshop series to explain housing feasibility to planners, and showcasing small housing product types throughout Anchorage. This model is one example of the type of housing task force that could guide housing policy in the FNSB.







Photo by Agnew::Beck

## H2: Allow the market to absorb available rentals.

Assuming housing production remains at the same level as in the past four years borough-wide, there is no immediate crisis for housing over the next five years. Allowing the market to produce more housing, reduce overall rental vacancies, and improve the investment climate, is critical to ensuring that an over-supply of housing is not produced and sound real estate development decisions proceed.

## H3: Monitor the market's response.

Allow for a local market response to housing demand while monitoring the need for a larger scale military-focused housing project to serve new Air Force personnel. Given the Air Force's current preference not to partner in a larger scale privatized housing project, and the borough-wide housing surplus that is forecasted during the F-35 personnel timeline, it appears that allowing the market to develop housing in a more incremental way will be sufficient. However, the FNSB community and the Air Force should continue communications and monitor the market's response to housing. Should the Air Force evolve their thinking to prefer a larger scale housing project focused on military personnel, and if partnership opportunities are available, this could occur closer to 2020 or 2021 when most F-35 personnel arrive.

### SB 100

The 2017 Alaska State legislature amended Alaska Statute 29.45.050(m) to allow more flexibility in the way property tax exemptions and deferrals for economic development are implemented by local jurisdictions. Key changes are:

Allows the jurisdiction to choose the term of the tax exemption or deferral; previously the maximum was 5 years.

Allows for a menu of options to justify the use of the exemptions or deferral. Previously, the third bullet was not available and all listed criteria had to be met. SB 100 allows for one or more of the following to justify the exemption or deferral:

- Property not previously taxed, or
- Business that creates employment, generates sales outside of the community, or reduces the importation of goods and services, or
- Enables significant capital investment in physical infrastructure that expands the tax base and will generate property tax revenue after the exemption expires, or
- Has not been used in the same trade or business in another municipality for at least six months before the application



#### H4: Work toward a mix of housing types.

A mix of housing types offers a range of housing options for military personnel who appear to prefer single family detached homes but are also accustomed to attached housing product and apartment living. No single housing type is the only solution for Air Force personnel.

#### FNSB Current Property Tax Incentives

Chapter 8 of the FNSB code allows for two types of property tax exemptions most applicable to new housing development, as well as a shorter list of optional exemptions that could help project feasibility and/or military personnel and their families.

**Economic development.** The economic development option was amended in early 2017 to limit the exemption to two years and allows taxes to be exempted while the project is being constructed. Since the ordinance re-write, only one application has been requested and no applications have been submitted.

**Deteriorated area.** This option requires the property be designated as deteriorated or be within a district that is designated as deteriorated. The Fairview Manor Apartment complex on Airport Road may be the only project approved for the deteriorated property exemption. The 60+ year old improvements were torn down, and redeveloped with a Low-Income Housing Tax Credit and a senior housing component.

**Other.** Buildings on the national Register of Historic Places that are owned by a non-profit; Property owned as the permanent resident by a widow or widower of a member of the armed services injured serving on active duty; increased valuation from that results from a new renewable energy system; increased assessed value of improvements that enhance the exterior appearance or aesthetic quality of the structure.

Source: FNSB code and Assessor

#### H5: Develop a targeted tax exemption program.

Property tax incentives are a typical mechanism to encourage the type and location of housing within a community. Land use regulations are also an option. Minimum densities and requiring inclusionary zoning (20 percent of a subdivision must be affordable) are examples of land use regulations that guide housing policy. Land use regulations can be effective in areas with strong market demand for housing, where developers can still maintain market returns while providing housing that is less financially viable. However, in the Fairbanks region, economic growth is not expected absent the F-35s and housing feasibility, particularly for the limited multi-family rental product. As a result, the FNSB in coordination with a newly formed Housing Task Force, should consider a new tax exemption policy according to the following steps and guiding principles.

#### Test Feasibility with a Real Estate Pro Forma

Develop a set of real estate pro formas for several housing prototypes as part of the Badger/Salcha small area plan. The housing prototypes should include multi-family rental (approx. 30 units), duplex units, single family detached, and townhouse product. Variations of rental and for-sale should be included. Working with local architects, contractors, and developers, the analysis should identify the financial feasibility of a range of housing types in the 99705 zip code and identify the specific financial feasibility issues by housing type. Only those housing products that demonstrate financial feasibility limitations should have access to property tax exemption.

#### Decide on the Location for Tax Exemption

Property tax exemption for a targeted housing product can help redevelop older apartment communities closer to Fairbanks or spur

redevelopment in downtown and bring more quality multifamily product to areas closer to North Pole. Areas with neighborhood plans or small areas plans that identify priority housing goals should be candidates for tax exemption consistent with demonstrated financial feasibility limitations. The Housing Task Force should work to identify specific areas to allow tax exemption based on community plans.

### **Develop a List of Outcomes to Result from Tax Exemptions**

The tax exemption policy should identify the outcomes to be achieved in return for granting tax exemptions and/or deferrals. Examples are multi-family rental projects within 99705 to support the EAFB F-35 personnel, new mixed-income and mixed-use housing projects in and near downtown Fairbanks, redevelopment of older apartment communities to be more energy efficient, or other housing goals that support military personnel and the broader community goals.

### **Tie Housing Tax Incentives to Support New Air Force Personnel with Housing Goals throughout the FNSB**

As described in the section under housing obstacles, the financial feasibility issues associated with multi-family rental and condominium housing is not limited to the housing for F-35 Air Force personnel. Redeveloping older properties throughout the FNSB, revitalizing parts of downtown Fairbanks with urban mixed-use housing, and providing opportunities for affordable housing that supports seniors and working families all benefit from improved financial feasibility. Incentives should be targeted to the housing products that have limited financial feasibility but allow for multiple community and Air Force goals to be realized.



*Photo by Sherman Hogue*

### **Incentivize Development sooner rather than later and place a timeline on the Borough's exposure.**

The Borough and/or the communities could create a pool of tax exemptions that are available between now and 2021; first come first served. After 2021, the exemptions would retire. This encourages developers to move forward sooner to secure tax incentives while limiting the Borough and communities' exposure to an indefinite tax exemption program.

### **Protect the Current Tax Base**

Whenever possible, create a tax exemption program that protects the current tax base by allowing tax exemption on only the increment (or new development) portion of the project. It is reasonable for a developer to receive tax exemption on new construction while still paying taxes on the land and any existing developments in the new development area. Creating a policy that limits the use of 100 percent tax exemption avoids the situation where the tax base decreases and tax revenues decline due to reduced taxes on certain properties.

### **Limit the Term of Tax Exemption**

Recently adopted SB 100 at the State level opened the time limit allowed for tax exemption for economic development to be at the discretion of the local jurisdiction; previously, the term was

restricted to five years. A ten-year period (20 years maximum depending on loan term) is a reasonable time frame for tax exemption to ensure the community receives the benefit of additional taxes during the foreseeable future.

### **Create a Simple Application Process**

The Borough's current tax exemption application is very simple but the scope of the exemption opportunity is narrow and very little interest has been shown so far. With a revamped tax exemption program that requires demonstrated financial feasibility issues for eligibility, a new process is needed. One option is to require the developer submit a real estate pro forma using a standard template. This type of process can be cumbersome for the applicant and difficult to review. Another option is to use market and financial feasibility studies of overall housing prototypes to justify the location and type of tax exemption allowed. When a developer brings a project forward that meets the defined outcomes, he or she is eligible for the tax exemption at the approval of the Assembly. Projects that fall outside of defined outcomes or policies could still petition for consideration using a real estate pro forma application process.



*Photo by Agnew::Beck*

## **H6: Create new sources of capital and fully maximize existing opportunities.**

Tax exemptions and deferrals are available to support specific projects and within specific locations; however, this tool is often not sufficient to improve the financial viability of certain housing types. For example, property tax exemptions can improve the net operating income for a project during a set period, and this can improve the return on cost. However, it does not necessarily change the outcome of the bank's underwriting process and gaps in project financing continue. The following describes new and existing financing tools to support new housing development.

### **Create Mezzanine Financing Fund**

As described previously, for multifamily rental housing, capitalization rates and the appraisal process often lead to banks lending at closer to 50 percent of total development costs, leaving the remaining amount to come from equity (as opposed to a more reasonable 20 to 25 percent equity share). A mezzanine fund could finance the project in an amount that bridges the bank loan and the equity share. This fund would need to be subordinated to the bank and interest rates should be less than bank rates to improve feasibility. Potential sources of funds could be bond funds issued by communities within the FNSB and the Borough itself, Alaska Native Corporations, individual investors, and other public and private entities. The State of Alaska through AHFC and Alaska Industrial Development and Export Authority (AIDEA) may not be able to offer their existing loan products and help capitalize a mezzanine fund, but this should be researched further to determine whether portions of their treasury could be leant as mezzanine financing. The potential gap financing provided by a mezzanine fund could support housing projects throughout the



FNSB in addition to housing for F-35 personnel. Additionally, other communities throughout Alaska face similar financing issues with multi-family rental projects; the creation of a mezzanine financing fund could have statewide benefit, starting and building from FNSB projects. To create a mezzanine fund, a feasibility study should be completed to identify potential sources of capital, and evaluate the viability of creating such a fund.

### **Develop a Local Private Equity Fund**

Stakeholders indicate investors in the Fairbanks area would like the opportunity to invest in real estate projects. The creation of a local private equity fund could provide a more transparent process to match developers to potential investors. A financial advisor or non-profit organization could manage the fund and evaluate applications on behalf of a Board of Directors according to return requirements. Specifically, the equity portion of the construction loan offers specific opportunities for new investment needed to improve project viability. A local private equity fund would also benefit from a feasibility study to better evaluate entities and individuals willing to contribute and identify the type of organization that could manage it.

### **Continue Utilizing AHFC Multi-Family Loans & Appraisal Process**

AHFC is unlikely to finance a large-scale housing project focused entirely on military personnel in the Fairbanks area without an Air Force partnership or base closure guarantee; their existing loan products offer financing options for permanent financing for smaller housing projects

and they do not provide construction financing. Additionally, AHFC works with developers to create situations where the appraisal process does not unduly impact the project financing in a negative way. For example, AHFC can solicit appraisals to support the provision of the permanent financing for up to 80 percent of the total development costs, which often corresponds to 100 percent of the construction cost. The banks still require 20 percent equity on the construction loan but the permanent (or takeout financing) can be provided by AHFC. Other banks in the region can offer similar permanent financing options but might be more reluctant until rental vacancies decrease.

### **Engage AIDEA to Assist with Infrastructure Financing**

AIDEA is a public corporation of the State of Alaska, created in 1967 by the Alaska Legislature “in the interests of promoting the health, security, and general welfare of all the people of the state, and a public purpose, to increase job opportunities and otherwise to encourage the economic growth of the state, including the development of its natural resources, through the establishment and expansion of manufacturing, industrial, energy, export, small business, and business enterprises...” AIDEA manages eight programs: loan participation, project development, infrastructure development, energy development, conduit revenue, bonds, new market tax credits, business loans, and business and export assistance. AIDEA can help finance mixed use projects that have a housing component; their focus is on financing and supporting economic development, commercial projects, as well as energy related projects. At the December 6, 2017



Housing Strategy Session, AIDEA provided insight into how the conduit revenue bonds and infrastructure financing programs could support the needed infrastructure for new housing in the North Pole / 99705 zip code. This could include pooled bond financing to help extend water and sewer throughout the Greater North Pole area, thereby improving opportunities for multi-family housing.

### Research and Consider a HUD 221 D4 Loan

This loan product is used by developers outside of Alaska, but has not been used much, or at all in Alaska.<sup>18</sup> The program is a loan guarantee from Housing and Urban Development (HUD) to insure the lender against any loss on defaults and takes the risk out of the lender's court. The program allows for a 40-year fixed rate fully amortized loan (interest rates between 4.1 and 4.75 percent currently) with more favorable debt sizing structure. The downside - there is considerable paperwork and it takes time to go through the process to secure approval from HUD. However, for some multi-family housing projects, it makes sense for developers to work with AHFC, HUD, and the local banks and to consider the use of this lending opportunity. The Borough, communities, and other partners could find a

<sup>18</sup> Personal communications with AHFC, September 2017.



Photo by Sherman Hogue

technical assistance program to assist developers in the application process for the 221 D4 program. More information on the HUD 221 D4 loan is available at <https://www.hud.loans/pha-221d4/>.

### Engage the Interior Regional Housing Authority (IRHA) to Deploy the HUD 184 Program to Increase Rental Product

The IRHA is the tribally designated housing entity (TDHE) for the Doyon region. With a mission to provide housing opportunities and support self-sufficiency through housing, the IRHA builds housing in many communities through Interior Alaska with a focus on serving Alaska Native households. They have access to specific funding sources, such as the Indian Housing Block Grant that provides necessary funding for housing for Alaska Native households at or below 80 percent of median income. The IRHA may want to consider opportunities to expand their housing development and rental portfolio to diversify their revenue stream and enhance the organization's sustainability through more unrestricted revenue. One way to do this is to develop rental housing product for F-35 families. The HUD 184 is a loan guarantee by HUD that backstops a mortgage loan in the event revenues fall short. HUD 184 is often used by Alaska Native / American Indian households to secure a mortgage for home ownership. However, TDHEs are eligible entities for a HUD 184; proceeds can be used to acquire, rehabilitate, construct, or refinance housing as long as it is single family (1 to 4 units). Because of the loan guarantee, interest rates are more favorable and the down payment requirement is only two percent. When a TDHE utilizes a HUD 184, the housing can be rented to anyone regardless of income and occupants are not limited to Alaska Native persons. Within the North Pole/99705 area, IRHA could consider developing duplexes, triplexes, and fourplexes using a HUD 184 loan and renting them to help meet housing demand. These projects may

also help IRHA realize additional discretionary income to build housing in other parts of their region.

### **Explore the Possibility of Tax Increment Financing (TIF)**

TIF is a widely used public financing tool across the United States to support redevelopment, housing and economic development; it is not currently used in Alaska. Why? There appears to be lack of knowledge about how to use the tool, concerns about voter approval of bonds supported by TIF, and other issues. A TIF district allows the base year assessed value to freeze and the tax revenue derived from the increase in the incremental assessed value to accrue to the redevelopment agency so they can invest in housing and economic development projects. Bonds can be issued against the tax increment providing for a new revenue source for project financing. In 2016, Cook Inlet Housing Authority in partnership with the Municipality of Anchorage requested a legal review of State statute to understand whether TIF could be implemented. The Attorney General determined that local communities should determine the legality of TIF. A summary of a TIF district is provided in Appendix C.

### **H7: Utilize military facility zones as appropriate.**

In 2012, the State of Alaska approved HB 316 that allowed military facility zones (MFZ) in the state with a focus on housing development. The enabling legislation specifically identifies that projects may be financed by the Alaska Industrial Development and Export Authority (AIDEA) as well as priority funding from the Department of Military and Veteran Affairs and from other state programs. However, no new resulting financing programs or funding sources have been created to support housing development within MFZs.

<sup>19</sup> In 2014, HB 223 authorized municipalities to exempt or partially exempt property taxes for up to 10 years in a military facility zone that creates or supports industry, development or educational or training opportunities. This is a variation on the tax exemption opportunities provided through SB 100 and described previously. In September 2017, the North Pole City Council approved Resolution 17-16 directing the City's Director of City Services to apply to the State of Alaska for military facility zone designation for all of the North Pole City limits. The use of the Military Facility Zone (MFZ) helps to bracket the location where additional local tax incentives could be made available, or other newly developed financing options. However, it does not appear to provide any additional financing options that are not already available outside of a MFZ. Tied with other incentives and/or plans, the MFZ is a helpful tool to identify the location for housing investment within the FNSB to support EAFB expansion.



*Photo by Sherman Hogue*

<sup>19</sup> Communications with State of Alaska Department of Military and Veteran Affairs, September 2017



## H8: Improve land use planning in 99705.

A final strategy for housing development that supports the EAFB expansion and the FNSB communities is to improve land use planning and infrastructure development in the 99705 zip code. Through the Salcha-Badger Road subarea plan, land use policies and incentives can be tested and recommended for implementation. A critical part of the land use planning is to clearly communicate

the plans for water and sewer expansion, and identify land and development patterns to align with access to infrastructure. This planning effort can test various policies and incentives for developing a range of housing types to serve the fastest growing area in the FNSB (with and without the F-35 Beddown).



Photo credit: Lymburner Realty



# Utilities and Infrastructure



## KEY TAKEAWAYS

- The Greater North Pole 99705 zip code area, where most F-35-related growth is expected, offers varied levels of public utilities. Most of the area has access to electrical power. Water and sewer in this area is limited to approximately three quarters of the land within the City of North Pole, and one small water service area on the far western side of Badger Road. The quality of cellular phone service and internet access is inconsistent across this large area.
- Due to groundwater contamination, and the planned solutions to address that issue that include new infrastructure, areas west and north of the City of North Pole will be receiving public water service. A similar issue and solution is likely in the Moose Creek area. Additional research and coordination is needed to identify if these required solutions might be leveraged to support water service in addition to the areas directly impacted by groundwater contamination. Small increases in the capital costs for these projects could lead to substantial increases in areas with water service.
- New residents associated with F-35 related growth and other Borough residents are looking for quality, moderately priced housing. Expanding areas where water and sewer service is available is an essential step in meeting this need, as only with water and sewer can more affordable, smaller lot single family homes and multifamily housing be built. Work is in progress and needs to continue to find solutions to the near-term challenges of funding public water and sewer.
- An active partnership should be developed, working with FNSB, the Cities of North Pole and Fairbanks, EAFB, and private cellular services providers, to improve the quality of cell service across the greater North Pole, Eielson and Salcha areas.
- Through this plan, and the Salcha-Badger Road Subarea Plan occurring in parallel, the FNSB and partners should initiate more active and effective planning, working to better integrate planning for land use, transportation and utilities. One goal should be supporting expansion of water and sewer as a strategy to concentrate development and thereby address air quality challenges.
- The Borough, the cities, and economic development organizations should implement public education and outreach to build support for improved utilities, including considering new utility organizational structures and boundaries, and new funding strategies.

## PROJECTED NEED

Ready access to power, telecommunication, and water and wastewater solutions will be essential to meet the expectations of new people arriving with the F-35 Beddown. Availability of utilities and infrastructure dictates where and what type of development can reasonably occur. At the same time, understanding growth trends suggests where utility and infrastructure improvements may be needed.

This chapter starts with a general inventory of utilities and infrastructure in the borough. It then identifies potential gaps in existing services, and sets out strategies to meet anticipated needs. Like other chapters, the chapter focused on growth associated with the F-35 Beddown, but also covers broader issues and options that can benefit all existing and future residents.

## SUMMARY OF EXISTING PROGRAMS, SERVICES, INFRASTRUCTURE

### Electricity

Golden Valley Electric Association (GVEA) provides electric service for the FNSB area. Power passes through 35 substations to serve the entire borough. Within the borough, the GVEA system is interconnected with independent electric systems on Ft. Wainwright, Eielson AFB and the University of Alaska-Fairbanks.

GVEA is linked with other electric utilities along the Alaska Railbelt, extending all the way to Homer, AK. Anchorage Municipal Light and Power (ML&P) is GVEA's largest supplier of gas-fired energy. In 2017, Golden Valley purchased

approximately \$21 million worth of electricity from ML&P<sup>1</sup>. This interconnected network provides electric power continuity throughout the FNSB. GVEA can receive power from 10 powerplants, providing approximately 381MW of energy. Peak load in 2016 was 207.7 MW set at 10 p.m. on December 8 (temperature was -60 F). In 2007, the system peak of 223 MW was also set in December<sup>2</sup>.

Doyon Utilities operates the electrical distribution system on Ft. Wainwright. The on-base distribution System is linked to GVEA's interconnection transformer located at the Central Heat and Power Plan (CHPP) substation. The CHPP is a coal-fired plant that generates steam and electricity to meet the heating and electricity demands of the post<sup>3</sup>. A similar structure exists on Eielson AFB, where the base has a 25 MW coal-fired power plant owned the Air Force and operated by the base personnel. Both military bases purchase a small amount of power from GVEA.

<sup>1</sup> <http://www.gvea.com/news> GVEA Interested in the Effects of Anchorage Utility Sale; Press Release: 2.12.18

<sup>2</sup> GVEA 2016 Year End data report. 2017

<sup>3</sup> Doyon Utilities web page, accessed August 8, 2017

**“ We will continue to work with independent power producers to integrate more renewable power into our system – as long as we can keep our members’ costs low and maintain system reliability. ”**

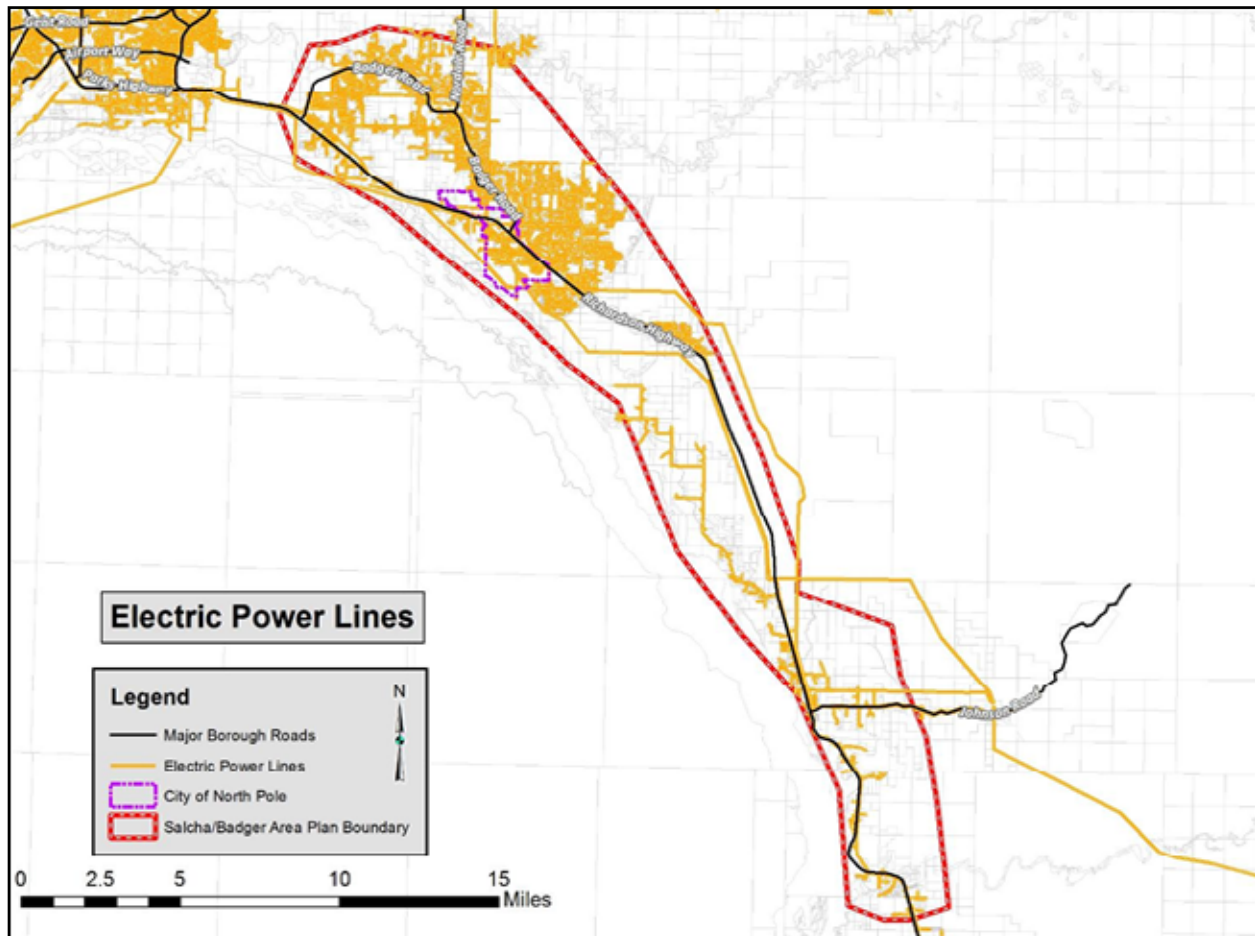
**- Cory Borgeson  
GVEA President & CEO**

The large majority of GVEA power is from non-renewable sources, but among all Railbelt electric co-ops, Golden Valley produces the highest percentage of renewable energy. GVEA is able to generate up to 20 percent of its peak load from renewable sources, including the Eva Creek Wind Farm (25 MW), Bradley Lake Hydro (20 MW) and 199 SNAP Renewable Energy Producers (1 MW). GVEA was recently given the ruling it sought from the Regulatory Commission of Alaska, stating that GVEA would not be forced to buy power from the Delta Wind Farm.





FIGURE 1: ELECTRIC POWER LINES IN THE SALCHA-BADGER ROAD AREA



## Natural Gas

Unlike several communities in Southcentral Alaska, natural gas is not readily available in the FNSB. A multi-year effort is underway to provide natural gas in the region, for heating and other uses.

### Natural Gas Service to the Greater North Pole Area

Interior Gas Utility (IGU) is a public corporation established to provide natural gas to the largest number of customers possible in the FNSB. IGU is making progress developing a system to deliver and distribute natural gas. Phase 1 of IGU's planned natural gas network included installation of distribution lines in the City of North Pole, south of Hurst Road to southern limits of the city (see Figure 2). IGU has a three-year supply contract

with Hilcorp Alaska for Cook Inlet natural gas for its service in North Pole. Service to customers connected to Phase 1 infrastructure is expected the 1st quarter of 2020.

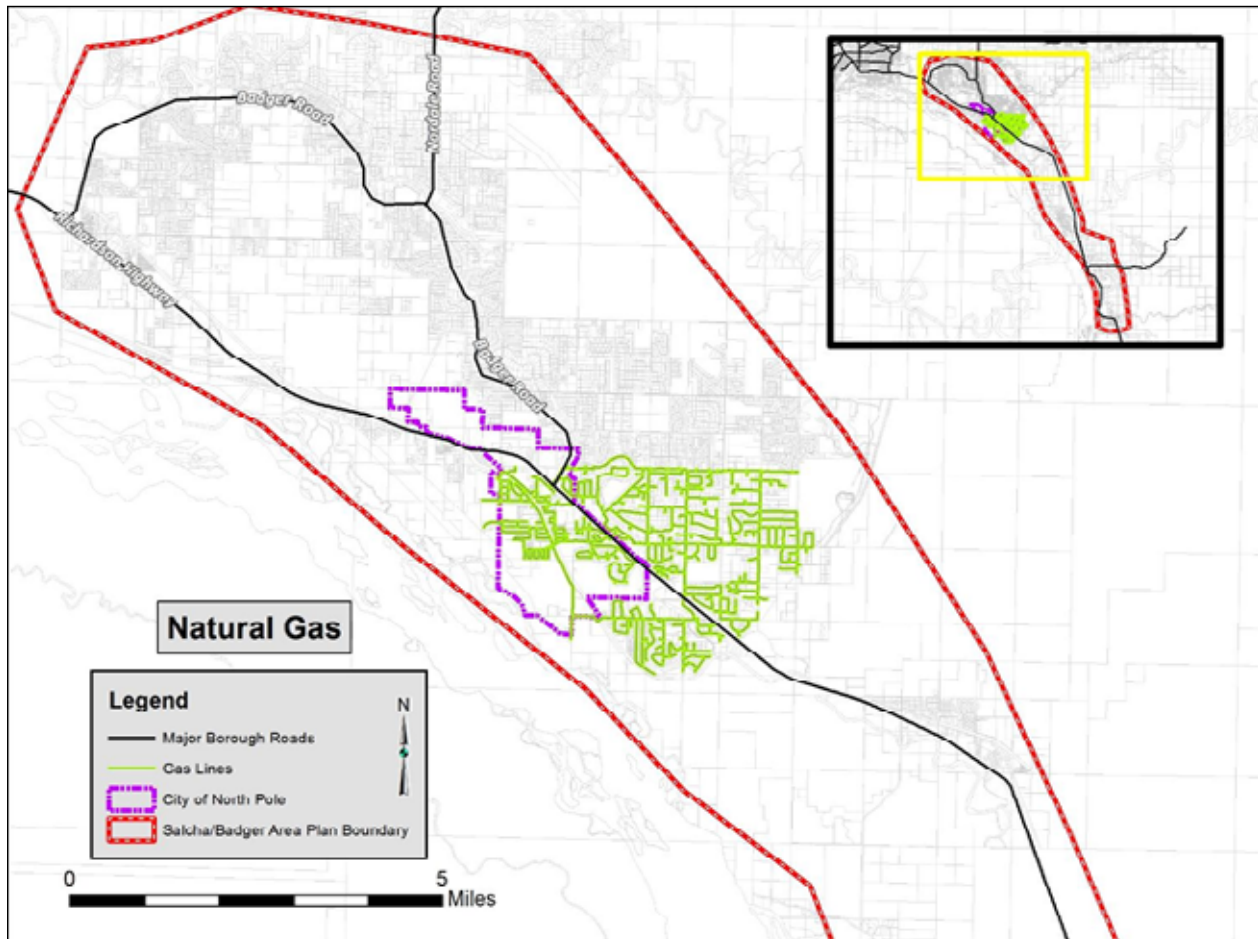
### Longer-Term Plans for Natural Gas in the FNSB

IGU is planning to coordinate service with Fairbanks' existing natural gas distribution operated by Fairbanks Natural Gas, LLC (FNG)<sup>4</sup>. FNG provides natural gas to about 1,000 residential and commercial customers in the Fairbanks area. Supplies of liquefied natural gas (LNG) are trucked from the Cook Inlet area to FNG's two storage facilities, where it is distributed through an underground system to customers.

<sup>4</sup> FNG website, August 8, 2017



FIGURE 2: NATURAL GAS DISTRIBUTION LINES IN THE GREATER NORTH POLE 99705



Source: FSNB Community Planning Department

Following installation completion in North Pole, distribution lines will be installed in other parts of Fairbanks, moving north, west and ultimately south.

IGU is in the process of completing the purchase of the FNG parent company, Pentex, from AIDEA. AIDEA has been working on LNG efforts in the borough in conjunction with the Interior Energy Plan since 2013. IGU will benefit from Pentex’s experience of years of safe and reliable operation of the Fairbanks distribution system and associated LNG production, transportation and storage facilities. The IGU purchase will facilitate the integration of the two Fairbanks area natural gas utilities.<sup>5</sup>

Reduction of air quality emissions is one of the important benefits of a conversion to natural gas. As covered in more detail in the Land Use Chapter, the borough has been formally designated an air quality non-attainment area, which requires the Borough to develop and implement an aggressive plan to address air quality issues.

## Solid Waste Disposal

South Cushman Landfill is a regional waste disposal facility operated by the FNSB. Solid waste is collected at the landfill and transfer stations located at Midway, Salcha, Thirty Mile, Moose Creek, North Pole, Badger Road, Dale Road, Chena Pump, Ester, Farmers Loop, Fox, Chatanika, and Two Rivers.<sup>6</sup>

For EAFB, solid waste (industrial and domestic) is collected by a contractor and disposed at the FNSB Landfill or hazardous waste collection facility. Eielson AFB owns and operates three permitted active disposal areas: Quarry Hill Inert Waste Monofill for disposing of coal ash and limited amounts of clean construction/ demolition debris; EAFB Asbestos Landfill for disposal of asbestos containing materials; and permitted areas near the runway for sewage sludge.<sup>7</sup>

The final build-out of the Solid Waste Facility Disposal Area will include nine lined cells. Currently, three completed cells include: Cell 1 (finished construction in 1999) was interim closed in 2010; Cell 2 (finished construction in 2005) and is still in operation; Cell 3 (finished construction in 2014) began to receive waste in July 2015.

A review of a recently prepared capacity assessment report suggests the facility has more than ample capacity to meet foreseeable demand from the F-35 growth.<sup>8</sup>



*Credit: Fairbanks North Star Borough*

<sup>5</sup> Interior Gas Utility web site accessed 1/24/2018

<sup>6</sup> FNSB web site accessed August 8, 2017

<sup>7</sup> USAF F-35 Operational Beddown Pacific-Final EIS, 2/2016

<sup>8</sup> Fairbanks North Star Borough Solid Waste Facility – Volume Calculations Report – 2016 Final Report, HDR, Mar 31, 2017.

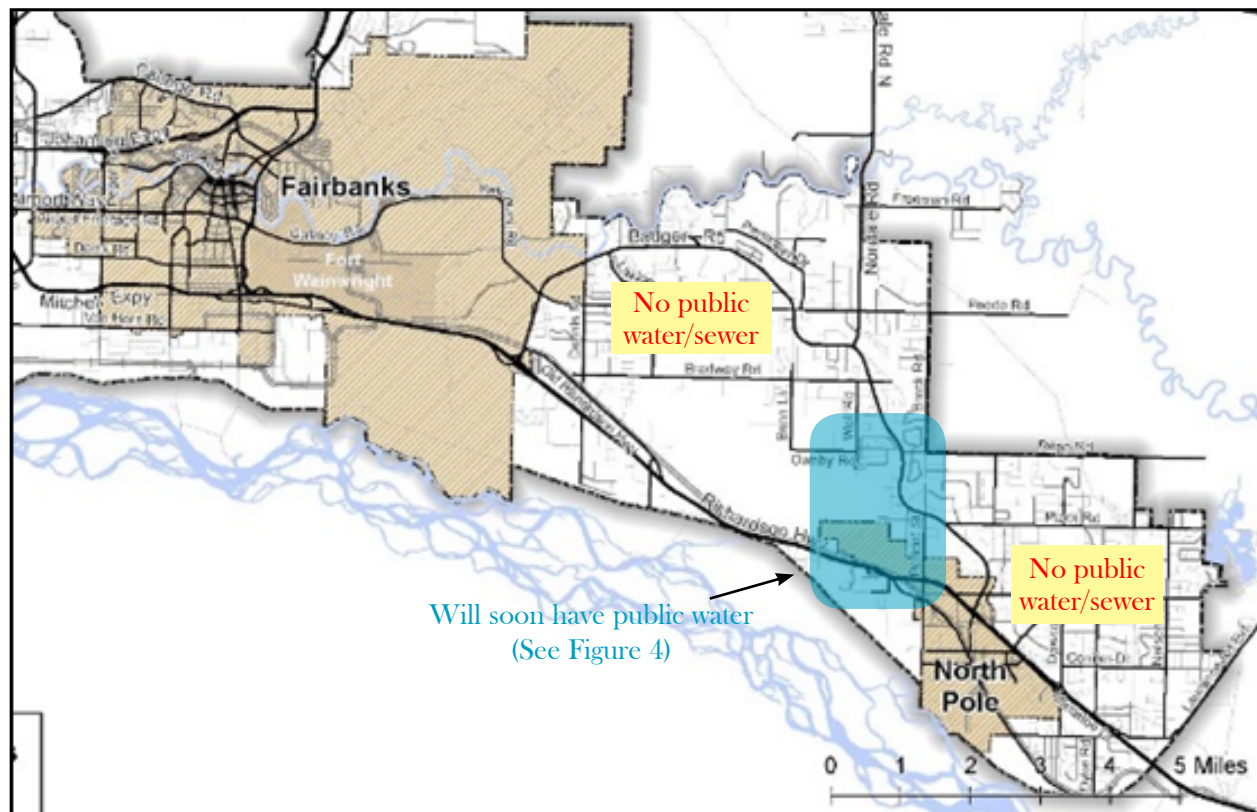
## Water and Wastewater Systems

Public water and sewer service is provided by Fairbanks Sewer & Water (FSW), a private utility company within and adjoining the boundaries of the City of Fairbanks. FSW was purchased in 2009 by Corix, a Vancouver BC-based company<sup>9</sup>. The City of North Pole provides most water and sewer inside city boundaries. As a result of the groundwater contamination from the Flint Hills refinery, City of North Pole water service is being extended into an area north of current city boundaries, adding an additional 800 housing units to the City’s existing

customer base. Outside of City of North Pole limits, most of the Greater North Pole area relies on on-site water and wastewater systems, limiting densities to a minimum of one acre per dwelling unit. Figure 3 below provides a generalized picture of public water and sewer service; the following maps provide specific boundary information.

<sup>9</sup> <http://www.marketwired.com/press-release/corix-acquires-fairbanks-sewer-water-inc-1027805.htm>

**FIGURE 3: OVERVIEW OF PUBLIC WATER AND SEWER SERVICE IN THE GREATER NORTH POLE AREA**



Source: 2040 Metropolitan Transportation Plan and Agnew::Beck Consulting

## City of North Pole Water and Wastewater Infrastructure and Services

The City of North Pole operates a water and sewer utility that provides service to approximately three quarters of the city, about 650 residential, commercial, institutional and industrial customers (See Map 4). The remaining properties within existing city boundaries get water from wells and discharge wastewater to septic systems. By City code, any occupied structure within 200 feet of a water or sewer main must be connected to the utility system.<sup>10</sup>

The City Water Department provides potable water and fire protection in compliance with State of Alaska water standards. The utility's water comes from two new wells commissioned in 2010. Each well has the capacity to pump up to one million gallons of water per day. The water treatment plant has a capacity to produce approximately 650,000 gallons per day (gpd), but the utility averages 150,000 gpd. The utility treatment process involves removing iron, and does not add chlorine or fluoride to the water. Due to the climate, the utility heats and circulates the water in the distribution system to prevent freezing in winter in the system's 24 miles of water mains<sup>11</sup>. As already mentioned, the City will soon be extending water service to new properties north of existing city boundaries.

The City of North Pole Sewer Department on average treats 250,000 gallons of wastewater per day. The utility uses a "passive system" to treat wastewater - water passes through a series of four lagoons where biological activity and settling treat the water. After passing through the treatment lagoons, the utility adds chlorine to kill coliform bacteria then adds a second compound to remove the chlorine.

The Utility discharges the treated wastewater to the Tanana River under a permit from the State of Alaska. There are approximately 14 miles of sewer mains in the city. Because the topography in North Pole is relatively flat, the utility must use a series of lift stations around the city to pump wastewater to the treatment plant.

Much of the initial construction cost for the City of North Pole water and sewer system, as well as major upgrades or replacements, has been funded by the State of Alaska. Examples include a \$1.9 million municipal matching grant in 2015 for upgrading sewer lift stations, and a \$500,000 legislative grant to develop solutions to the City's sewer outfall on the Tanana River.

When a significant expansion of the system is proposed, for example for a new subdivision, City policy requires the developer to cover associated capital costs, which can be repaid at least in part through an assessment district for the affected area. Capital costs include the distribution/collection system within the project area, and if necessary expansion of the citywide system, for example, adding a pump station for water, or a lift station for sewer. The City also on occasion turns to voters to approve increases in rates or property taxes to cover costs for larger scale projects. One example was the 2016 voter approval to accept a loan from the State of Alaska Department of Environmental Conservation to implement the solution to the sewer outfall issue.

<sup>10</sup> Interview with Bill Butler, Public Works Director, City of North Pole, 10/19/2017

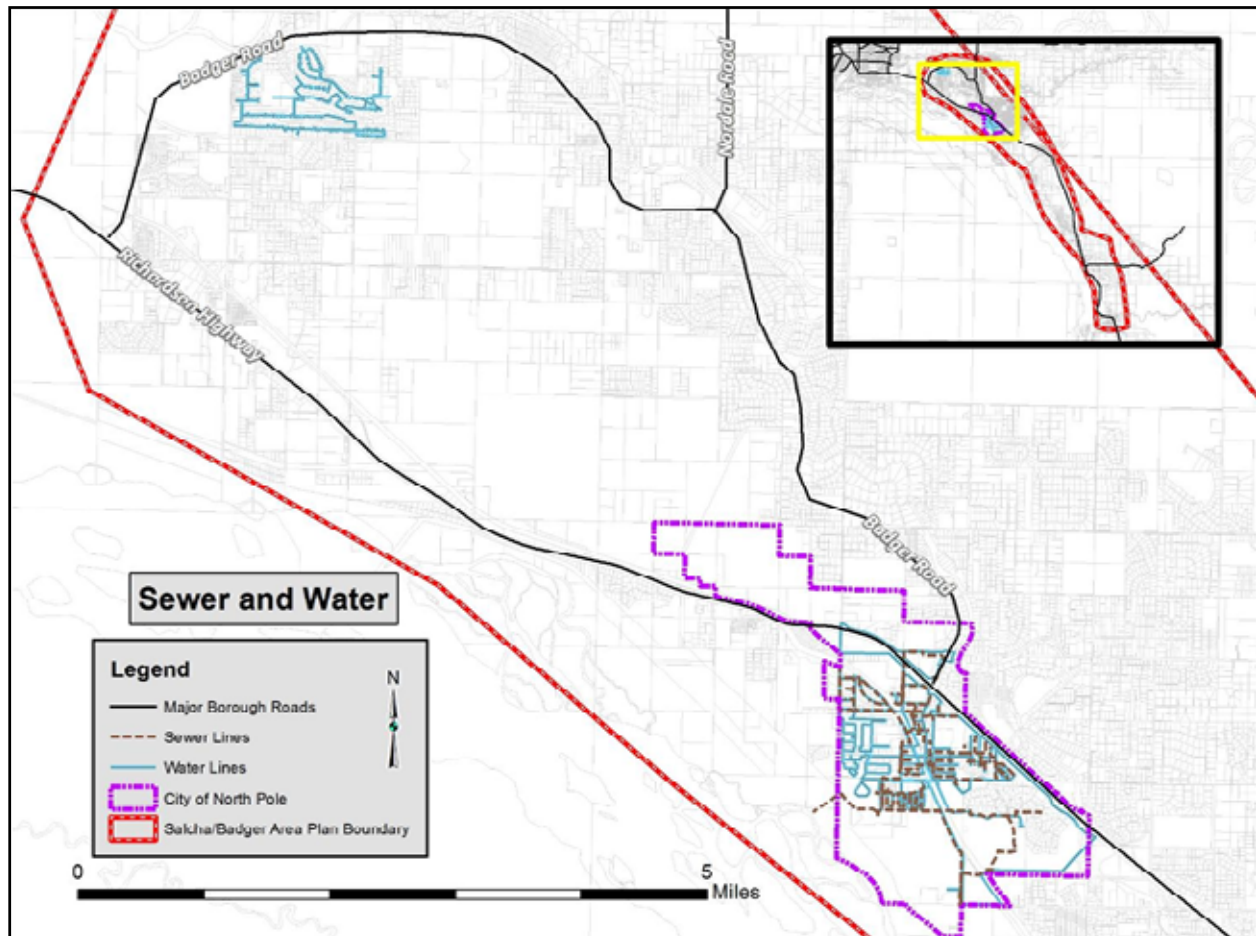
<sup>11</sup> City of North Pole website



Property owners/renters pay a monthly utility fee to cover ongoing water and sewer operation costs <sup>12</sup>. When a property is connected to the water or sewer system the property owner pays a one-time fee to the City. Like the monthly fee, this direct charge to consumers helps cover system operation costs.

<sup>12</sup> City of North Pole Municipal Code, Chapter 2f for details. <http://www.codepublishing.com/AK/NorthPole/html/NorthPole13/NorthPole1324.html>

**FIGURE 4: PUBLIC WATER AND SEWER SERVICE IN THE CITY OF NORTH POLE**



Source: FSNB Community Planning Department

## Groundwater Contamination: City of North Pole and Moose Creek Area

In 2009, the industrial solvent sulfolane was detected in drinking water wells near the Flint Hills oil refinery, located off the Old Richardson Highway in the City of North Pole, and about 15 miles east of Fairbanks.<sup>13</sup> A settlement was reached requiring the refinery to pay to extend city public water system to areas of North Pole where the ground water was contaminated (see Figure 4 below). In January 2018, the City awarded a \$52.1 million contract to Exclusive Paving of Fairbanks to complete the project. Exclusive Paving is scheduled to begin surveying and land clearing in late Winter 2018, and begin installing pipes in early Spring 2019 on the city's northern boundary. Other 2018 construction activities include installing water mains in the area west of the city, often referred to as 12 Mile Village; installing water mains within the city limits north of the Richardson Highway; constructing a pump house on Peridot Road; and constructing upgrades to two North Pole Utility facilities. This project will cost approximately \$100 million, with 80 percent paid by Flint Hills, and 20 percent by the State of Alaska. In 2019, Exclusive Paving will install the remaining water mains. The City anticipates new customers can start connecting to the system in 2019 after receiving State regulatory approval.<sup>14</sup>

A different groundwater contamination problem exists in the Moose Creek area, where in 2015, wells in the area were found to be contaminated by toxic perfluorinated compounds, chemicals previously used in firefighting foams at Eielson AFB.<sup>15</sup> Since that time, the Air Force has paid for delivery of bottled water and/or installation of water filters in affected homes. In June 2017, the Air Force published an interim feasibility study outlining options for providing clean water

in Moose Creek. Among the seven options considered are those below, with costs ranging from \$32 to \$67 million, for installation and 30 years of operation.<sup>16</sup>

- Digging deep wells below the contaminated aquifers (estimated cost, \$32.6 million).
- Extending water from the City of North Pole system, requiring installation of 5.5 miles of pipe, at a cost of approximately \$40 million. This option is supported by a 2017 City of North Pole Council resolution.
- Other options include piping water from EAFB, installing water tanks, or continuing to deliver water to individual homes by truck.

Decisions still need to be made on these issues, including responsibilities to pay installation and operations costs. A decision by the Air Force is expected in late summer 2018.<sup>17</sup>

While both groundwater contamination issues described above are clearly concerning for local residents, and costly and complex to resolve, each presents the opportunity to expand existing and establish new infrastructure that addresses contamination concerns while also providing optimal conditions for new housing construction. As identified in the housing chapter, and further explained below, the Salcha-Badger Road area, and the 99705 area specifically, have experienced significant growth over the last 15 years, and will be most impacted by the F-35 population living off base.

<sup>13</sup> State of Alaska, Department of Environmental Conservation Contaminated site web site, North Pole Public Water System Expansion Project, accessed 1/23/2018

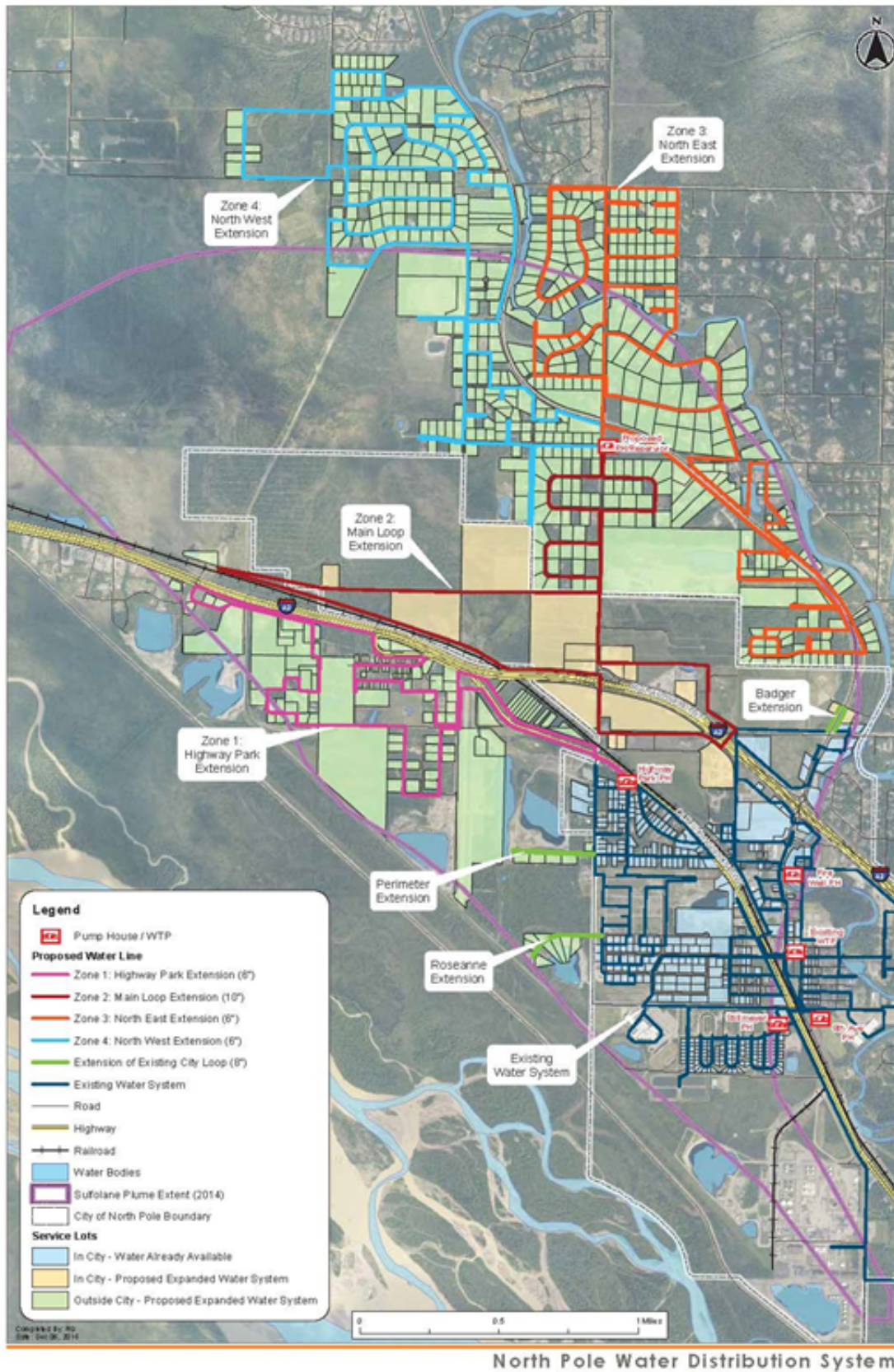
<sup>14</sup> City of North Pole Communication, 1/25/2018

<sup>15</sup> "Groundwater Contamination Spreads off Eielson Air Force Base" Dan Bross, KUAC, 6/17/2015

<sup>16</sup> "Sampling Results Confirm PFAS Presence off Airport Property" FIA Press Release, 11/17/2017

<sup>17</sup> "Air Force outlines options for tainted Moose Creek wells" Fairbanks News Miner, June 25, 2017

**FIGURE 5: PLANNED EXPANSION OF PUBLIC WATER SERVICE BY THE CITY OF NORTH POLE: RESPONSE TO THE FLINT HILLS SULFOLANE CONTAMINATION**





## Other FNSB Water and Wastewater Utilities

Fairbanks Sewer & Water (FSW) is the parent company for five subsidiaries, including Golden Heart Utilities and College Utilities Corporation, which are privately held, publicly regulated water and wastewater utilities serving the greater Fairbanks area. Together, these two utilities provide service to more than 8,500 combined customer accounts representing a population of over 55,000.

The maps below show the boundaries of the two water/wastewater utility districts. While these utilities are outside the 99705 area, they are referenced here because the water and sewer service provided gives these service areas the capacity to support affordable small lot homes and rental apartments – housing types expected to be in demand as a result of the F-35 Beddown.

The Golden Heart district generally corresponds to the more developed portions of the City of Fairbanks. In the past, the Golden Heart utility boundary extended to the eastern limits of the City of Fairbanks, including Ft. Wainwright and a small section of the developed area along Badger Road. In 2009, the Golden Heart utility boundary contracted to the smaller area shown on the map. This action dropped areas that were in the Golden Heart boundary but served by a separate utility (Doyon serves Ft. Wainwright) or areas that never had received water and sewer service.<sup>18</sup> The College Service District covers land on the west side of greater Fairbanks, covering areas outside city limits.<sup>19</sup>

According to interviews with FSW staff<sup>20</sup>, both the water and sewer utilities have experienced declining consumption of utility services in recent years, and both have substantial surplus capacity and would welcome new demand. Expansion of water or sewer services to new areas, either outside current

boundaries or infill within, typically happens in one of three ways:

- Developers fund capital costs;
- Utility private investors fund expansion where there is clear evidence that sufficient demand exists to reasonably absorb the costs, and eventually make a profit from the investment; or
- The least common of the three options: agency funding is made available.

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<sup>18</sup> A final twist in this story: FSW had owned a 50% stake in the Ft. Wainwright water and sewer utility. The share is now owned by Corix, since 2009, the owner of FSW. Doyon controls the other 50 percent, and runs the utility.

<sup>19</sup> Boundary information based on Utility Services of Alaska web site accessed August 8, 2017

<sup>20</sup> Interview with Roy Strandberg, PE, Engineering Manager, Utility Services of Alaska, April 17, 2018



FNSB Rural Services provides limited services in specific, limited locations, where property owners are willing to tax themselves for the service. One existing example is the Bailliane Lake Sewer & Water Rural Service District, which receives limited water and sewer services in the area north of the University of Alaska off Farmer’s Loop Road. There is also a small water service district, off the west end of Badger Road in Holmes Road area. This small-scale service district option may be relevant if there is interest in providing water or sewer outside of current service area boundaries, e.g., in the Badger Road area.

On Ft. Wainwright, Doyon Utilities operates the potable water distribution system, including treatment equipment, pumps, fire hydrants, meters, and distribution piping. Water wells are the source for all potable and non-potable water. There is no interconnection to water supplies from Golden Heart Utilities (GHU). Ft. Wainwright has 19 raw water supply wells, with two primary source wells for the water plant and two backup supply wells to the water plant. The Ft. Wainwright Wastewater system is also operated by Doyon Utilities. Wastewater flows through gravity collection lines to the southwest corner of the military reservation where it connects to a GHU lift station.

Water and wastewater treatment at EAFB is provided by on-base facilities operated by the Air Force. This includes pumped waste from individual septic systems which is treated at a treatment plant on base.

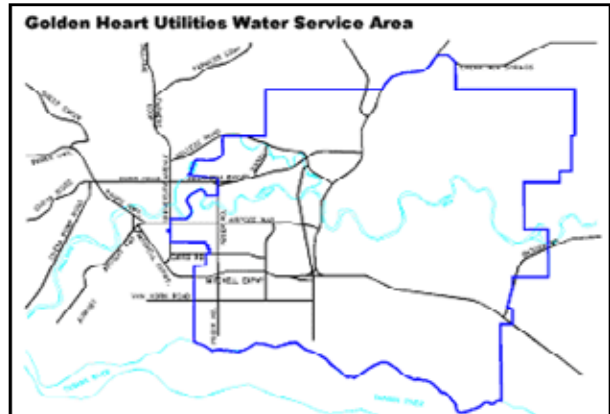


Figure 6 is from the Golden Heart Water Service area’s current website; Figure 6 shows what utility staff identified as the correct map, showing that Ft. Wainwright and adjoining areas have been dropped from the Service Area. The current Sewer Service Area follows essentially the same boundaries as the water service area.

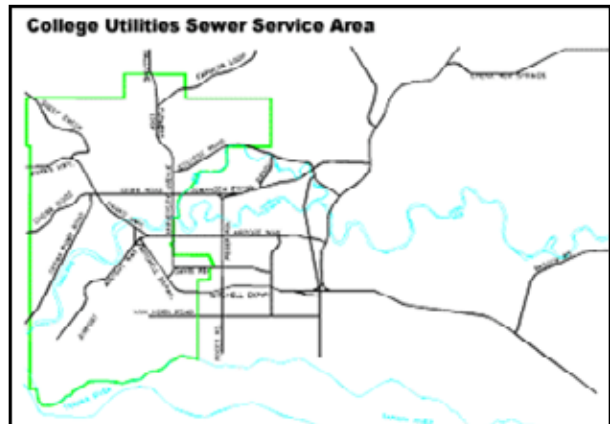
**FIGURE 7: WATER AND SEWER SERVICE AREAS – EAST SIDE**



**FIGURE 8: WATER AND SEWER SERVICE AREAS – WEST SIDE**



**FIGURE 9: WATER AND SEWER SERVICE AREAS – WEST SIDE**



Sources: Fairbanks Sewer & Water (FSW) website and Golden Heart Utilities

## Telecommunications

While traditional land line telephone service demand has declined, demand continues to grow for cellular telephone and fast internet service throughout the borough. However, it is difficult for many new residents to determine what type of telecommunications services are available outside the more densely developed areas of the FNSB. Telecommunication services generally available are summarized below:

- Alaska Communications (ACS) has significant wired services in the FNSB, including the North Pole and Eielson areas. They are also a partner with Quintillion, a global fiber optic communications provider. ACS also has access to two high speed fiber optic cables that connect to the lower 48 states.
- General Communications, Inc (GCI) also has significant wired services in the borough. They recently completed significant new cable work in the North Pole area to improve access to their internet service. GCI also has two high speed fiber optic cables running south to connect to lower 48 states.
- Land line telephone is available through ACS and GCI for most of the more urbanized areas

of the borough. However, the specifics of that coverage are unclear, as coverage maps and land line locations are considered proprietary information. Consumers interested in land line service must contact ACS and GCI to determine service availability.

- Cellular telephone service is available in the FNSB. Primary providers include GCI, Verizon, and AT&T. Signal strength is generally good in Fairbanks and North Pole. It has been reported the quality of the signal connection dissipates in the Eielson and Salcha areas.
- Internet service via broadband providers ACS and GCI is available in most of the developed areas of the borough where electric power is available, however there are some residential areas where no internet service is available or connectivity is inconsistent, such as the Salcha area. In some cases, residents can sign up for satellite internet service from a service like HughesNet (see more below).

- Quintillion is a fiber optic communications provider that will provide FNSB residents higher speed internet access to Asian and European markets than is currently available. In Phase 1, ending October 2017, the Alaska connections were completed. Phase 2 will complete the fiber optic connection to Asia; Phase 3 will be the European connection. ACS also has fiber optic connection to the rest of

North American via two cables that are part of existing fiber infrastructure.

- HughesNet is a satellite internet provider with the ability to provide service to the developed areas south of Fox. The basic plan for service is about \$70/month with a 10 gigabyte limit. The top-of-the-line plan is about \$120/month with a 50 gigabyte limit. Data speed is 20 megabytes/second.<sup>21</sup>

<sup>21</sup> HughesNet web site accessed 1/24/2018

FIGURE 10: MAP OF QUINTILLION ALASKA BASED CONNECTIONS



## Flood Control

The Chena River Lakes Flood Control Project was constructed by the US Army Corp of Engineers (USACOE). This major infrastructure project, built in the 1970s, is designed to control Chena River flood waters which have a history of flooding Fairbanks and the surrounding area when summer rainfall is heavy. This project provides flood protection to Fairbanks and adjacent areas, including Ft. Wainwright. Major and minor work on the project continues to ensure it continues to handle major flooding.<sup>22</sup>

The flood control project occupies about 20,000 acres of land southeast of the City of North Pole, in a federally owned area – the Chena Lake Recreation Area – designated for multiple use. The Recreation Area has grown steadily in its

<sup>22</sup> US Army Corps of Engineers, Alaska District, Chena River Lakes Flood Control Project web site accessed 1/24/2018

**“ Chena Lake Recreation Area is not what you might expect in Alaska’s Interior. It’s near Fairbanks and next to North Pole, yet remote enough to give you the feeling of wilderness.**

**2,100 acres to explore and enjoy!**

**The park has two distinct personalities; the Lake Park, with a 260-acre lake and the River Park meandering along 4 miles of the Chena River.** ”

**- Fairbanks North Star Borough  
Parks and Recreation**

popularity for recreation over the years, averaging 133,000 visitor days of use per year since 1993. See the Quality of Life chapter for more details on the many year-round outdoor opportunities in the area, a short 15-minute drive from Eielson Air Force Base.

## Stormwater

For both practical and regulatory reasons, municipal governments develop policies and infrastructure to manage stormwater runoff. In the Fairbanks area, the cities of North Pole and Fairbanks, the University of Alaska Fairbanks, and the Alaska Department of Transportation & Public Facilities (ADOT&PF) are co-permittees in an Alaska Pollutant Discharge Elimination System (APDES) surface runoff permit. This permit, issued by the Alaska Department of Environmental Conservation (ADEC), sets standards for how public and private development will handle non-point source runoff from different types of development. The permittees were originally issued a National Pollutant Discharge Elimination System Permit from the U.S. Environmental Protection Agency; ADEC took over authority for the permit in October 2009<sup>24</sup>

The North Pole Building Department handles stormwater permitting within the North Pole city limits, with a focus on larger scale projects where runoff could flow into significant public waterways. At present, the city does not have a piped stormwater system, and stormwater runoff is typically dealt with through on-site retention and infiltration.<sup>25</sup>

<sup>23</sup> <https://www.northpolealaska.com/publicworks/page/storm-water-management-and-permitting>.

<sup>24</sup> Ibid



## ESTIMATED GAPS – WHAT ARE THE GAPS BETWEEN NEEDS AND EXISTING PROGRAMS, SERVICES, INFRASTRUCTURE?

This section looks at how local utilities and infrastructure can meet existing and anticipated future demands for services with the growth expected with the F-35 Beddown.

While utilities and infrastructure are developed in some urbanized areas, demand for development is expected in areas that currently have limited utility options. Specific gaps to investigate include:

- Will the new dwellings built in the Greater North Pole area have adequate access to water and wastewater solutions – either public services or on-site?
- Does the electric supply for FNSB have sufficient capacity to absorb the F-35 population?
- Internet and cellular telephone services can be limited in the Eielson/Salcha area. With addition of the new Air Force families will cellular access grow with the demand in the Eielson/Salcha area?<sup>25</sup>
- How can improved utilities help minimize the air quality impacts of new growth?
- As is made clear in other chapters of this report, planning for new growth and addressing the issues above, requires integrating thinking on utilities, transportation, land use and other public policy topics.

## Water and Wastewater

State and local regulations set standards that control use of on-site wells and/or septic tanks where these systems are relied upon for water and wastewater disposal. Where on site solutions are used, parcels must be at least 40,000 square feet (just under an acre), provide for adequate spacing between wells and septic systems, and the ground must be sufficiently well drained to meet percolation test standards. The pattern of development in the Greater North Pole area – including the mix of undeveloped land and low density residential areas – reflects these standards, along with the large areas of poorly drained soils, and the desire by many people for a more rural residential setting. Where served by public water (but not sewer), lots can be subdivided to half the size of lots with neither public water nor sewer, that is, lots with just public water can be as small as 20,000 square feet.

The upcoming Salcha-Badger Road Subarea Plan will provide the opportunity to look in detail at the supply of land and existing development available to meet growth associated with the F-35 Beddown. The plan will investigate how this supply matches the amount and types of housing new residents want and can afford.

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<sup>25</sup> Discussions at the 6/7/ 2017 meeting with Air Force members at Eielson and the Salcha Community meeting 8/14/2017 meeting at Salcha.

Preliminary expectations regarding categories of demand for housing, and the implications of this demand for water and sewer service are below:

1. Development within City of North Pole boundaries in areas that have public water and/or sewer.
  - Implication: adds to the demand on the existing system, and creates hook-up fees and new property tax revenues.
2. Development within City limits on property without public water and sewer.
  - Implication: developers are required to cover costs of extending water/sewer lines to serve these new uses.
3. Development in areas that will or may be served by the extension of city water tied to the two groundwater contamination issues described earlier, one within City of North Pole limits, one in the Moose Creek area.
  - Implication: growth in these areas facilitated by the availability of public water will add to the demand on the city water system; for the City of North Pole serving a broader population base creates economies of scale that can help reduce service costs per household citywide.
4. Pressure for development in the Badger Road area beyond the sulfolane plume contamination project, and northeast of the boundaries of the City of North Pole.
  - Implication: this could create incentives to consider further expansion of water and sewer in these areas.

Interviews with City of North Pole<sup>26</sup> officials establish the City has sufficient well water reserves to meet anticipated demands from infill growth within city boundaries, and the addition of new demand associated with the sulfolane area water system expansion. Additional growth beyond those two areas may require expansion of water supply and/or wastewater treatment capacities. Expanding water system supply, for example, might include greater pumping or water filtration capacity, or ultimately drilling additional wells.

A fundamental challenge for the City of North Pole, the Borough, other area utilities, and developers, is the reality that providing public water and sewer typically creates development costs that exceed what the market will buy.

**Higher density development has many long-term advantages, but in the near term, it is cost prohibitive for developers to put in the water and sewer needed for higher density projects. We're working to find new ways to address that challenge.** ”

“  
- City of North Pole Mayor,  
Bryce Ward

<sup>26</sup> Telephone interview with Mayor Bryce Ward, 4/16/18

## Electric Supply

A GVEA engineer interviewed for this project explained that GVEA has substantial capacity and can readily support the relatively modest additional increment of demand associated with expected regional growth, including growth tied to the F-35 Beddown. The only issue raised was the need for adequate lead time on requests for connections. If a single project will require more than 20 connections, GVEA requires a request be planned well ahead of the needed service.<sup>27</sup>

## Cellular Telephone Service

While cellular service providers indicate there is adequate coverage in the Eielson/Salcha area, civilian and military personnel have indicated the cellular service is not consistent. There are no specific current plans for additional cellular transmission towers in this area, however, new cellular service tower(s) could be in place under the AT&T FirstNet program.<sup>28</sup> The FirstNet network helps ensure first responders and the public safety community have access to the interoperable communications and technologies to more efficiently and quickly coordinate responses to emergencies. FirstNet is not expected to be available in Alaska until at least 2022. Additional housing developed in a concentrated, underserved area might trigger internet and cell service providers to bring more transmission capabilities to the area.

## Natural Gas

The Greater North Pole area would clearly benefit from the availability of natural gas. Focus groups, interviews, and surveys done in the early stages of the IGU planning process and during the City of North Pole Strategic Planning process found many area residents contacted wanted natural gas, and were willing to pay for connecting their homes with some incentive. The availability of a cleaner source of heating fuel will also provide a needed means to reduce the PM 2.5 emissions problem the FNSB experiences during the winter.

The IGU plan for expanding natural gas service, with a target of providing natural gas in North Pole by the 2020 - 2021 winter season, will further promote this area as a prime location for new housing for the F-35 Beddown.

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<sup>27</sup> Interview with GVEA engineer Richard Possenti 10/18/2017

<sup>28</sup> Interview with FECC Supervisor Stephanie Johnson 10/18/2017

# UTILITIES AND INFRASTRUCTURE STRATEGIES – WHAT ARE OUR RECOMMENDED SOLUTIONS FOR MEETING ANTICIPATED GAPS?

## UI1. Integrate planning for land use, transportation and utilities.

The Transportation and Planning and Zoning chapters make the same recommendation relevant for utilities, that is, there is a need for more robust, integrated planning of the amount, location and character of growth, to meet the goals and needs of both existing and new residents. A specific suggested approach, referencing what is included in those chapters, is below:

- a. The Salcha-Badger Road Subarea Plan, currently in progress, will provide the detailed planning needed to refine site-specific, local-scale land use, transportation and utility needs. Tasks to be carried out through that process plan include:
  - i. Develop land use and related infrastructure plans to meet demands for F-35 related growth. Building from the policy direction in the City of North Pole Strategic Plan, evaluate the supply of land available to meet growth needs, including areas that today or might in the future have public water and/or sewer. Identify potential community benefits and challenges tied to the locations and character of that expected growth, considering for example, prospects for improved water, sewer and

other infrastructure; the need to provide for quality, affordable rental housing; strategies to minimize adverse impacts on existing neighborhoods; and strategies to minimize impacts on air quality.

- b. Where helpful, use the Salcha-Badger Road Subarea Plan to inform changes in other sub-areas of the borough or even borough-wide.

## UI2. Identify and implement funding strategies for expanding water and wastewater service areas and distribution systems.

If the goal is providing opportunities for more concentrated, affordable and walkable places to live, supporting water and sewer improvements is a critical need. A substantial portion of the growth associated with the F-35 Beddown will be seeking quality, multi-family rental housing, or smaller lot, more affordable single family detached housing; both require public water and sewer. While providing water and sewer brings those benefits, expanding or building new water and sewer lines is costly, and there are few funding resources outside of those generated at the local level. An additional challenge for the City of North Pole is the reduction in local property tax revenue following the closure of the Flint Hills refinery.

Possible options to reduce water and sewer costs and/or find new approaches to funding water and sewer include:

- a. **Starting Place: Community Support.** Active public support will be needed for the following funding strategies to move forward. Building that support will require education and outreach programs that allow for informed discussion of the benefits and costs of utility improvements. A particular need will be helping the public understand



how increasing densities – something many Alaskans hesitate to support – can translate into improved services, more open space and cost savings. More suggestions for outreach and educational programs are presented in the Planning and Zoning and Transportation chapters.

**b. Local Cost Reduction and Financing Strategies.**

The City of North Pole and the FNSB are together investigating new ways to reduce the cost of providing water and sewer. Some of ideas to reach this goal include:

- i. New strategies to reduce the number of lift stations required to serve any given collection of households. This might be done, for example, by installing force mains that double the number of residents served by a single life station.
- ii. Identify solutions to challenges faced by developers who must cover 100 percent of upfront capital costs, but will be paid back only slowly as a subdivision builds out.
- iii. Use zoning and other land use policies to allow for and encourage more mixed use projects, for example a combination of commercial uses and multifamily residential. The higher value commercial properties can help create revenues that justify investments in water and sewer systems.
- iv. Develop the capacity for Tax Increment Financing (TIF) which allows a community to funnel the growth in tax revenues resulting from a new development, to pay off loans used to finance up front utility and infrastructure development costs. This is a widely used strategy for redevelopment outside of Alaska, but requires changes in local and statewide statutes. Fairbanks, North Pole, Anchorage, Juneau and other cities

in Alaska are all working on this issue, and should coordinate their efforts for maximum impact.

**c. Funding from the State of Alaska**

Until recent years, the State of Alaska was a regular source of capital project funding. The State’s current fiscal challenges have led to dramatic reductions in capital budgets. While local governments cannot bring back the oil revenues that long buoyed State spending, FNSB municipalities, businesses and residents can work aggressively with the Alaska Legislature, especially FNSB representatives, to find new ways for the State of Alaska to generate revenues to support a robust state capital improvements budget, which can in turn help fund and local community infrastructure needs. The crux of this strategy requires finding ways to replace the revenues previously generated by oil production.

**d. Other Funding Option.** Listed below are funding options the Borough and the cities of North Pole and Fairbanks should investigate, to the degree the public and elected leadership rallies behind these options. Notably, each of the options likely requires support from parties beyond the direct control of Borough and City leadership – either voters, EAFB or the State Legislature.

- i. For the City of North Pole, take advantage of the corrective work for the Moose Creek area groundwater contamination, and partner with the Air Force and EAFB leadership to support linking the Moose Creek area to the City’s water utility. The North Pole City Council has already passed a resolution of support for this option. More work is needed to further explain how this option not only offers an enduring solution for Moose Creek, but also provides economies of scale for utility operations.

- ii. To date, resolution of the sulfolane and Moose Creek area groundwater issues have limited solutions to only the specific areas affected by the contamination. The City of North Pole, FNSB, EAFB, and the State should pause to identify if these narrowly defined expansions might be broadened. While it is not a simple process, an incremental increase in the capacity of these systems could provide a cost-effective way to bring water service to areas that could support future growth, including growth linked to the F-35 Beddown.
- iii. For the City of Fairbanks, work with Fairbanks Sewer & Water and its subsidiary Golden Heart Utilities to understand the costs and benefits of expanding water and sewer service into areas east of current utility boundaries, along the Badger Road corridor.
- iv. For both the City of North Pole and the City of Fairbanks, consider options for expanding City boundaries, as part of the process of offering more services while generating property tax from a larger pool of properties.
- v. Develop and gain approval from FNSB voters for regional bond measures to help meet regional utility needs. If the State of Alaska's fiscal situation improves and there are improved prospects for funding from the State for utility projects, use local bond approvals as a means of leveraging and competing for limited State funds.
- vi. Statewide General Obligation bonds are likely to emerge as a strategy for funding major capital projects in Alaska. If this moves forward, develop regionally significant infrastructure projects to be added to the statewide bond measure(s).



### UI3. Work with private cell providers to improve cell phone reception.

The Borough, the cities of North Pole and Fairbanks, and EAFB, should band together to work with private cell service providers to improve cell phone reception in areas where service is currently spotty. The Borough should take the first step and conduct some relatively simple research to identify the areas where service is poor or non-existent. With this information in hand, coupled with a combination of what is known about current and prospective development patterns, the partners referenced above should work with the private sector providers on a plan for incrementally improving service in areas where the need is greatest. Given these providers are private sector businesses, this may require actions like streamlined permitting, below market rate leases on land for towers, some form of financial assistance, or perhaps just the chance for some valuable publicity (a chance for these providers to get credit for “doing our part to welcome the F-35 team to our communities and make the area a safe and enjoyable place to live”).

### UI4. Build from the work of the Alaska Broadband Task Force, Arctic Council and best practices to develop reliable broadband connectivity in the Salcha-Badger Road area.

Potentially create rural broadband coops or make strategic use of public infrastructure to create connections where there are none, and improve consistency where connectivity is unpredictable and a barrier to quality of life. See [www.heyfairbanks.net](http://www.heyfairbanks.net) for additional potential solutions.

### UI5. Use utility and land use planning to support air quality solutions.

See the Planning and Zoning chapter for a thorough discussion on air quality issues, and the direct link between land use, utilities, transportation and air quality.

FNSB needs practical, effective and long-term solutions to its significant air quality problems. Most of these issues come from emissions from heating buildings. Attached multi-family housing generally is more energy efficient than detached housing, and the availability of public water and sewer is almost always necessary to build such housing.

The summary version of what is presented in the Planning and Zoning chapter is this: developing land use and associated utility policies that encourage more concentrated development, more attached housing, and more walkable mixed use development patterns helps address air quality issues in two ways:

1. Attached housing will help create more energy efficient buildings, because of shared walls;
2. More concentrated, mixed use districts will help reduce driving, which is also a contributor to air quality issues in the borough.<sup>29</sup>

In making plans for improved air quality, the Borough and the cities of North Pole and Fairbanks should investigate options for improving utilities to reach this goal.

<sup>29</sup> The community of Whitehorse in the Yukon Territories, Canada is a good example of a community that shows how the length and number of driving trips can be reduced – even in a very cold climate – with a concentrated, mixed use, walkable downtown.

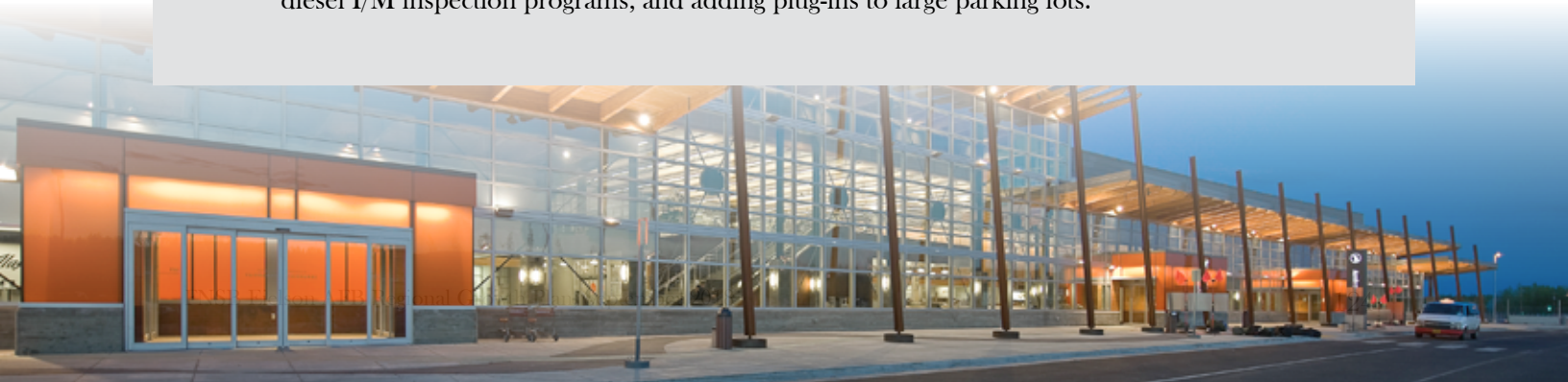


# Transportation



## KEY TAKEAWAYS

- **Road Capacity/Improvement Projects** – Recent traffic modeling completed as part of the Fairbanks Metropolitan Area Transportation System (FMATS) 2045 Metropolitan Transportation Plan (MTP). Update concludes the regional transportation system within the borough’s boundaries – primarily the backbone system of major, region-serving highways and arterials – has the capacity to meet projected growth, including the increment F-35 growth. This presumes the Borough proceeds with the 100-plus previously approved MTP transportation projects in the region. Some reprioritizing of these approved projects is recommended, to place greater emphasis on projects in the greater North Pole/99705 zip code area. The emerging MTP analysis also shows that some specific locations will likely need improvement to serve local needs. These include improving several intersections in the Badger Road area expected to be at or near capacity over the next 20 years, including the side streets at the Badger/Nordale and Richardson/Peridot intersections.
- **Changing State Finances** – State fiscal challenges are reducing State funding for transportation capital improvement projects, affecting both projects wholly funded by the State, and the ability of the State to gain available federal funding which require a relative small (typically 10 percent) State match. To fill this gap, the Borough needs to begin generating more funding at the local level, so it can leverage state and federal funds, and begin covering a larger share of the costs for ongoing highway construction and maintenance.
- **Policy Framework** – The Borough’s current set of policies that control planning and funding transportation and land use activities needs significant improvement. This includes developing better ways to plan for and integrate land use and transportation improvements, new approaches to funding maintenance and capital projects, and improving FNSB's road service areas policies regulations. Issues to resolve include numerous substandard roads, thousands of miles of “orphan roads” – roads without any means for maintenance – and limited options for moving safely, efficiently and enjoyably around the borough without a private vehicle. Reforming this system will require an active public outreach and education program, to help the public understand and then support the need for new policies and funding strategies required to meet current and future transportation needs.
- **Air Quality Standards** – Without an EPA approved air quality plan and active measures to improve air quality, the FNSB stands to lose vital federal funding that helps improve the region’s transportation system. Most of the region’s air quality challenges are tied to emissions from heating buildings, but reducing auto emissions is also helpful. Options include winter anti-idling programs, diesel I/M inspection programs, and adding plug-ins to large parking lots.



The F-35 Beddown presents the opportunity to review the FNSB transportation system – both physical infrastructure and transportation policies – and identify challenges and opportunities to effectively accommodate a significant influx of new residents. During Alaska’s pipeline boom years in the mid-1970s, the Fairbanks area, like Anchorage and other Alaskan communities, struggled to provide adequate public and private services to meet the needs of a rapid population growth. This chapter looks at the FNSB’s transportation network and current and anticipated demand for transportation services, with the goal of better planning for expected growth.



## PROJECTED TRANSPORTATION NEEDS

As outlined in detail in the Growth Projections Focus Area, by 2030, the F-35 Beddown will bring a projected 3,300 new residents to the borough, and a combined “induced” and natural growth population of 2,415. This growth is expected to generate demand for approximately 974 off-base housing units. Given that 85 percent of Air Force personnel that live off base currently live in the greater North Pole/99705 zip code area, most of the housing demand is likely to occur in that same area. As outlined in more detail in the Housing Chapter, the current supply of available rental or for sale units in the 99705 area is approximately 200 units short of meeting anticipated demand.

As is the case with pressures to expand housing supply, adding 3,300 new people to the area will increase use of the FNSB’s transportation network, briefly summarized below and covered in more detail later in this chapter:

- More cars on the roads, and increased vehicles passing through intersections. In the 99705 area, this additional increment of traffic combined with other sources of growth, is likely to create pressure for upgrading currently unmaintained residential and collector roads, and the possible need for improvements at key intersections, particularly along the Richardson Highway and Badger Road.
- More people seeking better ways to get around without a car, including better public transit, and improvements and construction of new trails and sidewalks.

# SUMMARY OF EXISTING TRANSPORTATION PROGRAMS, SERVICES AND INFRASTRUCTURE

## Overview

The FNSB is a multi-modal region, with a transportation network that includes modern expressways and with regular maintenance as well as unmaintained gravel back roads and trails. The Alaska Department of Transportation and Public Facilities (ADOT&PF) is responsible for the area's major highways (Parks, Mitchel, Steese, Richardson, Elliott, Johansen), many major arterial streets, an international airport and multiple smaller airports in the region. Fairbanks International Airport is interior Alaska's primary airport, providing daily jet service within and beyond Alaska, and serves as an air hub to Alaska's many small communities located off the road system. The Alaska Railroad Corporation provides a rail connection from Seward, through Anchorage, delivering passengers and cargo to the Fairbanks area.

The FNSB has elected to not establish area-wide road powers, and instead relies on a patchwork of

over 100 road service areas. The FNSB does not typically maintain roads outside service areas, which results in many miles of "orphan roads" – public roads with no maintenance. The Borough does have roadway construction standards that apply on subdivisions throughout the borough. The incorporated cities of Fairbanks and North Pole both have standards for developing roads and rights of way and maintaining the public streets within their boundaries.

The Borough, the cities of Fairbanks and North Pole, and ADOT&PF all work together to serve the region's multi-modal transportation needs. ADOT&PF identifies priority statewide needs through the State Transportation Improvement Program (STIP). Regional and local-scale transportation needs are addressed through the Fairbanks Metropolitan Area Transportation System (FMATS). The Borough operates a public transportation system, Metropolitan Area Commuter System (MACS), providing transportation in the more densely populated areas of the borough.





Figure 1 below shows the subset of planned regional transportation projects most relevant to F-35-related growth, including projects in the 99705/greater North Pole and Salcha areas and select borough-wide projects. The table is based on 2040 FMATS Fairbanks MTP and includes both FMATS and STIP projects. For more information on individual projects, descriptions are in the Fairbanks Metro 2040 Plan.<sup>1</sup>

The sections that follow provide more detail on each of the major entities working on transportation projects, including ADOT&PF, the Alaska Railroad, FMATS, the Fairbanks North Star Borough, and the cities of North Pole and Fairbanks.

<sup>1</sup> <http://fmats.us/programs/metropolitan-transportation-plan/>

**FIGURE 1: GREATER NORTH POLE/99705 ZIP CODE AREA TRANSPORTATION PROJECTS**

Project ID	FMATS project?	Project
SR-15	yes	Short Range: Plack Road Bike/Pedestrian Facility: FNSB
SR-35	yes	Short Range: North Pole Intersection Improvements
SR-36	yes	Short Range: North Pole Streetlight Standardization and Improvement Project
SR-39	No	Short Range: Richardson Highway: MP 353-357, Safety/Access Improvements
SR-42	No	Richardson Highway MP 359 Railroad Overpass
SR-56	No	Short Range: MP 356-362 Bicycle/Pedestrian Path (Richardson Hwy)
SR-70	No	Short Range: Plug-in Infrastructure, Big Dipper, North Pole Library and Fairbanks Library
MR-3	yes	Medium Range: Dyke Rd. Improvements
MR-4	yes	Medium Range: Dawson Road Extension (Hurst Road - Plack Road)
MR-7	yes	Medium Range: Bradway Road Reconstruction
MR-8	yes	Medium Range: Peridot Street Reconstruction: FNSB
MR-18	yes	Medium Range: 5th Avenue (NP): Santa Claus Ln – Therron St
MR-19	yes	Medium Range: 8th Avenue (NP): St Nicholas Dr – Blanket Blvd
MR-27	yes	Richardson Highway Corridor Study: Badger Road to Eielson
MR-42	No	Medium Range: Richardson Highway (NP) Alternate Route: Peridot St – Laurance Rd
LR-1	yes	Long Range: Dennis Road Extension: North Pole
LR-2	yes	Long Range: Holmes Road Reconstruction
LR-3	yes	Long Range: Lyle Ave Extension (Newby Road - Nelson Road)
LR-14	yes	Long Range: 5th Ave-Mission Road/Richardson Highway
LR-22	No	Long Range: Richardson Highway: Access/Safety Improvements (Rozak Road – Peridot Street)
VLR-3	yes	Very Long Range: Dennis Road/Lazelle Road Corridor: Steese Expressway/Johansen Expressway-Badger
VLR-21	No	Very Long Range: Richardson Highway: North Pole Area Interchange Phase II
VLR-22	No	Very Long Range: Richardson Highway: North Pole Area Interchange Phase III
VLR-23	No	Very Long Range: Richardson Highway Area Roadway Improvements (Local Roads)
VLR-25	No	Very Long Range: North Pole, Alaska, Road/Rail Crossing Reduction Project

Source: FMATS Fairbanks Metro 2040 “A Roadmap to 2040” January 2015



## Department of Transportation and Public Facilities (ADOT&PF)

The Northern Region Office of ADOT&PF is based in Fairbanks and administers State and federally-funded highway, airport, pedestrian and transit projects in the northern part of Alaska, including the FNSB. The majority of this funding goes to larger scale transportation projects owned and operated by the ADOT&PF. Examples of State-owned and operated transportation infrastructure relevant to the F-35 Beddown include: the Fairbanks airport; and in the greater North Pole/99705 area, national highway system routes like the Richardson Highway, arterial roads like Badger Road, and several of the principal roads in the City of North Pole.

Congress and the Federal Highway Administration (FHWA) approve a national transportation program that directs federal dollars to the states. These are packaged as a national transportation bill, which can apply for as long as seven years, and some as short as three years. The current program, called Fixing America's Surface Transportation (the "FAST Act"), sets upper limits on what each state, including Alaska, is eligible to receive, subject to a required 9.03 percent local match. Under the FAST Act, Alaska is eligible to receive approximately \$500 million each year (including the State's 9.03% match of \$45.15 million). The State of Alaska is confronting significant fiscal challenges. In 2017, as a side effect of these challenges, the State did not provide the full match needed to receive the full amount of federal funding available. This shortfall did not reoccur in 2018.<sup>2</sup>

Planning for use of federal transportation funds happens through the STIP which identifies, develops and maintains transportation systems throughout Alaska, including the FNSB. The current STIP runs from 2016 through 2019. The 2019-2021 STIP has recently been released for public and agency review.



Transportation plans in the borough also build in part from the Interior Alaska Transportation Plan (IATP) which is intended to provide large scale direction for transportation in the vast interior of Alaska. The IATP, which was developed by ADOT&PF and adopted in 2010, is now somewhat out of date, and many of the issues the IATP identifies either have been addressed or are no longer a department priority. According to Northern Region staff, the IATP will be updated after the Prince William Sound Plan (currently under review) has been updated.<sup>3</sup>

<sup>2</sup> Telephone conversation with Jackson Fox, FMATS, 4.10.18.

<sup>3</sup> Interview with Judy Chapman, Northern Region Planning Chief, Alaska Department of Transportation and Public Facilities, 11/8/2017

ADOT&PF is required to coordinate with local governments on State transportation projects.

ADOT&PF works with local governments in the Fairbanks area Metropolitan Planning Organization, which is done through the FMATS process (covered below). Projects must be consistent with the adopted Borough Comprehensive Plan.<sup>4</sup>

The State of Alaska capital budget was reduced 93 percent or \$1.8 billion from FY2013 to FY2018. During this time, ADOT&PF experienced a series of budget cuts, leading to reductions in funding for planning, construction and maintenance of state-owned and operated transportation infrastructure. At the same time, the Fairbanks Metropolitan Area Transportation System (FMATS) 2045 MTP shows a modest increase in funding over the 2040 Plan. The State of Alaska remains in a fiscally volatile time, creating continuing uncertainty about the level of future State support for transportation projects in the FNSB and the rest of the state.<sup>5</sup>

Change in road maintenance is one impact of declining ADOT&PF budgets. The 2016 closure of the Birch Lake Maintenance station is an example. This was the only station between Fairbanks and Delta Junction for Richardson Highway maintenance. While the Richardson Highway south of the Badger-Richardson west bound ramp has a minimum maintenance priority of no more than a 36-hour response plow out related to a winter storm, other State-maintained roads adjacent to the Richardson Highway may take up to four days to clear.

<sup>4</sup> Alaska Statute 35.30.101

<sup>5</sup> Source: Alaska Office of Management and Budget. Report to the House Finance Committee, April 3, 2018, [http://www.akleg.gov/basis/get\\_documents.asp?session=30&docid=54271](http://www.akleg.gov/basis/get_documents.asp?session=30&docid=54271).

<sup>6</sup> State Transportation Improvement Program, 2016-2017, ADOT&PF

<sup>7</sup> Interview with Scott Vockerth, Transportation Planner I, Northern Region Highway Data, 10/19/17

## Transportation Projects that Support F-35 Growth

The STIP projects most relevant to the F-35 Beddown are described below. This summary includes projects inside MPO boundaries, indicated by an FMATS number as well as projects outside MPO boundaries, indicated by a STIP number.<sup>6</sup>

The Richardson Highway is the focus of STIP projects in the 99705 area. The Richardson is the most important transportation corridor for vehicular travel between Fairbanks, North Pole and EAFB. Northern Region ADOT/PF and FNSB Planning staff indicate the Richardson Highway has more than enough capacity in the areas between Fairbanks and EAFB to absorb the additional traffic associated with the new F-35 growth in the FNSB.<sup>7</sup> While the highway itself has surplus capacity, improvements are needed for safety and access, including better intersections, bridges and pedestrian facilities. As explained by State staff, and as evident from planned projects, the State is moving toward a more access restrictive approach for the Richardson Highway. Specific projects planned for the Richardson Highway under the 2017-2019 STIP are summarized on the next page.

- **Richardson Hwy MP 353-357, Safety/ Access Improvements** – This project will improve access control on the Richardson Highway, upgrading and extending the existing frontage road system, constructing improved at-grade intersections, and eliminating multiple existing access approaches onto the Richardson Highway. (FMATS SR-39)
- **Richardson Hwy MP 356-362 Bicycle/ Pedestrian Path** – This project will construct a paved bicycle/pedestrian path on the Richardson Highway, starting from the Richardson Highway/Airport Way intersection, continuing along the Richardson Highway to the Badger Loop North Bound Ramp, and terminating at the Badger Road/Old Richardson Highway intersection. (FMATS SR-56)
- **Three “Very Long Range Projects”**
  - Richardson Highway North Pole Area Interchange Phases II and III; and Richardson Highway Area Roadway Improvements, Local Roads (FMATS VLR 21, 22, 23)
- **(NP) Alternate Route: Peridot St-Laurance Rd** – The Peridot Intersection Safety Project is one of the larger of several projects planned for the Richardson Highway. ADOT&PF traffic data recorded a number of fatalities at this location. This project is planned to improve traffic merging onto or crossing the Richardson Highway from Peridot. (FMATS MR-42/LR 22)
- **Richardson Highway Mile Point 268-343 (Milepost 266-341) Passing Lanes from Delta Jct to EAFB**– This project will construct passing lanes at various locations (yet to be determined) on the Richardson Highway to improve safety, including intersection improvements at the southern access of EAFB to accommodate freight volumes in support of two additional F-35 aircraft squadrons. Construction will occur in two stages under NID 30284 and this NID 29811. (STIP ID:29811)
- **Richardson Highway Mile Point 268-307 (Milepost 266-305) Passing Lanes between Delta Junction and Birch Lake**
  - This project will construct passing lanes at various locations (yet to be determined) on the Richardson Highway to improve safety. Construction will occur in three stages, under NID 30284, NID 30449 and the original NID 29811. (STIP ID:30284)





## Alaska Railroad Corporation (ARRC)

In the early days of the 1900s, the US Congress funded the Alaska railroad construction, ultimately connecting from Seward through Anchorage to Fairbanks. The project was completed in 1923 and has been providing important freight and passenger service to the Fairbanks area since. Ownership of railroad was transferred from the Federal Government to the State of Alaska in 1985.<sup>8</sup>

ARRC's proposed projects most relevant to the F-35 Beddown are described below. These projects will help create safer and more effective transportation systems in the area where most F-35 growth will occur, and potentially provide for simpler delivery of freight to EAFB.

- The Alaska Railroad passes the center of the City of North Pole, with multiple at-grade rail crossings. The North Pole Road/Rail Crossing Reduction project is planned to reduce these crossings<sup>9</sup>. An Environmental Assessment (EA) for this project resulted in a "Finding of No Significant Impact" signed by the Federal Railroad Administration (FRA) on 12/7/2012. According to the EA, train movements through the City of North Pole and across the

Richardson Highway pose safety risks to the public and to rail operations. The crossing reduction project would enhance public safety, reduce transportation conflicts, and improve ARRC's operating efficiency while ensuring continued rail access to existing and potential future ARRC customers and minimizing impacts to businesses and property owners. Despite the identified project need, and the associated, supportive EA report, there is currently no funding for right-of-way acquisition and construction.

- ARRC has proposed to construct and operate a new rail line extending east of North Pole, referred to as the Northern Rail Extension (NRE). The project would construct 80 miles of new rail line connecting the existing EAFB rail line at the Chena River overflow structure to Delta Junction. The proposed rail line

<sup>8</sup> Alaska Railroad web site (<https://www.alaskarailroad.com/corporate/history>) accessed 7/31/2017

<sup>9</sup> [https://www.alaskarailroad.com/sites/default/files/akrr\\_pdfs/2011\\_06\\_02\\_NPRealign\\_Scoping\\_Summary\\_Rpt\\_PROJ.pdf](https://www.alaskarailroad.com/sites/default/files/akrr_pdfs/2011_06_02_NPRealign_Scoping_Summary_Rpt_PROJ.pdf)





would provide freight and potentially passenger rail services serving commercial interests and communities in or near the F-35 project corridor. With a top design speed of 79 miles per hour for passenger trains, the track could support public transit operations between Fairbanks, North Pole, Salcha and Delta Junction.<sup>10</sup>

- The NRE project was anticipated to progress in four phases, as funding becomes available: Phase 1 – Tanana River crossing at Salcha (Joint Tanana Range Access) constructed in 2013-14; Phase 2 – Rail construction from Moose Creek near North Pole to the Salcha crossing; Phase 3 – Rail construction from the Salcha crossing to the Donnelly Military Training Area; and, Phase 4 – Donnelly to Delta Junction. The latter three phases of this project are currently not funded. While an EIS supporting this project has been completed and approved, there has been no further activity on this project since 2014. There is evidence of some recent renewed interest in this project.<sup>11</sup>

The Alaska State Railroad Plan<sup>12</sup>, completed in November 2016, is intended to comprehensively document and plan potential future rail projects. The plan outlines numerous possible rail projects throughout Alaska and provides strategic recommendations to the State for priorities. As the plan states, “additional funding beyond existing revenues is needed for projects that are beyond the scope of ARRC’s existing operations such as expanding the rail system to new destinations and capital improvements.” Projects in the FNSB area identified in the plan of possible relevance to the F-35 Beddown are listed below; each is intended to improve the railroad’s regional capacity to efficiently move freight and potentially people in and through the region, including the EAFB area.

- **Fairbanks Area Line Relocation Phase 1 (FARLR)**
- **Fairbanks Airport Branch and Eielson Branch Staging Areas**
- **Fairbanks Freight Intermodal Terminal Rail/Truck Staging Area**

Two additional railroad projects addressed in FMATS and relevant to 99705 area are described below:

- **Fairbanks Road/Rail Crossing Reduction/Realignment Plan** – This \$500,000 project was approved in the January 2018 FMATS Transportation Improvement Plan (TIP) budget<sup>13</sup>. The primary purpose of the plan is to serve as a long-range road/rail planning document. The plan will enable FMATS and its agency partners to work towards a more efficient and effective approach to integrating passenger and freight rail elements into the regional multi-modal and intermodal transportation framework.
- **Richardson Hwy MP 359 Railroad Overpass**– This project will construct a grade-separated railroad crossing at MP 359 of the Richardson Highway and a pedestrian underpass east of the railroad crossing. (FMATS SR-42)

<sup>10</sup> Alaska Railroad Northern Rail Extension Fact Sheet

<sup>11</sup> Interview with Brian Lindamood, PE, Director of Capital Projects, ARRC, 10/6/2017. The final EIS supporting this project was released in 2009. The Surface Transportation Board then issued its Record of Decision in January 2010, followed by record of Decision in April by the Federal Railroad Administration.

<sup>12</sup> <http://fmats.us/wp-content/uploads/2017/01/112916-Rail-Plan-Final.pdf>

<sup>13</sup> <http://fmats.us/wp-content/uploads/2012/10/FMATS-FFY2017-2020-TIP-Amendment-3-1.pdf>

## Fairbanks International Airport (FAI)

The Fairbanks International Airport hosts 11 domestic, two international and three cargo airlines connecting Fairbanks to the rest of Alaska, the United States and select international destinations.<sup>14</sup> The airport is located with sufficient space to grow and maintain future airport operations. As Alaska's second busiest passenger airport, FAI serves as a hub for more than 50 communities in Interior and Northern Alaska that rely upon air freight, mail, and commuter services.

For EAFB, the Fairbanks Airport serves as an important, high quality "front door" to people coming into the region, including many arrivals in connection to the F-35 Beddown. Regular, reliable air service provided by FAI will be important to the quality of life of these and all regional residents. The airport is also important for air cargo, including the public's growing reliance on products from on-line retailers like Amazon.

Recent news from FAI disclosed one of their operations has inadvertently contaminated groundwater with Polyfluoroalkyl Substances (PFAS) near the Aircraft Rescue and Firefighting (ARFF) Training Areas. Perfluorinated compounds are found in Aqueous Film Forming Foam, which was used at the Aircraft Rescue and Firefighting Training sites. As of this date, testing is underway to determine the extent of this groundwater contamination and to evaluate the extent neighborhood wells were affected.<sup>15</sup>



## Fairbanks Metropolitan Area Transportation System (FMATS)

FMATS is responsible for planning and implementing regional and local-scale transportation system improvements. FMATS was established in 2003 based on federal law directing the formation of a Metropolitan Planning Organization (MPO) when an urbanized area population is greater than 50,000. The FMATS planning area encompasses the urbanized area of the FNSB, including the cities of Fairbanks and North Pole, and the intervening land along the Richardson Highway and Badger Road. FMATS is guided by priorities set by a local Policy Board and a local Technical Committee.

FMATS receives \$8 million annually from the State, one portion of the \$500 million in federal transportation planning currently coming to Alaska each year. Funding at this scale allows FMATS to support one major project or several smaller projects each year. To receive these critical local funds, FMATS is required to cover the same 9.03 percent match that the State must provide. For the road projects funded by FMATS, this match is largely covered at the local level by the Borough and the two incorporated cities within the borough. FMATS projects are presented in a regional Transportation Improvement Program (TIP), which identifies, prioritizes and allocates anticipated funding for transportation improvements over a four-year period. The TIP represents a consensus among local, state and regional officials on transportation improvements to implement in the short-term.<sup>16</sup>

<sup>14</sup> Alaska Department of Transportation and Public Facilities, Fairbanks International Airport web site (<http://www.dot.state.ak.us/faiiap/index.shtml>) accessed 6/28/2017

<sup>15</sup> Alaska Department of Transportation and Public Facilities, Fairbanks International Airport press release, 11/8/2017

<sup>16</sup> <http://fmats.us/programs/tip/>

## Know Your Transportation Acronyms

**MPO (Metropolitan Planning Organization)** - the general label given to the federally mandated transportation planning organization in any given region)

**FMATS (Fairbanks Metropolitan Area Transportation System)** - FMATS is the MPO for the Fairbanks region, that is, the MPO for the urbanized portion of the Fairbanks North Star Borough

**TIP (Transportation Improvement Program)** - The TIP is FMATS' four-year plan identifying, prioritizing and allocating anticipated funding for transportation improvements; the TIP is amended and updated each year

**MTP (Metropolitan Transportation Plan)** - The MTP is the blueprint guiding long range regional transportation plans, updated and revised every five years

FMATS is operating under its 2040 approved Metropolitan Transportation Plan (MTP), completed in 2015. A consulting team hired by FMATS is now working on an updated plan, entitled "Envision 2045".<sup>17</sup> This current process includes long range multi-modal planning for the major highways and arterials in the borough as well trails and transit, and a Freight Mobility Plan (FMP) to address the movement of freight carriers through the FNSB.<sup>18</sup> The updated MTP is expected to be completed in late 2018.

The broad mission of FMATS is safely and efficiently moving goods and people, while supporting economic progress, environmental protection and an improved quality of life.<sup>19</sup> Specific FMATS goals are to:

- Coordinate planning efforts to provide an integrated transportation and land use system that embodies smart growth principles and stimulates the economy to grow;
- Provide a safe, efficient, secure, and interconnected multi-modal transportation system for all users;
- Protect the environment, improve air quality, and promote energy efficiency;
- Optimize the utility and lifespan of the existing transportation system; and
- Ensure adequate transportation facilities to support economic development.

FMATS looks comprehensively at all modes of transportation to coordinate planning and funding decisions about federally funded transportation

<sup>17</sup> See the Envision 2045 website for details - <http://maps.kittelson.com/FMATSMTP2045>

<sup>18</sup> FMATS web site (<http://fmats.us/>) accessed 7/5/2017.

<sup>19</sup> FMATS web site ([www.fmats.us](http://www.fmats.us)) accessed 6/28/2017; 49 USC 5303(g)(3) and 23 USC 134(g)(3)

facilities. The bike and pedestrian transportation network in the FNSB has approximately 76 miles of formally defined, shared-use paths and 50 miles of roads with sidewalks. Downtown Fairbanks is more walkable than other parts of the borough due to its higher density, sidewalks, short block lengths and short traffic signal cycles. Outlying areas of the FNSB have fewer opportunities and dedicated space for bicyclists and pedestrians. According to crash data, over ten percent of all fatal and severe injury crashes in the Fairbanks metropolitan area involve bicyclists and pedestrians.<sup>20</sup>

Although EAFB is not within the planning boundary of FMATS, FMATS decisions will impact transportation improvements in the 99705 zip code area, where most growth linked to the F-35 Beddown is anticipated. ADOT&PF/FNSB maintains planning authority for the Richardson Highway paralleling EAFB.

Figure 1 above lists FMATS projects of greatest relevance to the F-35 Beddown. These projects are also shown on Figure 2. As noted above, more information regarding individual projects is included in the Fairbanks Metro 2040 Plan available online<sup>21</sup>.

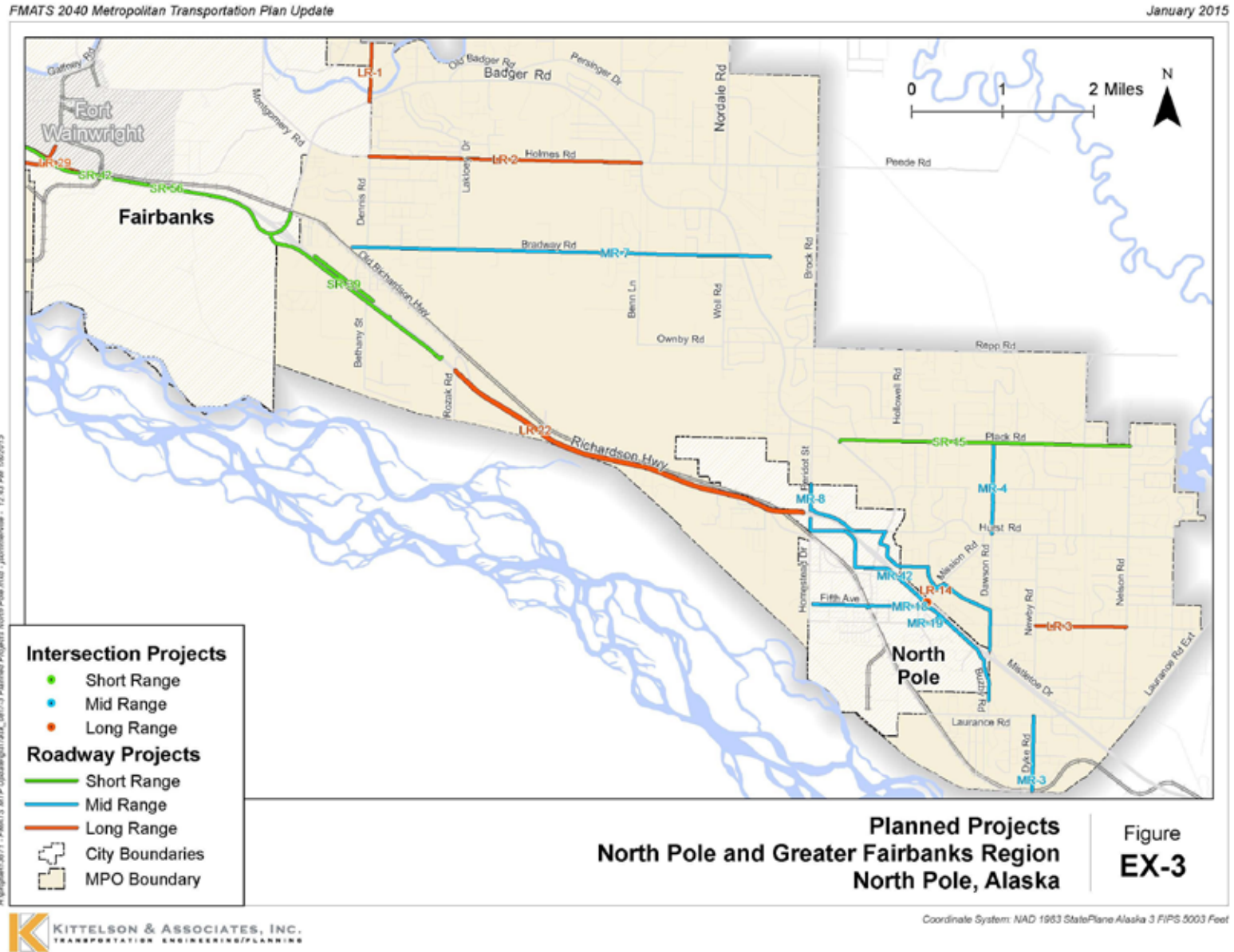
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<sup>20</sup> FMATS Non-Motorized Transportation Plan, 2012.

<sup>21</sup> <http://fmats.us/programs/metropolitan-transportation-plan/>



FIGURE 2: PLANNED FMATS PROJECTS IN THE NORTH POLE/99705 AREA (EXTRACT FROM FAIRBANKS METRO 2040 "A ROADMAP TO 2040")



## Air Quality Monitoring and Compliance – FMATS and FNSB

Air quality management is part of the assurance the State of Alaska must provide to federal agencies, including FHWA, FTA and Environmental Protection Agency, to continue to qualify for federal funding for highway and transit projects. Federal funds cover 90 percent of most transportation improvements in Alaska and the FNSB, so the consequences of losing this funding are severe.

Portions of the borough have a seasonally persistent air quality problem, which comes from a strong atmospheric inversion layer coupled with widespread burning of unseasoned wood and other open burning sources. Vehicle emissions are a secondary, but less significant cause of poor air quality. Under authority of federal air quality laws, in 2009 the EPA designated the large majority of the FMATS planning area as an air quality non-attainment area for particulate matter (PM) 2.5. PM 2.5 refers to atmospheric particulate matter with a diameter of less than 2.5 micrometers, a proven significant hazard to human health<sup>22</sup>. For comparison, a typical human hair diameter is 50-70 microns.

FNSB is responsible for implementing air quality management plans for transportation-related air quality criteria pollutants in the borough, with the strong motivation of continued federal transportation funding. Recent studies by EPA and the Alaska Department of Environmental Conservation (ADEC) show the southeastern portion of the non-attainment area, focused in North Pole/eastern Badger Road area, is the primary source of the emissions contributing to regional air quality non-attainment. This same area is where F-35 military, civilian staff and their families are expected to seek housing and other public and private services. Managing the impacts

of F-35 related growth on air quality in this area will be a continuing, important policy issue.

FMATS, through ADEC, has made a request to the EPA to split the single urban non-attainment area into two separate areas, separating the City of North Pole/Badger Road area from the remainder of the urbanized portions of the borough. Figure 3 below shows the PM 2.5 non-attainment area, divided into Fairbanks and North Pole portions. To date, no final decision has been made on this request.<sup>23</sup>

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<sup>22</sup> US EPA web site (<https://www.epa.gov/pm-pollution/particulate-matter-pm-basics>) accessed 7/5/2017

<sup>23</sup> FMATS web site (<http://fmats.us/>) accessed 7/5/2017.

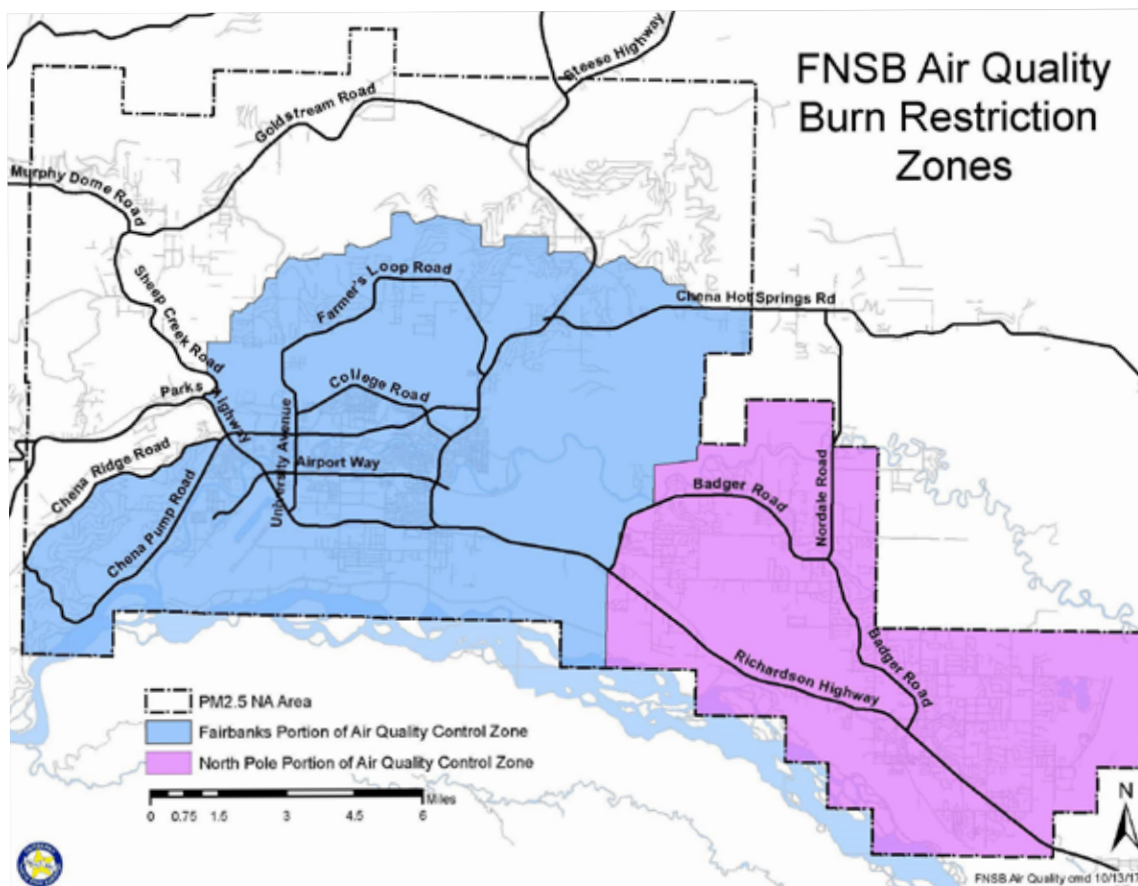
The Planning and Zoning chapter outlines recommendations for land use actions that can reduce air quality impacts, for example through increasing standards for energy efficient homes and options for home heating. Options for reducing air quality impacts associated with transportation are presented later in this chapter.

Downtown Fairbanks and downtown North Pole each contain small carbon monoxide maintenance areas with a federally approved Limited

Maintenance Plan (LMP). While the LMPs do not require an annual emission budget or regional emission analysis (required in the non-attainment area), it does require the implementation of Traffic Control Measures (TCM) related to vehicle plug-ins and transit system improvements.<sup>24</sup>

<sup>24</sup> Correspondence from FHWA Alaska Division Administrator Sandra A. Garcia-Aline and FTA Region 10 Administrator Linda M. Gehrke to Alaska DOTPF Transportation Planner Sheila Good, dated 3/3/2017.

**FIGURE 3: BOUNDARIES OF PM 2.5 AIR QUALITY NON-ATTAINMENT AREA**



## Fairbanks North Star Borough

The FNSB has planning and zoning authority over all land within its boundaries, including land within its incorporated cities. The Borough currently does not have areawide road power and has limited involvement in the construction of the transportation network in the region. Outside of the incorporated cities of Fairbanks and North Pole, FNSB sets development standards for local roads and planning standards for rights-of-way dedicated and developed through the subdivision process. Within city boundaries, the FNSB defers to each city's standards. Likewise, the Borough defers to ADOT&PF standards for state-owned and operated roads throughout the region. FNSB Planning staff use Title 17 of the Borough code and the Comprehensive Road Plan (CRP), adopted by the Assembly in 1991 (with mapping updates in 2006), to accomplish road-related tasks.<sup>25</sup> While the Borough code sets standards for subdivisions, Borough policy does not require subdivision roads be physically constructed in all cases. An exemption process allows small subdivisions to not construct roads if certain parameters are met.

The FNSB is a second-class borough. Although the Borough has the legal authority (A.S. 29.35.210) to establish area-wide road powers, the leaders and voters of the Borough have not elected to use this authority. As an alternative, the FNSB has 103 separate, locally established Road Service Areas (RSAs), as shown on Figure 4. The Borough website notes: “a service area is a taxing jurisdiction established at the request of the voters within a geographical area to provide these certain services within their specific area.” As Figure 4 shows, RSAs cover only a portion of the developed areas of the borough, leaving many roads with no formal maintenance. Roads within RSAs are eligible for FMATS funding; roads outside of RSAs are not eligible.

The FNSB Rural Services Division provides engineering, technical and administrative support for road service area commissioners, including the services below. As the length of this list suggests, providing these services to 103 service areas is a complex and costly process.

- Administer the 103 service area contracts for over 485 miles of service area roads
- Assist over 426<sup>26</sup> service area commissioners (only 271 are currently filled) and their alternates with issues that may arise
- Issue permits for excavations within the Right-of-Way



<sup>25</sup> Personal communication with FNSB Transportation Planner D. Galligan on 7/5/2017

<sup>26</sup> Includes commissioners for 4 other non-road service areas



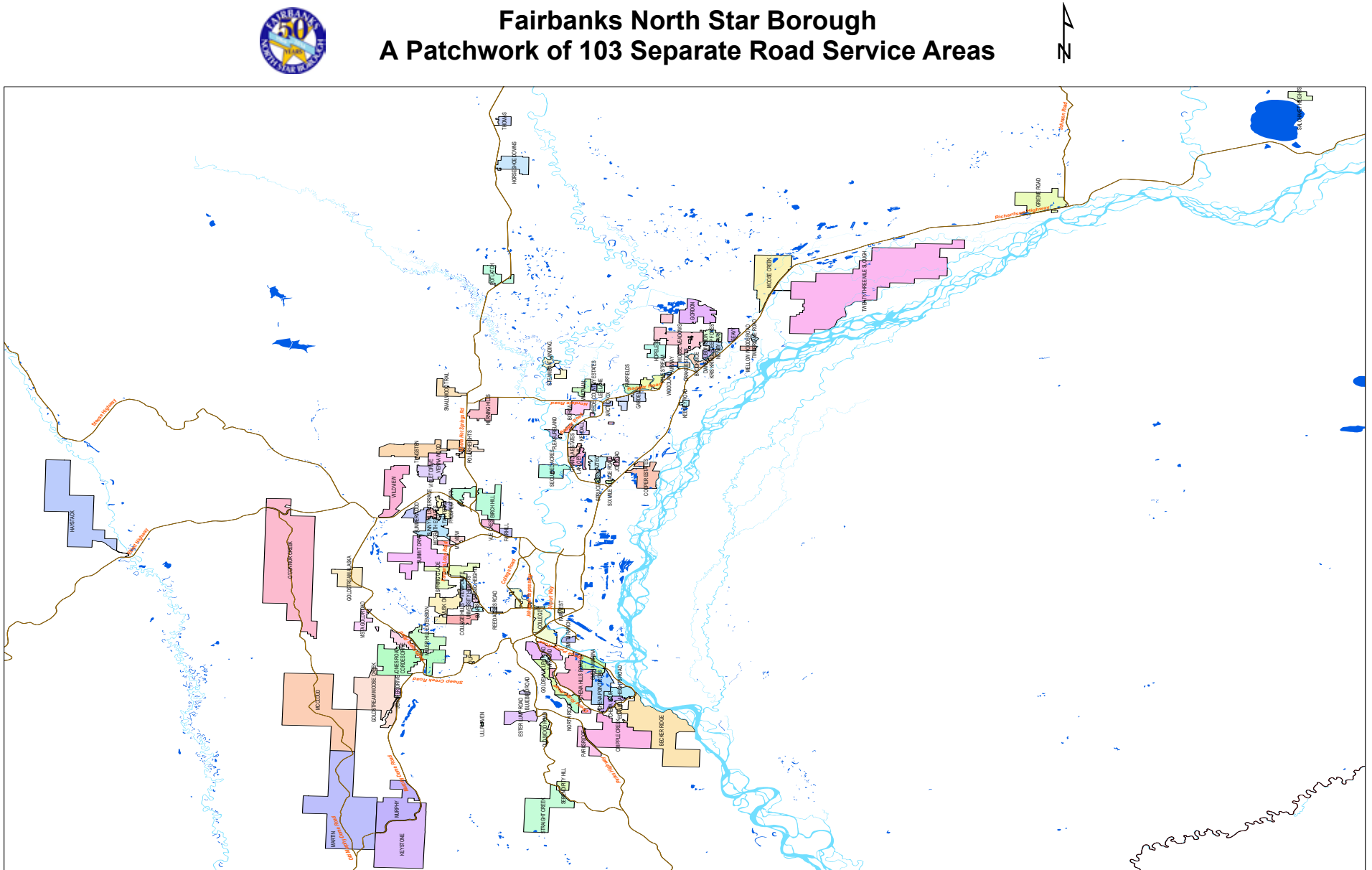
- Maintain databases of current service area commissioners, chairpersons, Assembly Road Service Area Committee (ARSAC) members, roads maintained, current mill levy rates, budgets and other financial information, current service area contract pay items
- Maintain all service area traffic regulation devices
- Work with FNSB Clerk's Office for commission appointments and special elections for service areas, such as tax cap elections and service area boundary change elections
- Act on reported encroachments within the public Right-of-Way
- Provides training opportunities for commissioners about basic road maintenance, working with contractors, budgeting and planning

Within their boundaries, RSAs are responsible for delivering road maintenance and snow plowing services. All services are contracted with independent contractors who are given direction by their road service commissioners on schedule and frequency of maintenance.<sup>27</sup>

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<sup>27</sup> Communication with Michael Bredley, FNSB Division of Rural Services 1/16/2018

FIGURE 4: FAIRBANKS NORTH STAR BOROUGH A PATCHWORK OF 103 SEPARATE ROAD SERVICE AREAS



FNSB, Rural Services, 2-02-2016

## Metropolitan Area Commuter System (MACS)

The local public transit provider, MACS, is an agency of the FNSB with a fixed route bus and paratransit system. Figure 5 shows the MACS routes. The system started in 1977 with two routes serving the Fairbanks urban area. The system later expanded to serve North Pole, Salcha, Farmers Loop, Ft. Wainwright and other Fairbanks areas.

Today, the bus service links much of the urbanized area of the FNSB, with most routes connecting at the downtown transit center. The system currently operates nine routes, and travels over 500,000 miles annually. A 10th route (the Black Line) ran between Fairbanks and Salcha with some stops in North Pole, and EAFB. This route was 100 percent funded through a demonstration grant with the hope the route could support itself after three years of seed capital. However, ridership on the Black Line was the lowest of all MACS lines, and service was discontinued in 2017. The June 2013 Short/Long MACS Transit Plan indicated

EAFB had the largest number of riders on the Black Line Southbound in both summer and winter, and Northbound in the summer.<sup>28</sup> Despite this ridership, the costs to provide this service – approximately \$85 per rider according to Borough staff – made it impractical to continue to operate the Black Line.

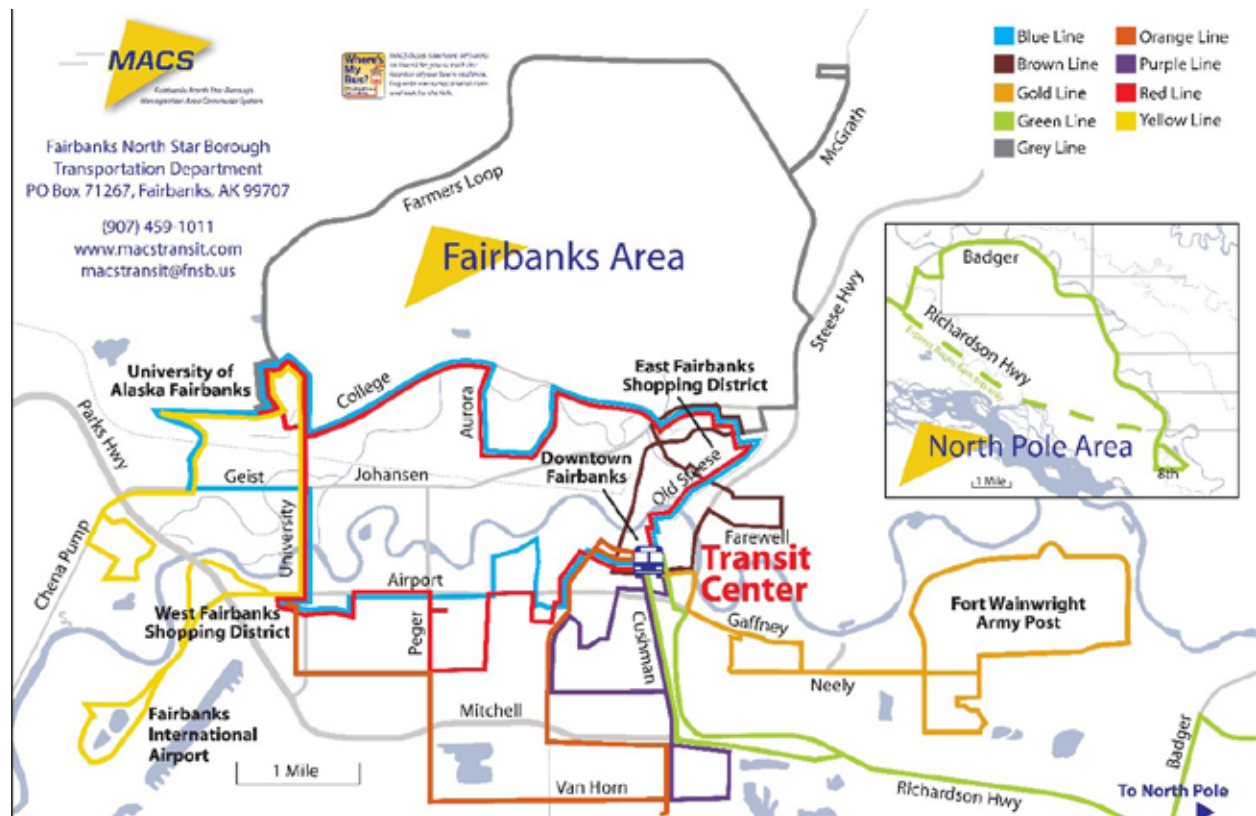
Van Tran is the paratransit service offered by the FNSB as demand response service for qualified individuals that meet the requirements of the Americans with Disabilities Act (ADA). It is provided to those people whose physical, cognitive or sensory disabilities prevent them from using the MACS Transit System. Options for reducing air quality impacts associated with transportation are presented later in this chapter.

<sup>28</sup> Fairbanks North Star Borough, Short & Long Range Transit Plan, Final Report, June 2013



Photo by Jim Benning/FNSB MACS Transit

FIGURE 5: MACS CURRENT SERVICE ROUTES



Source: Fairbanks North Star Borough <sup>29</sup>

<sup>29</sup> <http://fnsb.us/transportation/MACSDocuments/SystemMap.pdf>

### City of Fairbanks and City of North Pole

The City of Fairbanks (CoF) Public Works Department maintains Fairbanks city streets – approximately 350 lane miles of road and associated sidewalks, traffic signals, signage, streetlights, and storm drain system. Winter activities include snow plowing and street sanding. Summer activities include street sweeping, storm drain cleaning, resolving drainage issues, clearing ditches, patching potholes, pavement resurfacing, road restriping, and miscellaneous repairs to sidewalks, signals, signs, streetlights, and storm drain components. The CoF Public Works Department is also responsible for providing traffic control and street closures for community events.

The City of North Pole uses a private contractor to plow the City's streets as the Public Works

Department does not have the necessary heavy equipment. The threshold for plowing city streets is a snowfall of three inches or greater. Hauling snow is not part of the snow plowing contract. Usually plowing 18 miles of city streets requires 16 to 18 hours or longer. As a community service, the City of North Pole clears the entrances to residents' driveways as part of the city-wide street plowing. Snow cleared from driveway entrances is pushed onto the road right-of-way on either side of the driveway.

Incorporated cities raise funds and pay for road maintenance – a clear example and precedent for how road maintenance could be managed borough-wide. Expansion of North Pole, by annexing areas expected to support F-35 growth, is one option that could help improve options for maintaining “orphan roads” and trails in the vicinity of the existing City boundaries.



## ESTIMATED GAPS – WHAT ARE THE GAPS BETWEEN NEEDS AND EXISTING POLICIES, SERVICES, INFRASTRUCTURE?

The F-35 Beddown at EAFB adds new population to the borough, and a new increment of demand for the region’s transportation system. This section reviews gaps between the services available today versus anticipated future needs for transportation infrastructure, services and policies.

<sup>30</sup> In addition to affecting the quality and extent of the road system, the Fairbanks and North Pole areas are home to several large construction contractors whose main source of work is heavy civil construction work contracted by ADOT&PF. These contractors employ a significant number of seasonal employees in higher wage-earning positions. The reduction in this work will mean lean years of employment and income for FNSB residents. If the decline in road projects lasts for multiple years, these firms may not stay in business, reducing options for skilled locally based businesses, to work on road projects for that future time when funding might again be available.

## Declining Funding, and the Resulting Need to Generate More Funding Locally

Plans for transportation improvements come at a time when State of Alaska funding for transportation is declining and may decline more in the future. Without significant action by the Alaska Legislature to find new revenue sources, these declines in State funding could have a profound impact on transportation projects across the state and in the FNSB, including project delays, reduced maintenance funding, and in more extreme cases, completely dropped projects. For ADOT&PF Northern Region, these changes have resulted in several recent years of declining spending on capital projects for highways and further reductions in maintenance. This funding reduction will result in poorer quality state highways, as needed state highway upgrades are delayed or deferred entirely<sup>30</sup>.

As a result of these changes the FNSB, like other communities across Alaska, will need to generate new, locally-based funding to meet its transportation needs.



## Limitations in Road System & Intersections Capacity

FMATS is currently preparing the “Envision 2045” metropolitan transportation plan (MTP), working with transportation planning firm Kittleson and Associates. The MTP uses a regional transportation model to compare the capacity of major regional roads against current and anticipated future demands, including F-35-related growth.

Initial traffic modeling done as part of Envision 2045 shows that major roads in the borough (highways, major arterials) have sufficient capacity to meet anticipated traffic demand through 2045, including growth associated with the F-35 operation. For the Richardson Highway, this finding matches the results of interviews with ADOT&PF senior staff done as part of this project, which indicated the Richardson between Fairbanks and EAFB has more than enough capacity to handle the additional traffic associated with the F-35 Beddown.

The emerging MTP traffic modeling also looks at a select subset of major regional intersections.

Modeling shows several intersections in the Badger Road area will be at or near capacity over the next 20 years, including the side streets at the Badger/Nordale and Richardson/Peridot intersection.

By design, the MTP looks at large volume highways and major arterials that serve the whole region, and not the hundreds of smaller residential roads that serve local neighborhood needs. As is discussed under the road service areas/FNSB subdivision sections below, gaps between needs and capacity are greatest on this latter category of roads, and at points where these roads intersect with collectors and arterial road.

Planning work as part of the completion of the MTP as well as the Salcha-Badger Road Subarea Plan will provide more specific information about where road and intersection capacity is least able to support anticipated growth, and outline strategies to address this challenge.



Photo by Agnew::Beck



## Limited Alternatives to the Private Auto – Transit, Trails, Sidewalks and Pathways

Areas that start with a low density rural residential character, with single family detached homes on acre-plus lots, and then gradually grow and become more suburban, tend to be places where it is difficult to support public transit and where walking or biking becomes increasingly difficult and unsafe. This is true in the greater North Pole/99705 zip code area. This area was developed with little or no planning for sidewalks or for the more concentrated development needed to make public transit more viable.

As noted above, MACS experimented with a bus line connecting Fairbanks, the Badger Road area, Eielson and Salcha. Ridership was very low and the service was dropped. As part of the public outreach for this RGP, and the North Pole Strategic Plan, current residents including active duty personnel and their families expressed the need for improved public transit. For example, connecting commercial and residential areas in North Pole and the Badger Road area with EAFB. While an understandable need, transit is hard to sustain in low density areas, where riders are relatively few and distances are long.

The quote in this section and several similar views were recorded as part of the outreach for the Envision 2045 MTP. With the exception of the bike path along Badger Road, and sidewalks in the center of the City of North Pole, sidewalks and roadside pathways are very limited in the 99705 zip code area. The need for improved sidewalks or roadside pathways is most acute where road traffic is increasing and pedestrians require safe routes to reach schools or other community destinations.

The FNSB MACS transportation budget has been flat to declining in recent years, even as operating costs have increased due to personnel cost increases. State contributions have been reduced. According to Donald Galligan, FNSB transportation planner, these recent MACS budget cuts are significant, not because they have had a big impact on current service levels, but because they set a tone and expectation of the limits on what the system may be able to deliver in the future.

“All of Bradway and Woll Roads needs a bike/pedestrian path to increase the safety of this densely residential area that includes a public school.” Citizen comment recorded through “Envision 2045 Plan”



## Conflicts between Roads, Pedestrians and Rail in North Pole

The ARRC has proposed the North Pole Road/Rail Crossing Reduction project to address conflicts with the railroad crossing through the heart of the City of North Pole. The project has been on hold for the last five years primarily due to lack of funding.

Most of the past traffic on ARRC lines in the North Pole area was associated with the Flint Hills refinery. While the refinery is closed and not expected to reopen, an increase in demand for rail, for example for oil field supplies or associated with Eielson operations could recreate the traffic congestion problems North Pole has experienced in the past. As stated in the Purpose and Need statement for this proposed railroad project,<sup>31</sup> completion of this project would create a safer vehicle and pedestrian traffic environment in the City of North Pole and set the mainline up for extension to the Salcha Bridge and beyond.

“ Holmes Road must be widened and repaired. It is a main exit emergency access for the military base and a main access road to the dump. There is no edge to the road. It is extremely dangerous for pedestrians and bicyclists because there is no edge and it is a straight away which causes high speeds... it is extremely dangerous in winter conditions just for drivers.

Citizen comment recorded through “Envision 2045 Plan” process

## Substandard Roads Resulting from Outdated Subdivision Policies and Mechanisms for Funding Road Maintenance

Starting over 50 years ago, the FNSB began authorizing individual road service areas. While this system had advantages in earlier days, the result today is an unwieldy collection of over 100 road service areas are spread around the FNSB. This creates both physical and administrative challenges. On the physical side, RSAs cover only a portion of the borough’s developed area. A related issue is the significant variation in maintenance quality between roads in different RSAs. A driver crossing from one RSA to the next on the same road might encounter very different levels of road service. These issues can make it difficult to get around as part of daily life and create serious safety issues when fire trucks or EMT vehicles are unable to quickly react to a fire or health emergency<sup>32</sup>. This set of issues exist around the borough, but is particularly acute in the 99705 area code, where recent growth is already revealing significant road problems. The F-35 population growth will accentuate these challenges.



Photo by Agnew::Beck

<sup>31</sup> [https://www.alaskarailroad.com/sites/default/files/akrr\\_pdfs/2011\\_06\\_02\\_NPRealign\\_Scoping\\_Summary\\_Rpt\\_PROJ.pdf](https://www.alaskarailroad.com/sites/default/files/akrr_pdfs/2011_06_02_NPRealign_Scoping_Summary_Rpt_PROJ.pdf)

<sup>32</sup> North Star Fire Chief Jim Styers comments at Salcha-Badger Road planning group meeting



## Updated and Expanded Borough Comprehensive Road Plan

The Comprehensive Road Plan (CRP) is a valuable policy document, used to assign appropriate road classifications to new roads constructed in the FNSB. The CRP sets standards so that as development takes place, road rights-of-way are reserved at the appropriate dimensions (e.g., a collector versus a local street). The ultimate goal of this plan is to ensure that individual new roads incrementally create an efficient, effective borough-wide transportation network.

The plan continues to be a valuable planning tool, despite having been prepared in 1991, with only one update in 2006, and the fact the plan predates the designation of the Fairbanks metropolitan area as an MPO. While the slow pace of development in the borough has meant most of the road specifications included in the plan are still valid, the plan needs to be updated to respond to new growth pressures like those in the 99705 area, and be broadened to better address multi-modal transportation needs, including bike and pedestrian travel.

While all subdivisions, per ordinance, must align their streets and dedicate corridors shown in the plan, the Borough has enacted ordinances that sometimes allow for dedication of road rights-of-way, without construction to Borough standards.

## Vulnerability of Transportation Funding Due to Unresolved Air Quality Issues

The Borough recently implemented a more stringent compliance program with possible enforcement actions if offending sources remain noncompliant in addressing air quality violations. Despite efforts by the FNSB leadership, PM 2.5 air quality problems continue, especially in the North Pole area – an area considered to be a prime location for new housing for the incoming F-35 Air Force families. See more on this critical issue in the recommendations section below, and in the Planning and Zoning chapter.



## TRANSPORTATION STRATEGIES – WHAT ARE OUR RECOMMENDED SOLUTIONS FOR MEETING ANTICIPATED GAPS?

The F-35 Beddown at EAFB adds new population to the borough, and a new increment of demand for the region’s transportation system. To ensure the FNSB transportation network remains effective and efficient with this expected borough population increase, the following strategies are recommended.

It is important to note that these strategies are relevant in the greater North Pole area, where F-35 growth is expected to concentrate, but also borough-wide. This planning process provides the opportunity to make improvements and implement strategies that will respond to F-35 growth, but also address transportation issues that have long challenged Borough staff and leadership, and FNSB residents, businesses and landowners.

*Note: these strategies are not listed in order of priority. The order shown starts with broad overarching topics and works towards more details of specific modes or single topic issues.*

### T1. Use transportation and land use planning to support air quality solutions.

*See the Planning and Zoning chapter for a thorough discussion on air quality issues, and the direct linkage between land use, transportation and air quality.*

The Fairbanks region needs practical, effective solutions to its significant air quality problems. Most air quality problems are tied to emissions from

heating buildings, but reducing auto emissions is also a potential solution to air quality issues.

- a. Promote programs that reduced emissions, including education regarding winter anti-idling, diesel I/M inspection programs, and adding plug-ins to large parking lots.
- b. Develop land use policies that encourage more concentrated and walkable development patterns, which makes it easier for people to use their cars less often. Planning for concentrated, walkable, mixed use districts should become one strong part of the Borough’s response to air quality challenges. And as mentioned above, concentrated development also increases the viability of transit which can further contribute to reduced vehicle miles traveled.
- c. Actively pursue new strategies, working with voters and utilities, to expand options for public water and sewer, which is needed to support more concentrated development. As part of that step, develop standards so more concentrated development, particularly higher density housing, provides durable, quality, attractive places to live, and a good neighbor to existing residents. (See the Utility and Planning and Zoning chapters for further discussion on this challenging, important topic.)
- d. Options to continue to receive federal transportation dollars is one indirect, but very critical connection between transportation and air quality. Without an approved air quality plan and active measures to improve air quality, the FNSB stands to lose vital federal funding that helps maintain and improve the region’s transportation system. The Borough is currently working with FHWA, FTA, EPA, ADEC, ADOT&PF and several consultants to develop a “Serious State Implementation

Plan” (SIP). This “Serious SIP” will require implementation of Best Available Control Measures (BACMs), which may include any technologies that have been implemented in another state’s Serious SIP or achieved in practice.<sup>34</sup>

## T2. Continue regional-scale transportation system improvements.

As mentioned above, recent traffic modeling completed as part of the 2045 Update concludes the regional transportation system within the Borough’s boundaries – primarily the backbone system of major region-serving highways and arterials – has capacity to meet projected growth, including the increment of growth coming with the arrival of the F-35s.

- a. This conclusion is built on the important assumption that the list of transportation improvements in the existing 2040 MTP will be constructed. Continuing with those identified improvements is critical if the transportation system will support the Borough’s future regional transportation needs.
- b. Figure 1 gives the list of 2040 MTP-approved improvement projects in the 99705/greater North Pole area. Also included in the previous section summarizing existing transportation services and infrastructure are short descriptions and a map (Figure 1) showing the location of many of these projects. It is currently expected the 2045 MTP Update will endorse the same set of projects. As part of the completion of the 2045 MTP, the MTP 2040 project list should be re-examined and re-ranked to place higher priorities on meeting anticipated growth in the 99705/greater North Pole area. Projects that should be given higher priorities in the MTP are improvements for

safety at Richardson Highway intersections such as Peridot, and for pedestrian safety along routes leading to 99705 area schools.

- c. In addition, several new projects should be considered as priorities for action outside MTP boundaries, for example, a bike trail between Salcha and EAFB. One example is a bike trail between Salcha and EAFB; other projects will be identified through the current Salcha-Badger Road Area Plan process.

## T3. Carry out subarea land use and transportation planning.

While the traffic modeling resulting from the 2045 MTP Update shows the regional transportation system (with planned improvements) will meet projected growth, the emerging MTP analysis also begins to identify specific locations needing improvement to serve local-scale needs.

Additionally, the MTP process documents the need for improved pedestrian and bicycle facilities to meet local demand, including bicycle facilities at the Santa Claus Lane/Richardson Highway roundabouts, and both pedestrian and bicycle facilities at Homestead Drive south of the railroad tracks. The plan also documents the lack of transit service to EAFB and Salcha (but notes that providing transit in these low density/low ridership areas is very challenging - more on this topic is presented for #5 below).

- a. The Salcha-Badger Road Sub-Area Plan should be used to provide the detailed planning needed to refine specific, local-scale transportation needs. Specific tasks to be carried out by that plan include:

<sup>34</sup> Interview with Nick Czarnecki, FNSB Air Quality 11/17/17

- Develop specific land use and infrastructure plans to meet demands for F-35 related growth. While respecting private sector responses to meet demand, the Sub-Area Plan needs to guide growth to address public benefits and challenges. Examples of actions where active steps to guide growth are needed include: planning for improved water, sewer and other infrastructure; policies to encourage quality, affordable rental housing; strategies to minimize adverse impacts on existing neighborhoods; and strategies to minimize impacts on air quality.
  - In light of the more detailed planning for locations and types of F-35 related growth, develop specific transportation improvement strategies, including locations for improvements of the existing system; new roads and trails; transit options, and strategies to cover construction and ongoing maintenance costs.
- b. Updating the full borough-wide comprehensive plan is very challenging, due to the scale and diversity of the FNSB region. As a better approach, use the Salcha-Badger Road Sub-Area Plan as a way to inform transportation policy changes and specific infrastructure inputs in other sub-areas, or even borough-wide.

#### T4. Identify and implement funding strategies for local/regional-based transportation.

As the borough continues to grow, and the State continues to cut transportation funding to local governments, new approaches for funding transportation projects will be needed<sup>33</sup>. This will require public and voter support, which can come about in part through a proactive local outreach and education program. The public needs to better understand the magnitude of the transportation challenges facing the region, the realities of shrinking funding to meet transportation needs, and the consequences of not having adequate maintenance for existing roads. These types of education programs are typically most successful when sponsored by organizations like a chamber of commerce or other local economic development advocates, who can explain how transportation projects create jobs and business opportunities, as well as improving safety and quality of life.

A key point of any education program should be explaining the leverage provided from local dollars. Federal regional transportation funding generally provides nine dollars for every single in-state matching dollar.

Listed below are local funding options the Borough should investigate, with specific options to be acted upon later as the public and Borough leadership rallies behind these issues. It is important to note all these require support from parties beyond the direct control of Borough leadership - either voters or the State Legislature.

- Work aggressively with the Alaska Legislature, especially FNSB representatives, to find new ways for the State of Alaska to generate revenues to support a robust state capital improvements budget, which can in turn help fund and sustain Alaska's transportation needs.

<sup>33</sup> One example of a specific, near term funding challenge: according to FNSB Transportation Planner Donald Galligan, FMATS funding, already tight, is likely to be significantly reduced once the Mat-Su Borough is designated as an MPO in 2020.



The crux of this strategy requires the legislature acting to replace revenues previously generated by oil production.

- Expand road service areas, to generate property tax from a larger pool of properties. (See more details on road service areas in Strategy T6)
- Develop and gain approval from FNSB voters for bond measures to help meet regional transportation needs. This can only happen within road service areas, and is one argument for expanding the coverage of RSAs.
- In coming years, the State is likely to turn to statewide bond measures to generate funds where projects offer broad public benefits. Improving the Anchorage freight dock is one example. The Borough needs to be proactive, working with State leadership and the State Legislature to include statewide bond measures for projects that widely benefit the Borough, the interior and other state residents.

## T5. Advocate and seek funding options for the North Pole Railroad Crossing project and broader scale expansion.

The Borough should work with FMATS, the City of North Pole and other partners to move forward with the North Pole railroad project. For the foreseeable future, ARRC is unlikely to directly fund this project, so other funding options should be pursued, including statewide general obligation bonds, Better Utilizing Investments to Leverage Development (BUILD) grants, and/or working through the FMATS process to secure FHWA and/or FRA funding.

The North Pole Rail Crossing Reduction Project would bring multiple benefits:

- Eliminate conflicts between rail and vehicles and pedestrians.



Photo by: Shelly Wade

- Solve safety, as well as noise and related quality of life issues from the current rail line crossing through the heart of North Pole. There are 70-80 at grade road/rail crossings in the borough, which greatly hamper the safety and efficiency of circulation. The City of North Pole is one obvious location where the rail line cuts through the heart of a busy commercial/civic activity area.
- Add to property values in North Pole and avoid major conflicts likely to a rise in the future when rail, vehicular and pedestrian traffic increases to the greater Fairbanks area.
- Retain a corridor for a possible further eastbound extension of the rail line.

## T6. Address challenges of Road Service Areas (RSAs).

The Borough currently faces the challenge of having too many RSAs. For example, the FNSB has 103 RSAs vs. just six in the entire Mat-Su Borough. The excessive supply of RSAs creates high and unnecessary administrative costs. At the same time, there are thousands of miles of roads outside of any RSA, with limited or no organized options for maintenance. Without ongoing maintenance, roads deteriorate, there is limited or no snow removal,

and access to homes and services becomes increasingly challenging and even dangerous. Many hundreds of miles of roads in the borough are already in very poor condition. Without new strategies this situation will worsen as the borough grows.

A simply stated, but challenging to implement solution to the RSA challenge: the FNSB should consolidate and reduce the number of RSAs and fill road service area gaps. A recommended approach to reach this ambitious goal is as follows:

- Carry out a simple believable analysis that quantifies the near and long term economic, quality of life and safety benefits of improved road maintenance.
- Conduct a robust community education and engagement strategy, with the public and Road Service Area Commissioners, to discuss the current RSA system, including:
  - Use the outreach process to give the public a chance to identify their priorities for better roads, trails, sidewalks and other community needs;
  - Share information about the pluses and shortcomings of the current system, and the benefits of new approaches. Points to





emphasize include the cost to maintain vs. rebuild roads; the fiscal impacts of FNSB oversight of 103 separate RSAs; health and safety issues, including inability of EMT and fire trucks to respond in emergencies; the fact that State and federal funds are only available in locations for roads in a maintenance district; and

- iii. Use the public outreach process to better understand and address specific public concerns. To the degree practical, keep elements of what people inside RSAs like about the current system, including a measure of locally-responsive, locally-directed maintenance.
- c. As residents, businesses and voters better understand the challenges of the current pattern of RSAs, engage them to devise specific solutions that can be approved and implemented, working towards the primary objectives below:
  - i. Establish maintenance services in areas currently outside of any road service area,

to create a safer, functional and sustainable transportation network.

- ii. Consolidate and reduce the number of road service areas, to simplify and create efficiencies for the administration of these service areas, and allow for more uniform and better prioritized maintenance for roads that currently cross through multiple RSAs. If possible, use the resulting administrative cost savings to improve service and/or cut existing costs.
- d. Specific elements of new and better solutions to the current system of RSAs need to evolve through the process outlined above. General elements likely to be needed include:
  - i. Examine and reform the existing FNSB code process that creates serious impediments to expanding existing RSAs. Work to reverse the current disincentives for annexation, and simplify the current process that requires slow, costly separate local and assembly votes.
  - ii. Review construction standards for new roads in subdivisions, and establish new road maintenance standards. Standards need to account for the growing size of vehicles, increasing traffic levels, and the simple physical requirement to ensure water drains off the road surface. At the same time, aim for standards that make being part of RSAs more attractive and acceptable to voters. Differentiate standards in suburban and urban areas, from standards in outlying rural areas where traffic is likely to remain light well into the future.
  - iii. Use the sub-area and comprehensive planning process to better clarify the boundaries between rural and suburban/



Photo by: Agnew::Beck

urban areas, and through that process the differences in road construction and road maintenance standards in those areas.

- iv. Clarify and mandate the policy that requires joining an existing service area if an RSA is located within a reasonable distance of a new development. Couple this with a policy that prohibits the platting of any future road open to public use without the road being built to the appropriate Borough standards, and being added to an existing road service area. Likewise, where a new road, open to public use, is proposed near an existing RSA, require the road be built to appropriate FNSB standards, and be added to an existing, adjoining road service area.

If the FNSB were a home rule borough, the Assembly could pass rules to require the consolidation of road service areas and outlaw the acceptance of roads not in road service area. Under the current second-class borough status, a vote would be required to consolidate these service areas into more manageable units and fill important gaps in service area coverage. Given this reality, the process of consolidating and expanding RSAs will likely require patience and incremental progress. Use the Salcha-Badger Road Sub-area plan to work on this topic in the 99705 zip code, aiming to show the need for road improvements, and make clear how combining and expanding RSAs meets this goal, and ultimately saves money for individuals and the community.

## T7. Work to develop transit options between North Pole, Fairbanks and Eielson AFB.

In recent years, MACS eliminated service to Eielson and Salcha, based on low demand and high costs. As documented in the Borough's 2013 Transit Plan, costs to provide this Black Line service, due to long distances traveled and low ridership, were \$85 per rider with only \$2.25 per fare.

The F-35 Beddown will likely increase demand for transit services linking EAFB with North Pole, Fairbanks and perhaps the Salcha area. MACS should monitor demand for transit services to identify if and when some version of improved transit service may be warranted. While demand is currently too low to reestablish the full Black Line, providing alternative versions of this service may be feasible in the future, to serve active duty personnel and their families, as well as existing and other new residents from Salcha to Fairbanks. One option, if there is demand from active duty personnel for transit service to Eielson AFB, would be for the Air Force to pre-qualify drivers and provide service as is done at both the Los Alamos National Laboratory (New Mexico) and Idaho National Laboratory (Idaho Falls).

Creative options to offer transit service should be revisited. In the recent past, the Borough attempted van pools and ride shares<sup>35</sup>, but were not successful. With the increased population at Eielson Air Force Base, there is an opportunity to reevaluate transit

<sup>35</sup> [http://www.newsminer.com/news/local\\_news/borough-adopts-online-ride-share-program-zimride/article\\_f5cdd1fc-8e98-11e5-bac4-f7c26beca3f0.html](http://www.newsminer.com/news/local_news/borough-adopts-online-ride-share-program-zimride/article_f5cdd1fc-8e98-11e5-bac4-f7c26beca3f0.html) (November 2015)



options that will meet Air Force personnel and other resident transportation need. Known issues that will contribute to the success or failure of new transit options to and EAFB include base access and snow removal.

For base access, when the Borough offered bus service to EAFB, base access was a major challenge. In the beginning, buses were allowed through the EAFB gate; then, a uniformed “defender” was required to get on the bus at the gate for the trip onto the base bus stop; then, bus access was denied and EAFB offered a shuttle from the base bus stop to the front gate to meet the FNSB bus (and sometimes failed to arrive on time resulting in riders being left at the front gate to wait for the EAFB shuttle or walk home, etc.). Consistent, efficient base access will be a critical component to any new transit option on and off base.

Access to bus stops is also critical to the success of any transit option in the borough, especially in the rural areas of the community, including routes to and from EAFB. Access is often limited during winter months by lack of snow removal and/or dumping at sites. There is often no way to access the bus stops without climbing over and/or standing atop piles of snow. These areas must be free of snow.

Land use policy that helps create more concentrated, walkable development is a different, gradual but potent way to increase the viability of transit. As residential and commercial densities increase demand for transit tends to rise and costs per rider go down. Strategies to encourage higher density development include, for example, zoning policy and expanded public water and sewer service.



## T8. Update and improve the FNSB Comprehensive Road Plan.

The FNSB should update the Comprehensive Road Plan (CRP) to respond to continuing growth and change in the region. The CRP is a not well known in the borough, but provides a valuable policy tool. In contrast to the FMATS process, which focuses on construction and maintenance projects, the CRP makes decisions on dedicated public road rights of way, and allows the Borough to control today the width and classification of roads to meet the transportation needs of the future.

The Salcha-Badger Road Sub-Area Plan can provide a reference point for updating the CRP and other more recent FNSB transportation plans. Objectives of this update process should include:

- a. Reexamine the road functional classifications that are presented in the CRP – arterial, collector, minor collector, residential, to ensure the definitions of the classifications are appropriate in the FNSB context and reflect differences between urban, suburban and rural settings.
- b. In addition to policies for roads, establish CRP standards requiring appropriate pedestrian facilities (as called for in the comprehensive plan) that connect pedestrian routes within adjoining existing and future subdivisions. Create a better-connected system of trails, paths and roadside walkways.
- c. Identify specific roads that are within existing subdivisions needing to be upgraded to serve the ultimate FNSB road network, but currently are outside of service areas.
- d. Require physical construction of roads in all new subdivisions, where these subdivisions are within Fire Service areas as defined by FNSB Rural Services and through policies in updated land use plan.
- e. Consider using the Salcha Badger Plan process to develop a revised Comprehensive Road Plan map specific to the Salcha Badger sub-area.



# Planning and Zoning

## KEY TAKEAWAYS

- A primary goal of the Regional Growth Plan is to help ensure new F-35 personnel, single airmen, families and other new residents can find and secure quality housing, in nice neighborhoods, close to high quality schools, retail stores and other services. Through this plan, the Borough aims to provide a welcoming, high quality of life so F-35 personnel choose to bring their families with them to the borough. Ideally, those who relocate for the F-35 jobs will sufficiently enjoy their stay here that they ultimately find a way to live in the borough. Equally important is ensuring F-35 related growth helps maintain and improve the areas where existing borough residents, land owners and businesses live and work.
- As is the case today for approximately 85 percent of active duty Air Force personnel stationed at Eielson Air Force Base, most of the new F-35 Beddown residents are expected to seek housing in the “Greater North Pole”/99705 zip code area. In recent years this has been the fastest growing part of the borough, due to its combination of affordable and available properties and attractive, low density residential character. While offering these advantages, the area is currently characterized by inconsistent quality housing and a limited supply of quality rental housing. The quality of roads and other infrastructure is also inconsistent, and in many locations, roads are not publicly maintained and do not meet the needs of a changing and growing population.
- Compared to the places from which most F-35 Beddown families will be arriving, much of the land in the Borough is only lightly regulated. Like much of Alaska, the “toolbox” of policies for guiding growth in the Borough – building codes, zoning and subdivision codes, planning for infrastructure – is currently very limited compared to what is common in the Lower 48, and the tools available are not applied in all locations. The absence of these policies makes it challenging to meet expectations for quality housing and neighborhoods, for water and wastewater solutions, safe/quality roads and other public services and facilities. The arrival of the F-35s gives an incentive for improved approaches to managing land use and infrastructure in the borough. Examples of issues to address include land use conflicts, poor quality/energy-inefficient building construction, inefficient land use patterns, and the need for improved roads and other public infrastructure. Working on these topics is important in responding to F-35 growth and at the same time offers the chance to improve neighborhoods and roads for existing residents and businesses.
- By design, this plan is directed at regional scale issues and solutions. The Salcha-Badger Road Subarea Plan, in progress starting Spring 2018, provides the means to make progress on more detailed, site specific land use and infrastructure planning issues in the heart of the area affected by the F-35 Beddown.



The F-35 Beddown is projected to increase the population of the Fairbanks North Star Borough (FNSB) by approximately 3,300 people. The objective of this planning and zoning chapter is to assist the Borough and other partners develop land use policies that respond to this anticipated growth. This includes addressing the direct needs of new military personnel and their families, making recommendations to respond to situations where existing land use issues may be exacerbated by F-35 driven growth, and ensuring the growth tied to the arrival of the F-35s benefits existing residents, landowners and businesses.

This chapter includes the following topics:

- A brief overview of land use-related needs related to the F-35 Beddown
- A summary of the land use context, including land ownership and physical opportunities and constraints for development
- A review of relevant existing land use plans and zoning policies, and gaps or limitations in this set of policies to address both current needs and anticipated growth
- Recommendations for steps to establish and strengthen planning and administrative policies, regulations and other tools needed to successfully accommodate military growth at EAFB
- Initial recommendations for community outreach and public involvement in planning for and mitigating growth impacts, improved regional cooperation and coordination of military growth

This chapter focuses on broad, regional scale issues and responses related to the F-35 Beddown. Concurrent and future FNSB planning efforts, particularly the Salcha-Badger Road Subarea plan, will provide a structure for adding specificity to the broader recommendations in this plan, including

land use and infrastructure policies appropriate in specific locations.

## PROJECTED NEED

As outlined in detail in the Growth Projects focus area, the F-35 Beddown will bring approximately 1,353 new active duty personnel to Eielson Air Force Base. The addition of federal civilian employees, technical consultants, and family members increases this total population growth to 3,256 employees and dependents. This direct increase in population and economic activity is projected to “induce” additional indirect growth in supporting industries (e.g., retail, public service), which coupled with natural population growth (a combination of births, deaths and migration in/out), is projected to add/or retain an additional 2,415 people in the borough. This increase will occur incrementally, as the Air Force expands employment over the next five years. The full, projected 5,671 population increase – direct, induced and natural – is projected to be reached by 2030.

This projected growth in the borough will affect a range of land uses and infrastructure, including needs for housing, commercial services, and public services including schools, roads and recreational opportunities (i.e. parks, trails). Housing needs are the primary direct land use issue. The housing section of this Regional Growth Plan (RGP) outlines the estimated number and type of housing needed to meet anticipated demand. Key points are summarized below:

- There is a projected demand for 974 off-base housing units
- Most housing demand will come from enlisted Air Force personnel, who have a lower pay scale and will likely be seeking rental housing

- Most housing demand will be in the “Greater North Pole” or 99705 zip code area
- Borough-wide, the supply of currently vacant housing exceeds projected F-35 demand. However, in the 99705 zip code area, where approximately 85 percent of Air Force personnel currently living off-base reside where the majority of new growth is expected to concentrate, projected demand exceeds current vacant supply by about 200 housing units. And as is documented in the Housing Chapter, portions of the area’s existing housing supply, particularly multifamily rental units, may not meet the needs and expectations of the new personnel.

Based on a review of existing plans for the Borough and its communities, coupled with knowledge of the Air Force’s F-35 mission, below are broad land use needs to be met in response to anticipated growth:

### For Incoming Air Force Personnel and Their Families: Quality Places to Live

#### Individual homes

- A range of housing styles, from single family detached homes to townhouses and apartments
- Affordable prices, across a spectrum of income levels
- Quality housing, including homes that are energy efficient and therefore affordable to heat through the winter.

#### Neighborhoods

- Proximity – for most Air Force employees, a location within a 20-minute drive of EAFB
- Attractive, safe neighborhoods, with assurances to protect neighborhood quality into the future

- Adequate access to high quality public services, especially schools and childcare
- Quick and easy access to retail and recreation opportunities

### For Existing Regional Residents, Land Owners and Businesses: Positive Impacts from F-35 Growth

- A catalyst for improving neighborhood services, e.g., upgrading substandard roads, expanded/improved water and sewer infrastructure
- Protection of the rural, low density living that existing residents like most about their neighborhoods
- Policies that actively address borough-wide issues, so growth does not add to existing challenges, e.g., air quality
- A catalyst for revitalization of commercial areas and older housing, particularly older apartments

### For the Local Development Community and Investors: A Supportive Environment So Developers Can Successfully Respond to Demand

- Affordable land with available infrastructure
- New financial tools to support development and/or rehabilitation of multi-family housing
- Reasonable certainty about anticipated magnitude of F-35-related and other anticipated growth or development demand

## SUMMARY OF EXISTING SETTINGS, INFRASTRUCTURE, SERVICES, AND POLICIES

The current pattern of residential, commercial and other land uses in the borough is driven by a combination of factors. These include: land ownership; wetlands, permafrost and other physical opportunities and constraints; the availability of water, sewer, roads and other infrastructure; FNSB and other public land manager land use regulations; and the traditional desire by many Alaskans for rural, low density living, with freedoms to use land with minimal restrictions. This section provides a short overview of these topics, as a starting point for responding to F-35-related growth.

### Setting: The Borough as a Possible Place to Live

Below is an overview of FNSB characteristics, both opportunities and challenges, as might be seen from a potential new resident’s perspective. This is an inherently subjective topic, but is provided to encourage local leaders and agency staff to consider how the area likely will be perceived by people arriving from very different environments. These topics are not listed in order of importance.

**Opportunities** – Many characteristics are expected to make the FNSB attractive to new residents:

- Easy access to open space and four season outdoor recreation opportunities- nearby places to hunt, fish, hike, boat, snowmachine, ski; all in a setting embedded in the whole of Alaskan wildlands and wildlife, national parks and refuges



Credit: Fairbanks North Star Borough

- Warm, pleasant summers and real winters with world famous aurora borealis, or “Northern Lights”
- Welcoming and interesting communities – history and traditions; residents with diverse backgrounds, experiences and viewpoints; revitalizing downtown Fairbanks and North Pole
- A surprisingly large array of commercial, public services and facilities for a town of under 100,000, including the University of Alaska Fairbanks, a wide range of shops and stores, an international airport with regularly scheduled flights to locations around the world
- A wide array of options for low density, rural life styles, with minimal land use rules.

“ We like how peaceful it is here, the variety of outdoor activities, and all the super friendly neighbors. ”

-EAFB focus group participant

**Challenges<sup>1</sup>** – Fairbanks, Alaska is a very different environment than southern or southeastern U.S. suburbs, from where many new EAFB employees and families will be relocating.

- Very cold winters (-15 to -25 °F), which create unique, unfamiliar challenges, including high heating costs and sometimes challenging travel.
- Challenging physical setting – large areas of permafrost, wetlands, flood prone lands which can affect home quality, and increase costs and challenges of home construction or improvement.
- A tradition of limited regional utilities and infrastructure planning, which has led, for example, to highly variable quality of residential roads, and the lack of public water and sewer in much of the borough.
- Limited land use regulations and tools, building codes, zoning and subdivision rules. Many non-residential uses are allowed in residential neighborhoods.

- Current housing stock includes a large portion of older, low quality, poorly built/poorly maintained structures, particularly rental housing.

## Regional Land Ownership

The borough encompasses an area of about 7,000 square miles. Like most regions of Alaska, most land in the FNSB is publicly owned (see Figure 1 on the following page). The State of Alaska is the largest landowner, with 68 percent of all lands in the Borough. The next largest landowner is the federal government, primarily the Department of Defense and the Bureau of Land Management, who together hold approximately 19 percent of land in the borough. This large amount of public land provides the basis for the area’s exceptional outdoor recreation opportunities. The remaining 13 percent of land is in private or Borough ownership. While the percentage of lands in public ownership is much higher in the FNSB than what is common in most other U.S. regions, per capita private land ownership is similar or greater than what is found in other locations around the country, and certainly much greater than Alaskan cities like Juneau or Seward that are surrounded by public lands. As a result of these land ownership patterns, there is a substantial supply of private land in the borough to accommodate future growth.

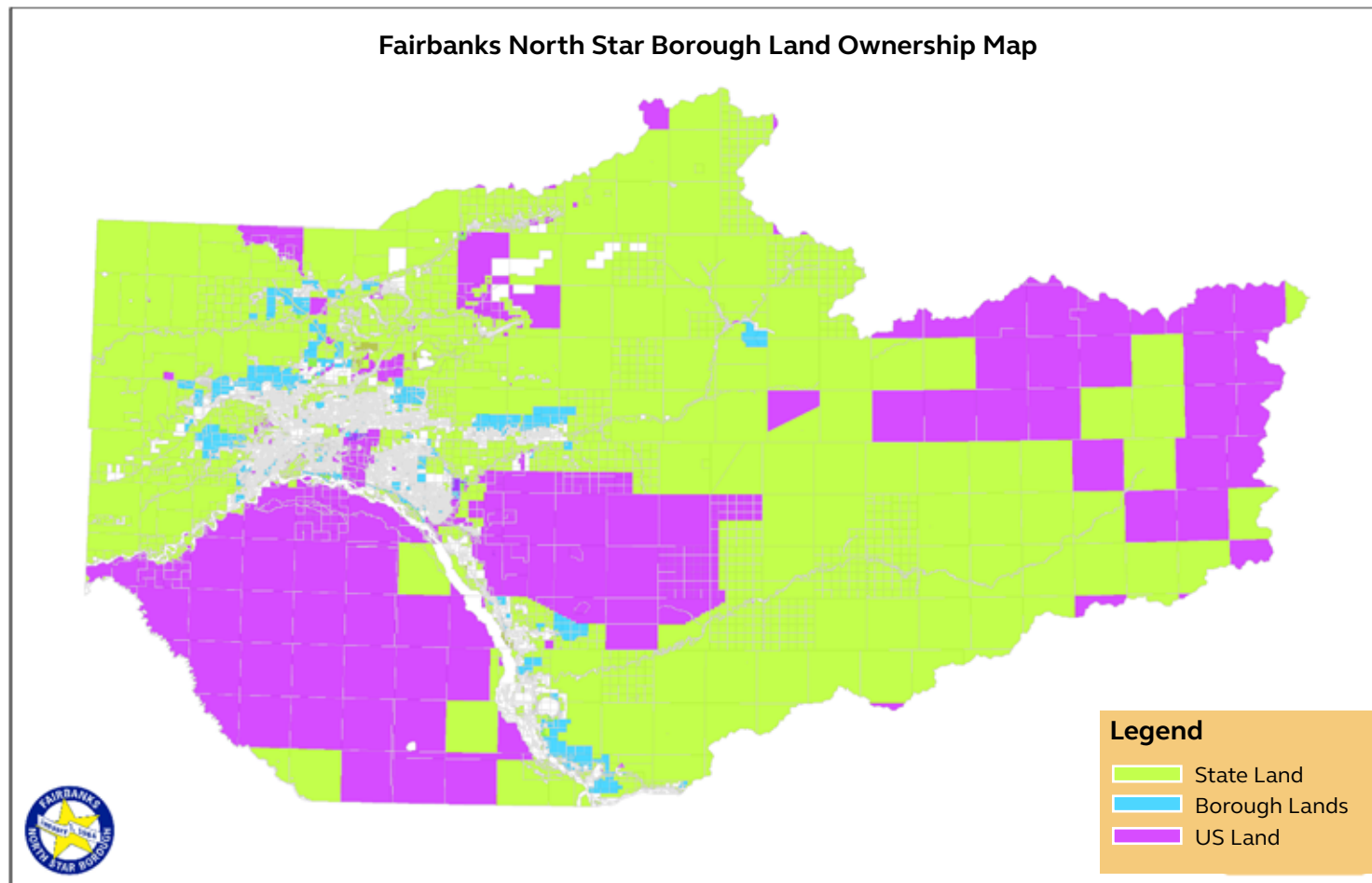
**“ Housing is expensive. Even if you can find a home in your price range, utilities are high and water quality is poor. We were hoping to live off base but with the price and quality, we could not find anything. ”**

**-EAFB focus group participant**

<sup>1</sup> Several attributes, such as “minimal land use rules”, are listed as both an opportunity and a challenge. This reflects that fact that different people have different views on these topics, and also that at times short term views evolve based on longer term experiences. For example, in Alaska, many people express a desire for minimal land use restrictions on their own properties, but are frustrated when this lack of regulations leads to undesirable uses in their neighborhoods.



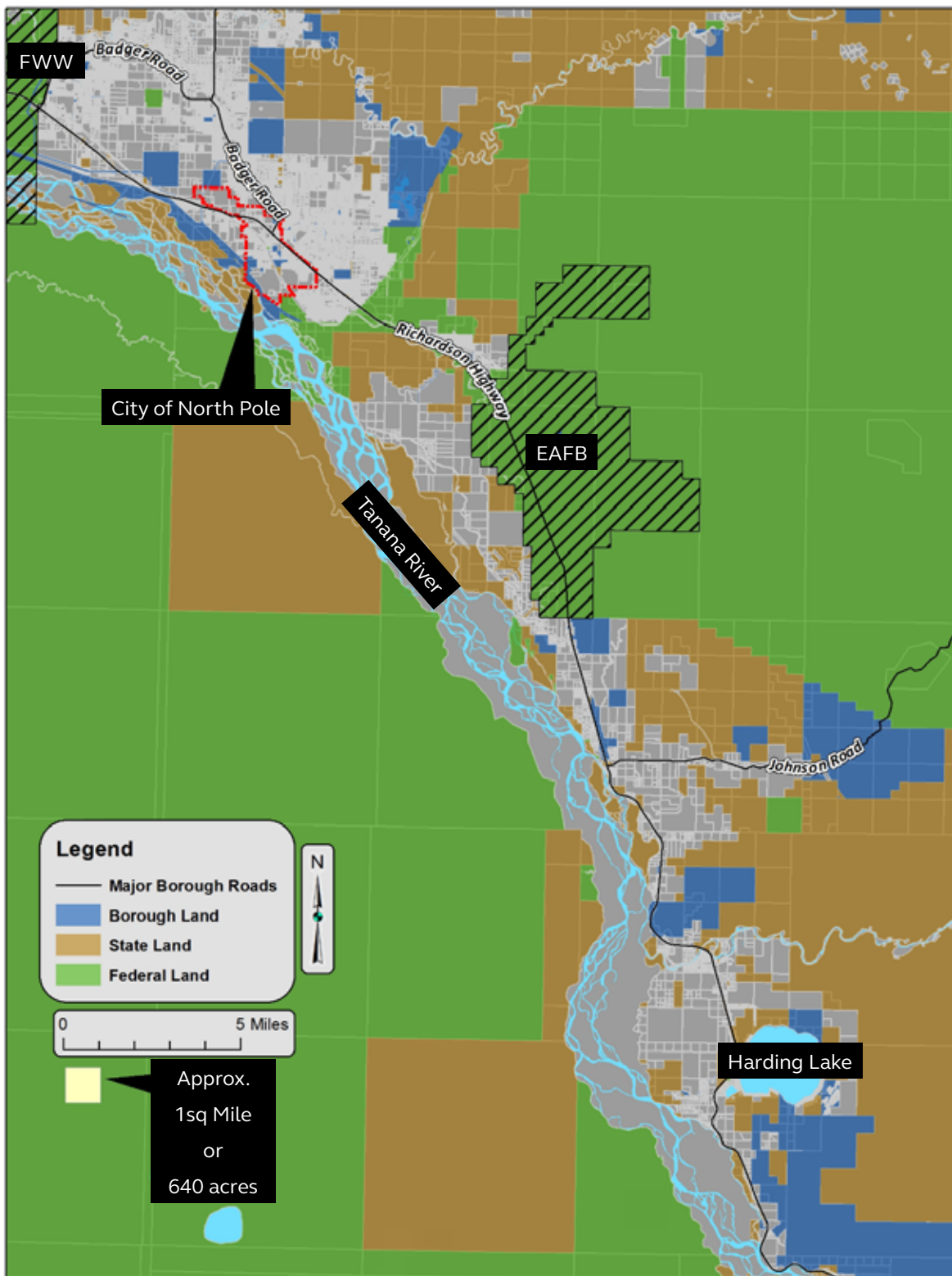
FIGURE 1: FNSB REGIONAL LAND OWNERSHIP



Source: Fairbanks North Star Borough Planning Department (provided for this project December 2017)  
 (Note lands shown in gray are private lands)

Most F-35-related growth is expected to take place in the “Greater North Pole area”, which is within the 20-minute commute time from EAFB. This area generally corresponds to the 99705 zip code, which includes the incorporated City of North Pole, and the unincorporated rural/suburban residential areas served by Badger Road. According to the U.S. Census, this area is the fastest growing part of the FNSB (see more on this topic in following sections). Land ownership in this area is shown on the following page, in Figure 2. Areas shown without color are privately held.

FIGURE 2: LAND OWNERSHIP IN THE VICINITY OF EIELSON AIR FORCE BASE: WHERE MOST F-35 RELATED GROWTH IS EXPECTED



Source: Fairbanks North Star Borough and Agnew::Beck (Note: land in gray is private.)

## Environmental Constraints and Opportunities

While the FNSB does include substantial areas of well drained, forested lands with minimal constraints for construction, much of the region is made up of wetlands, permafrost, flood zones, steep slopes and other significant natural constraints. A 2010 Borough study used a GIS-based approach (geographic information systems-based) to model the locations of area with significant environmental constraints, where construction costs would be high relative to other locations, and where development could be exposed to significant natural hazards. In addition, development within some of these areas, such as wetlands or flood prone areas, is subject to additional permitting requirements. Figure 3 on the following page presents this information.

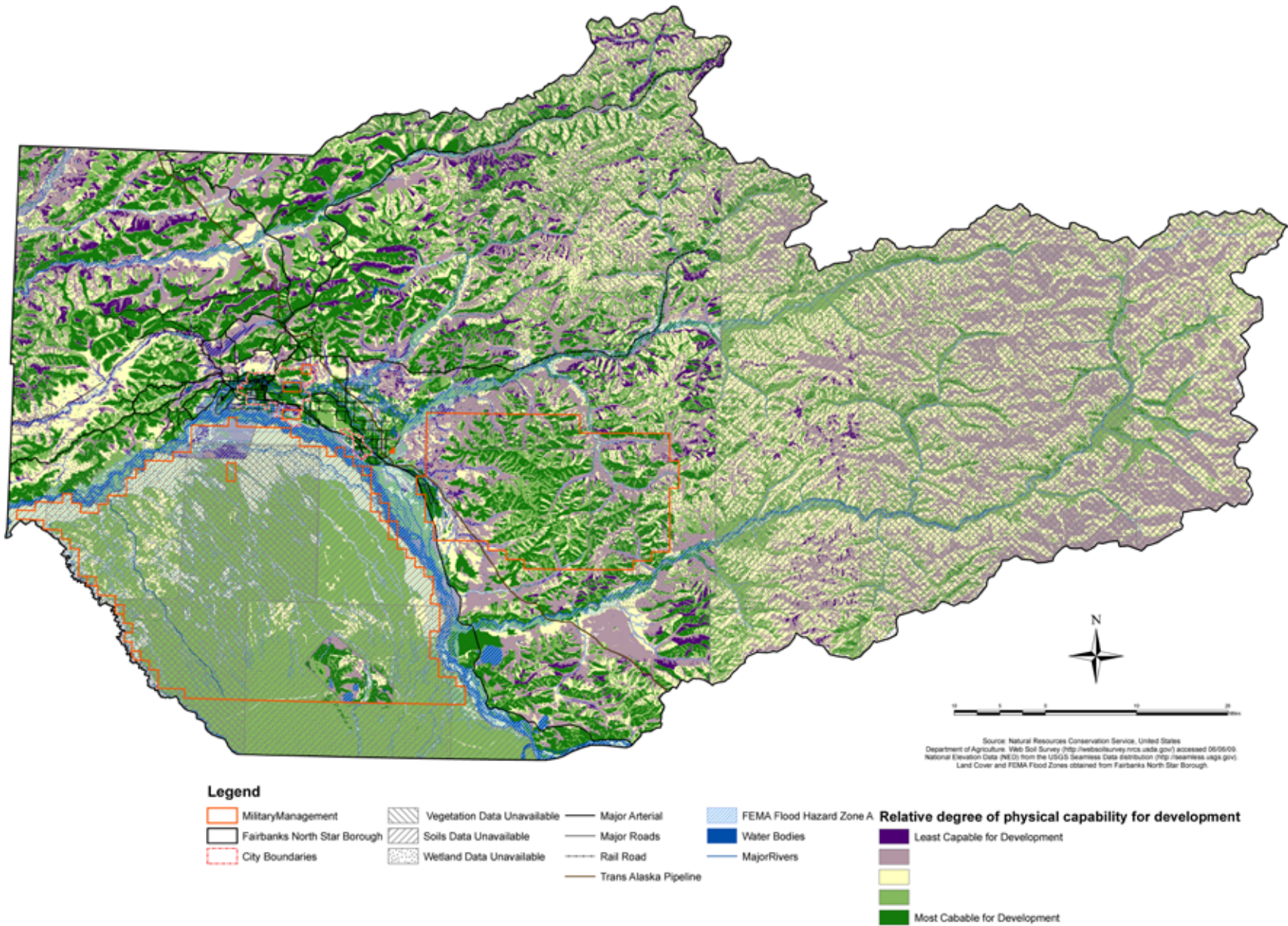
It is important to note this map was developed using generalized regional scale data. It is not intended, nor is it appropriate, to be used as a site-specific planning tool, nor to limit land owner or developer decisions regarding the development potential or use of specific parcels in the borough. By providing a general picture of the magnitude of physical opportunities and constraints, this information provides a helpful reference for analyzing the pattern and locations of future land use and infrastructure, and can be a helpful tool in regional planning. As presented in more detail in the recommendations section, work is needed to update this earlier mapping process, and then to use this information in a more active way to guide land use decisions.

One important element in updating earlier environmental opportunities and constraints data will be including information on how these constraints are being affected by a changing climate.





FIGURE 3: REGIONAL PHYSICAL CONSTRAINTS AND OPPORTUNITIES FOR DEVELOPMENT<sup>2</sup>



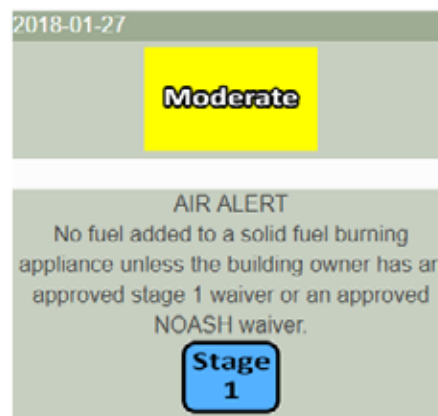
<sup>2</sup> GIS-based Land Use Capability Map + Alternative Futures Analysis, FNSB/Agnew::Beck, 2010.



## Air Quality Challenges

The combination of topography, climate, types of emission sources, and population density within the FNSB has resulted in concentrations of airborne particulate matter that, during the fall and winter, frequently exceed the maximum levels set by the national Clean Air Act. The Borough has recorded some of the highest levels of fine particulates in the nation. In December 2009, EPA designated Fairbanks as not attaining the national 2006 24-hr PM<sub>2.5</sub> air quality standard (“PM<sub>2.5</sub>” references the size of airborne particulates in microns). Since that time, the Borough, State of Alaska and EPA have worked together to reduce emissions from residential heating sources — wood stoves and hydronic heaters — that are the primary cause of high particulate levels in the borough. The Borough and the State have approved a mandatory curtailment program to restrict the use of woodstoves during periods of harmful levels of particulates (see sample from <http://fnsb.us/transportation/Pages/Air-Quality-Forecast.aspx> website shown at right). In 2017, EPA officially re-classified the FNSB area from “moderate” to “serious” non-attainment for the National Ambient Air Quality Standard, as mandated by EPA. Work is continuing to develop and implement plans to reduce fine particle emissions in the borough and achieve the standard<sup>3</sup>.

FIGURE 4: **EXAMPLE OF GRAPHIC FROM FNSB AIR QUALITY DIVISION WEBSITE, UPDATED DAILY**  
<http://fnsb.us/transportation/Pages/Air-Quality.aspx>



<sup>3</sup> For more information, see <https://www.epa.gov/ak/fairbanks-air-quality-plan#background> and the Borough’s 2016 Plan <http://fnsb.us/transportation/AQDocs/FNSBAPCC%20AQComprehensivePlan2016.pdf>.

## Current and Anticipated Infrastructure

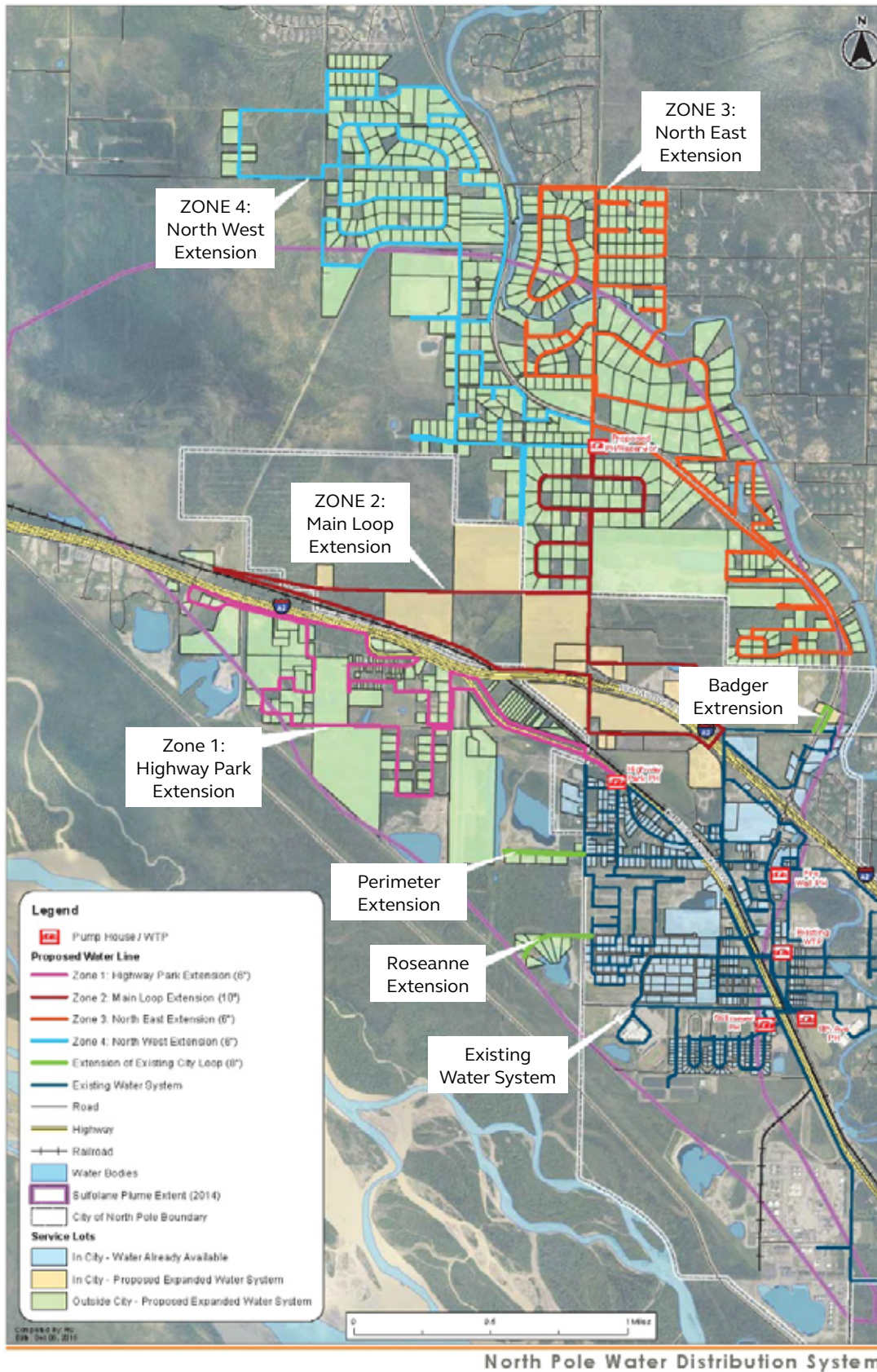
The region's history, as well as natural factors like topography, wetlands and permafrost, collectively create challenges for meeting needs for water and wastewater disposal. Provision of public water and sewer requires advance planning and substantial funding. These realities, coupled with a preference by many in the region for low density living, has meant that public water and sewer is not available in the majority of the borough. On-site well and septic systems, which are traditional alternatives to public water and sewer, may not be feasible or practical in many of the areas where people choose to live in the borough, including a substantial portion of the land in the Badger Road area, due to physical constraints like poorly drained soils. Many Borough residents haul water to their homes, as evidenced by the familiar sight of trucks carrying water tanks.

The "Infrastructure and Utilities" chapter of this plan presents more specific information on infrastructure issues, including more complete information on the sulfolane spill referenced below, as well as the groundwater contamination in the Moose Creek area. That chapter also covers current capacities and planned expansion for water and sewer, electrical power and the potential for natural gas for future heating fuel and other uses. The availability of City of North Pole public water as shown below opens up new options to respond to F-35 growth.

**“ The North Pole Water System Expansion Project is the result of a February 2017 agreement between the City, State of Alaska and Flint Hills Resources Alaska. An intent of the agreement is to provide sulfolane-free drinking water for residents affected by releases of sulfolane from the former North Pole Refinery. ”**

Source: City of North Pole,  
[http://www.northpolealaska.com/  
 utilities/project/2018-water-system-  
 expansion-project](http://www.northpolealaska.com/utilities/project/2018-water-system-expansion-project)

FIGURE 5: PLANNED EXPANSION OF COMMUNITY WATER SYSTEM IN CITY OF NORTH POLE





## Growth Trends: Pending and Anticipated Development and Rezoning

Figure 6 provides a picture of growth in the 99705 area, including Badger Road, between 2000 and 2010, where the population grew between 29.1 and 40.5 percent. This rate was significantly greater than most other areas of the borough. This area is evolving from a largely low density rural district to a more suburban character, like that found on the outskirts of Alaska communities like Palmer, Wasilla, Sterling and Soldotna.

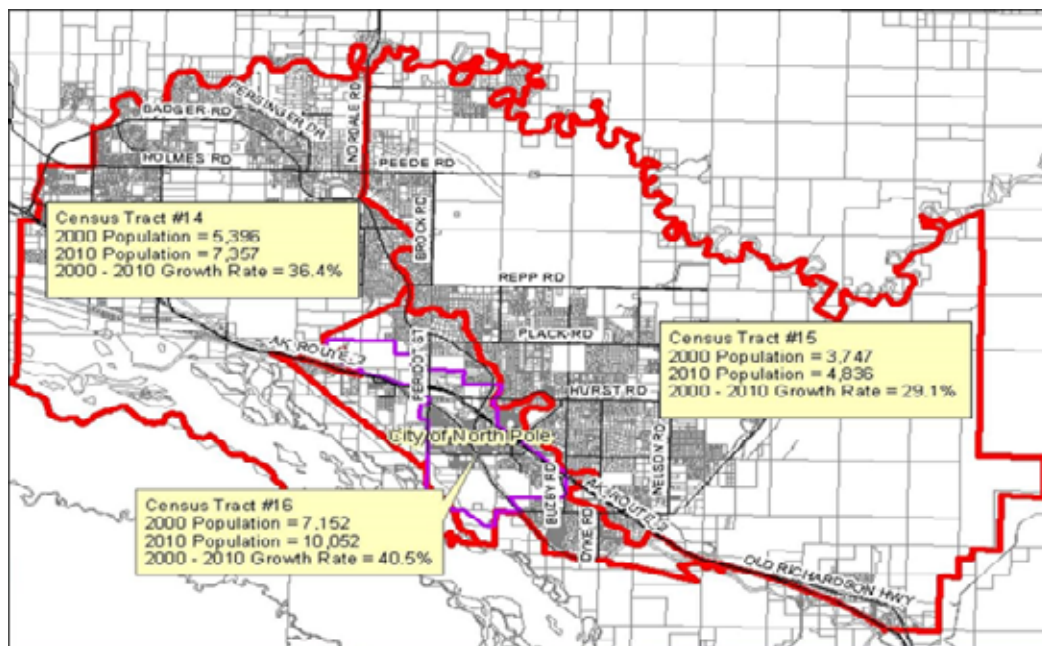
These growth trends are expected to continue. As part of the 2013-2014 update of the FMATS transportation model, the “Geographic Allocation of Household and Commercial Acre Growth within the FMATS Travel Demand Model Area” identifies the 99705 zip code as one of the areas of the borough most likely to experience future growth.

According to interviews with the Borough Planning Department, the Badger Road area is also where residents have expressed most concerns about land use conflicts, inadequate infrastructure, and the shortcomings of the Borough’s permissive zoning. Specific examples include concerns about the disruption of residential neighborhoods by the non-residential uses currently allowed in this area, and issues with poorly constructed homes, due to the lack of building codes. As presented in the Housing chapter, approximately 45% of existing multi-family housing in the borough is substandard (according to the Borough tax assessor records), which includes a portion of the housing stock in the Badger road area.

“ There is no building code here and people keep adding on and adding on to the homes. ”

-EAFB focus group participant

FIGURE 6: GENERAL GREATER NORTH POLE POPULATION TRENDS 2000 - 2010



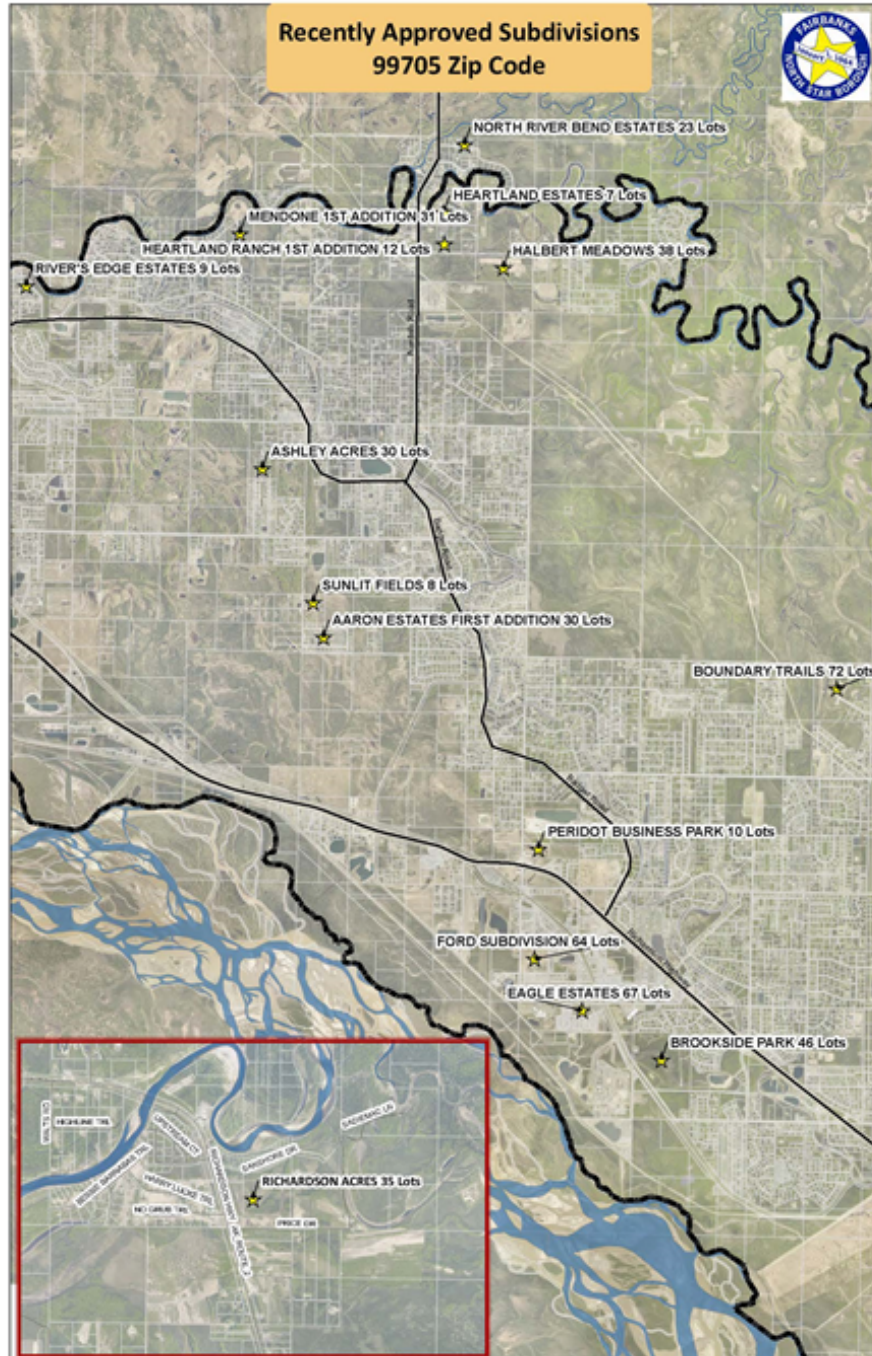
Source: FNSB/Kittelsohn Regional FMATS Travel Demand Analysis, 2014  
 FNSB Eielson AFB Regional Growth Plan, September 2018



Figure 7 gives a partial view of recent subdivision activity in the greater North Pole/Badger Road area. As the map shows, there had been 14 subdivisions in this area in recent years, totaling approximately 445 lots. Since this map was prepared in early 2017, several additional preliminary plats have been

submitted and are pending or approved in the area. This recent snapshot, along with the even more recent subdivision activity, provides additional evidence of the significant growth in this part of the borough.

**FIGURE 7: RECENT SUBDIVISIONS IN THE GREATER NORTH POLE/BADGER ROAD AREA**



Source: Fairbanks North Star Borough, Planning Department

In addition to subdivision activity, several areas in Greater North Pole are currently proposed for rezoning. These include:

- The City of North Pole, building from recommendations in the recently adopted Comprehensive Strategic Plan and the early 2010 Land Use Plan, is working to rezone core area commercial lands from General Use (GU) to General Commercial (GC). The objective of this change is to ensure that the city’s core commercial area remains predominately commercial.
- A 200-acre subdivision has been proposed in the area just outside the southern limits of the City of North Pole, southwest of the Richardson Highway, west of Buzby Road and east of the Old Richardson Highway (proposal will be reviewed at the 5.16.18 FNSB Platting Board meeting).

The Borough recently approved a rezoning and conditional use permit for this parcel, to allow for gravel extraction, commercial uses, multifamily and two-family housing. This planned project is one of the largest in the region for many years. The owner is responding to general growth trends and also the desire to serve F-35 related growth.

In addition to the two projects above, and in response to conflicts with non-residential uses in largely residential neighborhoods, some individuals in the area have discussed options to rezone residential areas from General Use (GU) to residential zoning categories. To date, only one neighborhood was rezoned, specifically in response to concerns about establishment of marijuana growing operations. The large majority of this mostly residential area remains in General Use zoning.

“ A re-zone would be good for the community, and good for business. More commercial development in the area would help attract more people to my business. ”

-City of North Pole Strategic Plan Implementation: Feedback from landowner during re-zoning outreach process



Photo by Agnew::Beck

## EXISTING LAND USE POLICY FRAMEWORK

The previous sections provide a snapshot of the current Borough land use characteristics, settings, and trends that serve as the context for responding to F-35-driven growth. This section summarizes the framework of land use goals and policies that affect how and where that growth might occur. This is followed by discussion of the gaps between anticipated growth needs and current land use policy, and in the final section, recommended strategies to address those gaps.

Principal plans affecting F-35 related growth are described below, along with brief summaries of key topics, goals or policies. This section begins with plans and policies on specific topics, presented chronologically, and then concludes with an overview of the plans and local regulations that continue to control land use decisions, including the Borough’s Comprehensive Plan, the Borough’s zoning code, and the recently completed City of North Pole Strategic Plan.

### Ft. Wainwright / Eielson AFB Joint Land Use Study (JLUS) FNSB 2006

This 2006 study identified land use issues that could impact the operational utility of Ft. Wainwright and Eielson AFB, and the surrounding areas, and provided an action plan the Department of Defense and FNSB could follow to serve both military and community interests. Highlights of community concerns and policy recommendations still relevant today include:

- Noise – noise from low-flying aircraft (both airplanes and helicopters were a concern) particularly in the Salcha and Moose Creek areas adjacent to Eielson AFB<sup>4</sup>.
- Information Dissemination – the need to improve communication between military leadership and community members.
- Recreational Land Use Conflicts – options for public use of the U.S. Army Tanana Flats Military Range (an area primarily used by Ft. Wainwright).
- Development Intensity – Maintaining low-density development compatible with the military mission in the Accident Potential Zone.
- Integrity of Mission – Preventing encroachments into the runway airspace “imaginary surface”.

### GIS-Based Land Use Capability Map and Alternative Futures Analysis FNSB 2010

This project had two components: the land use capability mapping process described above, and an exploratory process looking at the benefits and costs of different patterns of future regional growth. The latter element included a public process that gave the project steering committee and the public the chance to map different growth patterns. This was followed by a process to look at and compare how these “alternative futures” impacted community goals, such as variations in the need and costs for providing public services like roads, schools and school busing. A comparable exercise would be useful and should be included as part of the Salcha-Badger Road Subarea Plan.

<sup>4</sup> A Military Noise Overlay was adopted by the Borough in 2015. The revised EAFB Air Installation Compatible Use Zone (AICUZ) is now available. There are some changes, such as new contours that extend over the Moose Creek area. Ft. Wainwright had a new ICUZ study completed December 2017.

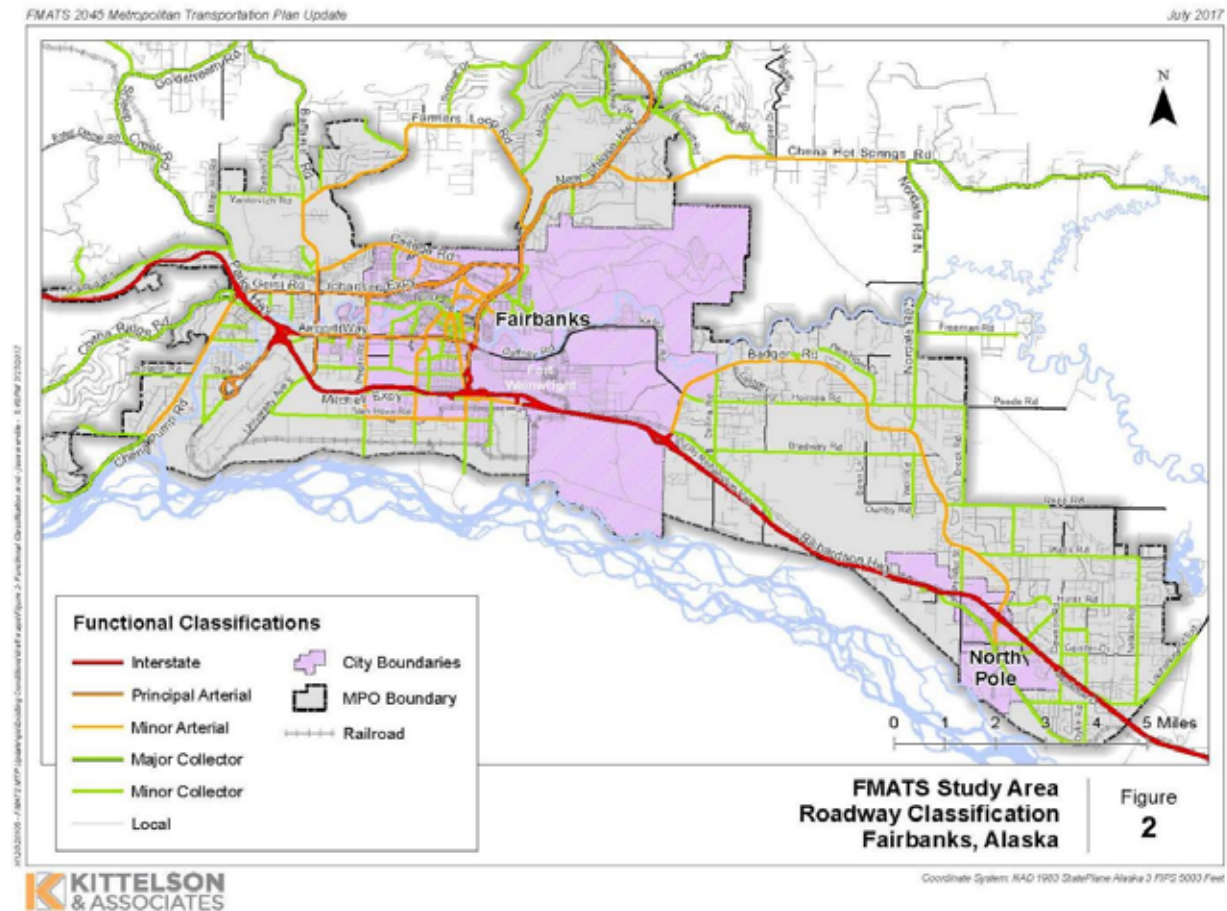


# Metropolitan Area Transportation Plan: “A Roadmap to 2040” FMATS 2015

This area transportation plan, which focuses on the most developed areas of the borough (Figure 8), provides a helpful start at addressing important needs - the creation of a well-defined, regional scale hierarchy of roads, and the improved coordination between land use and transportation planning. Challenges remain to implementing the plan’s recommendations, such as modifying specific regional roads (for example, Badger Road) classified in the plan as arterials but not currently meet the functional characteristics of

such roads. However, this plan does not address issues increasingly present in rural portions of the borough, including the Badger Road area, where roads serving low density subdivisions are not built to Borough standards, and the result can be a system of poorly constructed, informally maintained local roads. The Transportation Chapter of this report explores those issues in detail.

**FIGURE 8: FAIRBANKS FUNCTIONAL ROAD CLASSIFICATIONS**



Source: FNSB/Kittelson Fairbanks Metropolitan Area Transportation Plan, 2015



## United States Air Force F-35 Operational Beddown – Pacific Environmental Impact Statement (EIS) August 2015

This adopted EIS outlines all the principal categories of potential impacts associated with the planned F-35 Beddown. The EIS analysis “established that no significant impacts would result from implementing the Proposed Action Alternative” (the arrival of two squadrons of F-35 fighter jets).

Major topics addressed by the EIS are summarized below, paraphrasing from the EIS:

- While the noise effects to residential land uses remain similar to baseline conditions, off-base, an estimated 178 more people and 73 more households would be exposed to DNL noise levels between 65 and 70 dB.
- Construction activities and an increase in personnel and dependents would provide economic benefits to the FNSB area.
- Air emissions would remain consistent with federal and state standards; no conformity issues would arise from basing two squadrons of F-35s at Eielson AFB.
- Eielson AFB would offset limited wetlands impacts by purchasing credits at local wetland banks.
- Existing transportation and utilities infrastructure (e.g., power, potable water, wastewater, and solid waste) on Eielson AFB and in the FNSB would support additional on- and off-base requirements associated with the Proposed Action Alternative. Therefore, less than significant impacts to transportation and utilities are anticipated.



Photo Credit: <http://www.eielson.af.mil/News/Photos/qphoto/2001849297/>

## FNSB Comprehensive Economic Development Strategy (CEDS) FNSB 2016

Two of the three top priority economic strategies of the regional CEDS, and several other CEDS objectives, are relevant to the land use issues of this RGP, as summarized below.

CEDS Priorities	Implications for Land Use Policy
<p>PRIORITY NO. 1: Lower and stabilize FNSB energy costs by expanding the energy portfolio with a focus on local resources.</p>	<p>Costs per household for switching to natural gas are directly linked to the density of development. The more dispersed the development, the higher the distribution costs.</p>
<p>PRIORITY NO. 2: Anchor the missions of Ft. Wainwright, Eielson Air Force Base, Ft. Greely and Clear Air Force Stations and encourage increased utilization of the existing facilities. (As the plan notes; the military bases in FNSB -- Ft. Wainwright Army Base and Eielson AFB -- support about 40 percent of total employment in the borough.)</p>	<p>The full RGP, including this land use chapter, aims to maximize the economic and community benefits of F-35 related growth, with a particular emphasis on strategies that help create quality places for new residents to live, shop, and recreate.</p>
Select CEDS Objectives	Implications for Land Use Policy
<p>Expand and improve water distribution and wastewater collection systems to avoid localized quality and supply issues associated with individual systems.</p>	<p>Same relationship as noted above regarding the distribution of natural gas; the costs per household for utilities, e.g. water and sewer, appear as density increases. This is because the same length of road, pipe or electrical serves more households per running foot as lot sizes get smaller.</p>
<p>Support quality in health care, education, public safety, beautification, government and culture that would improve the individual and community quality of life in the FNSB.</p>	<p>Land use policy, e.g., zoning regulations and building standards, can have a significant impact on many of these topics. For example: building permits can increase the quality of buildings; zoning rules can affect the appearance of structures, parking areas and road side signage; zoning can limit incompatible non-residential uses in residential areas, or help incentivize creation of concentrated, walkable, mixed use town center areas that help promote a sense of community, and support arts and culture.</p>

## FNSB Regional Comprehensive Plan FNSB 2005

The Comprehensive Plan sets out general land use and community development goals directly relevant to successful accommodation of F-35-related growth. Like many other Alaskan municipalities, the comprehensive plan makes clear the challenges of balancing private property rights, reducing land use conflicts and protecting natural systems and landscapes.

### Relevant Comprehensive Plan goals and strategies include:

- **Land Use – Goal 1:** To recognize that the foremost aspect of land use involving private property is the retention and maintenance of private property rights.
  - Work for community end goals with a minimum impact and disruption of individual private property rights.
  - Work to reduce to the fullest extent possible the natural conflict that develops between private property right and community needs and interests.
- **Land Use – Goal 4:** To enhance development opportunities while minimizing land use conflicts
  - Attract and support development that is compatible with and enhances existing land use.
  - Encourage effective and harmonious resolution of community land-use conflicts.
- **Environment – Goal 2:** To promote responsible stewardship of the Borough ecosystem
  - Maintain favorable air and water quality in the community.
  - Seek mitigation opportunities to balance development and preservation goals.
  - Encourage reasonable interpretation of wetland regulations by government agencies.
- **Environment – Goal 3:** To protect natural systems.
  - Consider land development toward areas where natural systems will be least adversely affected.



## FNSB Subdivision and Zoning Code

The FNSB zoning code - Title 18 - provides a basic system for managing land uses in the borough. The Borough administers zoning policy within the cities of Fairbanks and North Pole, as well as borough-wide.

As the table below shows, the City of Fairbanks is the one location where the use of zoning is relatively balanced among different categories. In all other areas, the dominant zoning category applied is GU - general use. The GU zone is designed to place very few restrictions on possible uses, with no uses explicitly prohibited except for correctional facilities. Only uses with the highest potential for offsite impacts are regulated, using the Borough's conditional use process. Examples of uses requiring a conditional use permit include sexually oriented businesses, outdoor unlimited (large-scale) marijuana cultivation facilities, nuclear power and petrochemical plants, and sanitary landfills. All other uses, including for example, dog kennels, shooting ranges and marijuana retail outlets, are allowed without permits.

**“ I became familiar with zoning the hard way. A gravel pit opened up next to me and I couldn't do anything because the area is zoned as General Use. ”**

*-City of North Pole Strategic Plan Implementation: Feedback from landowner during re-zoning outreach process*



FIGURE 9: FNSB COMPREHENSIVE PLAN LAND USE MAP (SOURCE FNSB) – BADGER ROAD ADDED FOR REFERENCE

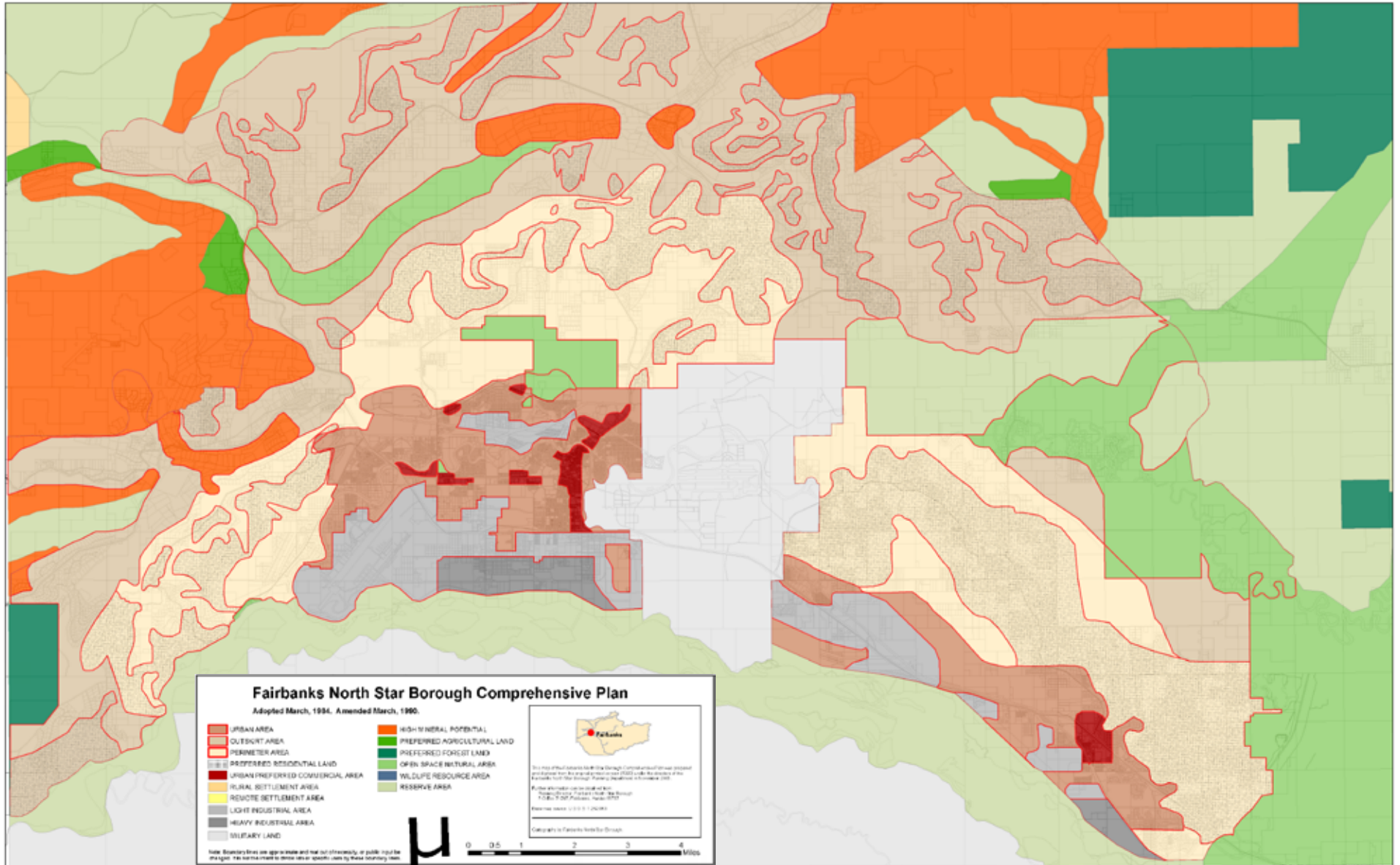


Figure 10 shows eight of 10 FNSB overlay zones, which are in addition to the zoning classifications and are used to identify unique attributes or characteristics of certain areas, such as airport noise sensitive areas, mobile home subdivision, or waterways setback.

More discussion of limitations of the current zoning system in the borough is presented in the “gaps” and recommendations sections that follow.





FIGURE 10: AMOUNT OF LAND IN FNSB ZONING & OVERLAY CLASSIFICATIONS PER ZIP CODE

Amount of Land in FNSB Zoning & Overlay Classifications Per Zip Code								
Category	Includes...	zip codes (area in acres)						
		99714 Salcha	99712 North Frbx	99709 West Frbx	99705 NP+Badger*	99703 Ft Wain.	99702 EAFB	99701 City of Frbx
Commercial, Business Dist & General	<i>CBD, GC, and LC</i>	3	33	688	282	0	0	992
General Use	<i>GU</i>	1,047,725	1,233,994	492,183	56,418	826,668	1,154,212	3,743
Industrial, Heavy and Light	<i>HI and LI</i>	0	30	6,138	503	7,366	0	4,483
Multi-Family Residential	<i>MF and MFO</i>	0	98	682	199	0	0	1,046
Single and Two Family Residential	<i>SF and TF</i>	160	26	1,543	435	0	0	1,257
Mineral Lands	<i>ML</i>		36,449	222				
Recreational and Open Space	<i>OR and OSB</i>	647	4,212	6,800	524	0	0	540
Rural Estate, Rural Residential	<i>RE and RR</i>	4,031	15,159	27,337	6,135	0	0	2
Rural Agriculture, Rural Farmstead	<i>RA and RF</i>	1,017	4,821	10,077	2,473	0	0	4,943
<b>TOTAL</b>		<b>1,053,584</b>	<b>1,294,821</b>	<b>545,670</b>	<b>66,969</b>	<b>834,034</b>	<b>1,154,212</b>	<b>17,006</b>
<b>OVERLAY</b>								
Airport Noise Sensitive Area				9,465		9,465		432
Correctional Facilities				6				
Groundwater Damage Protection			17,726		17,726			
Mobile Home Subdivision			2,944	473	899			
Military Noise			641		6,438	5,626	821	5,626
Special Landscape Area				160				
Waterways Protection				2	2			0
Waterways Setback				0	21			
<b>OVERLAY TOTAL</b>		<b>0</b>	<b>21,311</b>	<b>10,106</b>	<b>25,087</b>	<b>15,091</b>	<b>821</b>	<b>6,058</b>
* the "greater North Pole"/Badger Road area expected to be the primary location for F-35 related growth								

Source: Base data from FNSB Community Planning Department; summarized by Agnew::Beck

## North Pole Land Use Plan, FNSB, 2010<sup>5</sup>

This plan includes a helpful set of broad land use goals and a land use map. This plan, which was adopted by the Borough as part of the regional Comprehensive Plan, was a key starting point for the more recent North Pole Strategic Plan, discussed below. Among the plan goals most relevant to this current project are:

- Improve and maintain pedestrian and bike circulation
- Create a mixed-use core area
- Strive to improve air and water quality
- Expand and maintain public utilities
- Develop quality housing while preserving family friendly neighborhoods

The plan makes specific implementation recommendations; those most relevant here include:

- Expand water / sewer service throughout the City of North Pole
- Provide opportunity for property owner initiated annexation into the City of North Pole
- Support Alaska railroad rail line relocation (see more on this topic in the Transportation Chapter)
- Consider changes to FNSB Title 18 to include new zoning districts for the following land categories: a) mixed commercial / residential / office; and b) mixed commercial / industrial

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<sup>5</sup> [http://fnsb.us/cp/Documents/Plan\\_NP\\_LandUsePlan\\_Adopted2010.pdf](http://fnsb.us/cp/Documents/Plan_NP_LandUsePlan_Adopted2010.pdf)

## North Pole Comprehensive Strategic Plan City of North Pole 2016

The North Pole Strategic Plan was the most recent community planning effort in the FNSB and includes more community-specific goals to guide growth than what is found in the Borough Regional Comprehensive Plan. While not formally adopted as an element of the FNSB Comprehensive Plan, the Strategic Plan is actively used by the City of North Pole and Borough staff to guide land use decisions. Relevant goals and strategies from the Strategic Plan are summarized below. These policies are intended to provide a practical guide for near term action, by City staff, City Council and where possible, by community members and businesses.

- Work with the FNSB, property owners and local residents to identify and implement re-zoning changes to Title 18 in order to encourage development and ensure zoning aligns with current use. Specific, relevant actions under this strategy include:
  - Re-zone certain undeveloped areas in central city locations from Two-Family to Multiple-Family zoning to increase residential densities
  - Conduct, at a minimum, an annual meeting with the FNSB Planning Department and the North Pole City Council to discuss current concerns, community needs and any challenges or desired changes to current land uses in the City
- Work with interested developers to better understand their plans and needs. Partner with the FNSB to identify and address potential barriers and issues regarding land use and zoning.



- Continue working with the FNSB and EAFB to ensure land use around Eielson AFB is appropriate to both the community needs and adjacent activities on the base. Examples include the Military Noise zoning overlay adopted in December 2015, and policies regarding locations where certain types of development may be incompatible with current and planned activities on the base.
- Work with the FNSB Planning department and local area residents to further explore the annexation of areas affected by sulfolane contamination.
- Explore long-term annexation of the floodplain/Moose Creek Dam area.
- Use the existing process to provide opportunities for property owner-initiated annexation into the City of North Pole.
- Consider and implement options to improve communications between bases and communities regarding housing, education, land use and other topics.



## ESTIMATED GAPS – WHAT ARE THE GAPS BETWEEN NEEDS AND EXISTING SETTINGS, POLICIES, SERVICES, INFRASTRUCTURE?

The imminent arrival of the F-35s creates the need to provide high quality places for new residents to live, work, and easily obtain the services of daily life, like shopping, attending schools, and recreating. Meeting these needs brings up issues directly tied to F-35-related growth, but also spotlights the pre-existing need to address similar land use issues for current regional residents, businesses and landowners in the area and the borough. These gaps and issues fall into two broad, interrelated categories:

### Availability of Quality Residential and Commercial Settings

The existing pattern of residential, commercial and other land uses in the FNSB is driven by a combination of factors, including:

- The historic and continuing desire by many Alaskans for rural, low density living
  - The continuing desire by many Alaskans and their elected representatives, as stated strongly in the Borough’s Comprehensive Plan, for minimal constraints on use of private land
  - Availability (or lack of availability) of utilities including water and sewer
  - The incremental expansion of the road system, with little planning and for many routes, minimal standards or maintenance
  - Physical constraints such as wetlands, permafrost, and floodplains
- Together, this set of drivers has produced substantial variation in the quality and character of buildings, residential neighborhoods and commercial districts in the region, and particularly in the 99705 zip code – the area where F-35-related growth is expected to concentrate. While the area offers many attractive homes and neighborhoods, new residents will be considering moving into an area that also faces increasingly visible challenges. Some of these challenges, as identified in past plans, through discussions with FNSB staff, and through driving in the area, include:
- Incompatible uses in predominately residential areas
  - Low density land use patterns, which can make provision of public services prohibitive
  - Poor quality/energy-inefficient buildings
  - Air quality issues
  - Poorly maintained roads; limited road side pathways for traveling safely without a car
  - Limited water, wastewater, and other public infrastructure.

## Limited Land Use and Growth Management Tools

Compared to the places from which F-35 Beddown families will come, much of the land in the Borough is only lightly regulated. Like much of Alaska, the “toolbox” of policies for guiding growth in the borough – building codes, zoning and subdivision codes – is currently very limited compared to what is common in the Lower 48, and the available tools are not applied in all locations. The absence of these policies makes it challenging to meet expectations for quality housing and neighborhoods, for water and wastewater solutions, safe year-round accessible roads and other public services and facilities. Specific limitations in local land use tools and policies include:

- Out-of-date Comprehensive Plan and Plan Map – The existing plan map does not provide the basic level of guidance and clarity of intention needed to inform public policy about land use, transportation and infrastructure. The lack of a solid land use policy framework. For example, a distinction between urban, suburban and rural districts, makes it difficult to plan for infrastructure improvements, particularly for water, sewer and roads. Likewise, the lack of land use categories relevant to current issues leads to land use incompatibilities that can conflict with the military mission, and reduce the quality and value of the residential neighborhoods where F-35 employees and families will want to live.
- Limited palette of zoning and subdivision tools – the Borough code lacks the zoning categories that could better help provide controls on use, while still allowing much of the personal freedoms desired by residents.
- Lack of enforcement of land use rules.
- There is no Borough building code, outside of City limits. The State Fire Marshall does review commercial structures and residential structures with four or more units, however State budget challenges generally limit Fire Marshall review to only a minimal inspection and approval of building plans. This lack of building codes has resulted in highly variable building quality, including many poorly constructed and unsafe structures.
- Limited options for integrating planning of land use and infrastructure. For example, to make and follow plans to expand public water and sewer to provide housing at densities greater than one house per acre. (See the Utilities and Infrastructure Focus Area for more on this topic.)

**“ We need more Multi-Family Land!! ”**

-comment from a broker in the 99705 zip code during the Regional Growth Plan planning process

prevent emergency service response. (See the Transportation Chapter for more on this topic.)

- Limited rules/enforcement by the State and/or FNSB that ensure water and septic systems are built and maintained at standards that protect water quality.

An unplanned benefit of the pending F-35-related growth is the catalyst for a needed, next generation of land use and growth management tools and policies in the borough. This can be done in ways that address F-35-related growth issues while



respecting the widely shared desire for limited land use controls, and helping to improve the quality of life and economic opportunities for all borough residents, landowners and businesses. Recommended strategies to address these issues follow.

*NOTE: details on some of these subjects, e.g. rehabilitation of multi-family housing, or details regarding transportation or utilities, are covered in those focus areas.*





# PLANNING AND ZONING STRATEGIES – WHAT ARE OUR RECOMMENDED SOLUTIONS FOR MEETING ANTICIPATED GAPS?

The seven recommendations presented here focus on a direct response to F-35 Beddown growth. The first two recommendations focus on improvements to borough-wide land use policy needed to respond to that growth. The third recommendation focuses more on the greater North Pole/99705 area, where most F-35 growth is expected to occur. The Salcha-Badger Road Subarea Plan, now in progress, will address growth issues in that rapidly growing part of the borough. It is anticipated that work on these three first recommendations will be coordinated, so insights gained through work at the subarea scale will inform thinking about appropriate policies at the regional scale, and vice versa.

## PZ1. Use the Salcha-Badger Road Subarea Plan to guide growth and better integrate planning.

As noted above, individual preferences, physical environmental constraints, limited land use planning, and other factors have resulted in large areas of low density, widely dispersed land uses in the borough. This pattern has benefits, providing opportunities for those who prefer a rural lifestyle, and who enjoy the freedom to largely use their lands as they please. This low density development style also has disadvantages, including “hardwiring” a large lot pattern that is difficult to change. An established, low density residential pattern increases per household costs of providing public services – from school buses, to road maintenance, public water, and the possibility of natural gas. With more planning, communities can better determine areas most appropriate for low density and for more

concentrated growth. When these plans are linked to infrastructure planning, this can help create greater efficiency and better availability, affordability and quality of public (and private) services. Specific recommendations to achieve the benefits of guiding growth, are below. (See also related information in the Transportation and Utilities and Infrastructure Focus Areas.

### **Guiding Growth: near-term response to F-35 Beddown**

- Promote infill in existing developed areas and areas with existing infrastructure (particularly public water and sewer). This will help concentrate development and maximize use of established infrastructure. Zoning policy that allows and encourages higher densities is one way to achieve this objective; another is providing incentives for higher density and lower cost housing (as outlined in the housing chapter). A related policy is to set appropriate minimum densities in areas with potential for multi-family housing, so these valuable, relatively scarce areas are developed to full potential.
- Promote rehabilitation of existing housing, where such housing is older, rundown, has high vacancies and high heating costs (see housing chapter for strategies on this topic).

With these two criteria in mind, the land within and immediately adjoining the City of North Pole is the clearest near-term option for meeting a large portion of the initial wave of F-35-related growth. The Flint Hills sulfolane spill area, which will be served by an expansion of the City of North Pole water system, could accommodate F-35 growth.

### **Guiding Growth: Mid- and longer-term response to growth pressures, including the F-35s**

- As part of the Salcha-Badger Road Subarea Plan, clarify goals for the future types, densities and locations of land development and use. Where relevant, consider how the Salcha-Badger area fits with borough-wide land use policy.

Follow the steps specified in Salcha-Badger Road Subarea Plan process, including working with the public, and considering information on growth trends, land ownership, and current infrastructure. Use an updated version of the FNSB Land Use Capability project referenced above, adding new floodplain data and other more current environmental information, to identify areas with greater and lesser physical constraints for development.

- Use a process similar to the Borough's 2010 Alternative Growth Scenarios project "chip game" to engage the public in understanding how alternative land use development patterns would affect community goals. Examples of topics to cover include how different alternatives affect requirements and costs of infrastructure, neighborhood characteristics, requirements for new facilities like fire stations, and protection of valuable natural habitats.
- Based on this process, determine land use, transportation and infrastructure and utility policy for the Salcha-Badger Road Subarea, including:
  - Designations for land use in the Salcha-Badger Road Subarea. Preferably use the same land use designations that will be developed for the new Comprehensive Plan Land Use Map, as discussed in recommendation PZ1 above. Use the resulting subarea scale land use map, once

the plan is complete, as a reference for revised subarea zoning.

- Include more detailed master plans for select priority areas with the Salcha-Badger Road subarea, e.g. master plans for the mixed-use core of North Pole, for key areas of Salcha, and for large, undeveloped parcels of Borough-owned land, such as the Tamarack parcel.
- Use the process described above as one part of a larger process to contribute to and inform the development of borough-wide policies that may apply in other parts of the borough.
- Link this land use process to reach policy decisions on transportation and infrastructure and utilities issues. Details of those topics are presented in more detail in those focus areas. Highlights of those issues include:
  - Build transportation strategies based on conclusions about expected and desired land use change.
  - Reevaluate current Borough policy that allows subdivisions under certain circumstances to be approved without a requirement to construct physical road access. Work to strengthen these policies so developers are required to provide physical access to, within and through new subdivisions.
  - Evaluate the long-term impacts of road exemptions, variances and current Title 17 road standards on access, including the need to create a cohesive future road network and all-weather emergency access. In general, the Borough should shift to requiring initial investments in quality roads that reduce long term maintenance costs.

*See the Transportation and Utility and Infrastructure Focus Areas for more on these topics.*

**// We need to start dealing with the lack of planning regarding the functional classifications of our roads. Right now, Badger Road simultaneously is expected to work as an arterial, collector and residential road.** //

*-Comment from focus group on land use & infrastructure issues in the Borough*

## PZ2. Improve standards and processes affecting building quality for residential, commercial and other uses.

Explore options, working with builders, financial institutions, land owners and residents, to gradually “raise the bar” on construction standards in the borough:

### For New Construction

- Develop clear thermal efficiency construction standards/guidelines and a public outreach program that explains the benefits of upfront investment in energy efficient construction.
- Explore options for incentives and subsidies for improving building quality, specifically to reward investments in energy-efficient buildings, and the installation and use of more efficient woodstoves and hydronic heaters.
- Explore options for the Borough to establish a basic building permit system in the majority of the borough currently without such standards – the areas outside of incorporated cities. This could be done in concert with local financing

institutions and start with non-residential buildings.

### For Rehabilitation of Existing Buildings

- Develop a range of incentives to improve substandard multi-family housing (see housing section for details).
- Explore options for including energy efficiency considerations in a structure’s appraised value.

## PZ3. Update and improve FNSB comprehensive land use categories and map.

To prepare for growth associated with the F-35 Beddown, the Borough needs a better regional scale land use policy framework, which could best be achieved by updating the Comprehensive Plan Land Use Map. The current map is very out of date, and its land use designation categories are vague. The process of developing a new land use map could produce the kind of clear, relevant land use designations needed to guide growth and integrate land use and infrastructure planning. This process will require an active public engagement process and coordination between the Borough, cities, local utilities, the State of Alaska, the Department of Defense, residents, businesses and landowners.

One way to update the plan map would be a borough-wide comprehensive plan process, but developing a regional comprehensive plan is costly, time consuming and very difficult in an area as large and diverse as the FNSB. Consequently, the recommended strategy is to use a hybrid, incremental approach, outlined below:

- Use the Salcha-Badger Road Subarea planning process now underway to address the specific land use issues affecting the primary areas where F-35-related growth is expected to concentrate. At the same time, use this process

to inform planning issues and options borough-wide (more on this in recommendation #PZ2)

- Take advantage of lessons learned from subarea plans previously prepared in other parts of the borough.
- Using these two sources, along with other information and an active public process, incrementally develop needed, updated borough-wide policies; including:
  - A set of updated Comprehensive Land Use Plan Map designation categories, including new categories that better respond to current land use issues, with the level of specificity needed to help guide the type and intensity of development at a regional scale.
  - An updated Comprehensive Land Use Plan Map - Create a new plan map, using the categories in the step above. If possible, do this for the whole borough at once. Alternatively, apply the regional designation categories to be developed as described above at the subarea plan scale, and by this method incrementally develop the borough-wide plan map. Work at the regional scale to distinguish areas across a spectrum from urban to rural and remote to set expectations for zoning and infrastructure policies appropriate in these different settings.
  - Improved Borough zoning categories, for application borough-wide (more on this in recommendation PZ2)
  - Over time, create/update individual borough-wide comprehensive plan elements, beginning with topics where policy guidance is most needed. Elements include housing, economic development, and utilities and infrastructure.

- Explain proposed policy changes for the public and decision makers using a “decision tree” approach that makes clear the linkages between desired outcomes and required actions. For example, this approach could explain how existing Borough policies, including lack of road power assumption by the Borough, can lead to roads with no maintenance, which in turn sets the stage for deteriorating road quality. This in turn leads to very difficult to resolve challenges to improve such roads as use increases, and to pay for needed road maintenance costs.

#### PZ4. Improve existing FNSB, borough-wide zoning code.

Revise and expand the categories of land use zones in the FNSB code to better reflect the range of existing and anticipated development activities in the borough, and to respond to F-35 growth. Making these code changes and applying them in appropriate locations will require an active public process, at the subarea and regional scale. This process would culminate in formal approvals by the Planning Commission and Borough Assembly. Specific strategies include:

- Improve existing and add additional residential and mixed-use zoning districts, building from completed subarea plans and the updated Comprehensive Land Use Plan Map called for above. Overall, work to develop new use and development standards that better fit with the borough’s different settings and development patterns.
  - Develop a new “GU-lite” zone, which would allow for diverse uses, but restrict the more intensive uses that are typically seen as incompatible in residential areas, such as dog kennels and shooting ranges currently allowed without a permit, and the



- heavy industrial activities currently allowed conditionally in GU.
- In areas that are now or expected to become more suburban than rural, like much of the Badger Road/99705 zip code area, encourage rezoning from GU to appropriate zones, such as the GU lite zone mentioned above.
  - Modify the standards associated with the Rural Residential and Rural Estate zones (RR, RE) so these areas continue to provide more constraints than exist in the General Use zone (GU), but allow owners greater latitude to use property for activities currently not permitted, such as outbuildings and greenhouses in the 25' setback, or accessory dwelling units. (NOTE: the FNSB Planning Commission has formed a subcommittee to look at the setback issues in these zones.)
  - Improve the Borough's conditional use procedures to better address uses that could be incompatible and potentially disrupt neighborhood character. Amend the conditional use decision criteria to give the Borough Planning Commission more capacity to address and mitigate off site impacts of uses seeking conditional use approval. Review and evaluate whether conditional uses listed in each zone are still appropriate for current and emerging development patterns.
  - Establish new rules to respond to evolution in housing demand, including:
    - Develop residential zoning categories that provide more steps along the spectrum from very low, to low, medium, and higher density. In particular develop new zoning categories that allow for mid-range densities, approximately 6 to 20 dwelling units per acre (DUA). This density range includes housing that is increasingly in demand, such as small lot single family detached homes (approximately 4-6 DUA), triplexes, and 3-6 unit townhouses (approximately 8-20 DUA).
    - Experience around Alaska and the country shows that density by itself is not a good predictor of how a dwelling unit fits into a neighborhood. Two projects at exactly the same density can be judged to be an asset or a detriment to a neighborhood depending on the specifics of their design and quality of the construction. In light of this reality, create development standards that help create attractive, durable and neighborhood-friendly middle and higher density housing. Examples include standards or guidelines on entries, placement of garages, and facade treatments. Many communities have moved away from traditional use-based ("Euclidean zoning") and instead focus on building forms, with much greater latitude about allowed uses.
    - Starting with existing Borough code policies for "guest houses," review and if helpful modify the code to better provide for wide use of accessory dwelling units. ADU's are increasingly used throughout the US as a relatively simple and affordable way to greatly increase the supply of modest priced housing, without large expenditures in costly public utilities. As part of this step, develop standards so these units do not significantly alter neighborhood quality and character.

- Allow for “tiny houses”, cottage housing, and other forms of small, detached units on a parcel held in common ownership, while ensuring such development provides appropriate, effective solutions to wastewater and other infrastructure needs.
- Modify the existing multifamily zoning categories to allow limited accessory commercial uses (e.g., a coffee shop)
- Modify the code so areas designated for higher density residential uses do not allow substantially lower density housing (e.g., not allowing duplexes in multi-family zones).
- Use zoning and other policies to provide a spectrum of high quality residential environments, from low density rural areas, to concentrated, walkable, mixed-use districts with higher density housing, commercial, office, and public uses. As the housing chapter of this plan points out, much of the demand associated with the F-35 Beddown will be for more affordable, smaller homes and rental units. This type of housing is much more desirable when located in or near walkable mixed use districts.
- The Borough needs to develop and strengthen the set of planning tools necessary to create such areas, taking advantage of lessons learned in planning for downtown Fairbanks and North Pole, and in mixed use districts around the US. These lessons include, for example, providing more ways to incentivize desired forms of development versus only emphasizing prescriptive land use policies. Examples of such incentives generally involve public/private partnerships, and include tax increment financing, tax reduction incentives, reduced parking requirements, and public investments in water, sewer, streetscape amenities, and other public infrastructure.

- Require and enforce a zoning permit for all new development, including in the GU districts, to facilitate consistent education processes of all property owners. If zoning permit is only required in some locations, the public does not have clarity about the rules that do apply, resulting in inconsistent compliance.

## PZ5. Improve planning tools to respond to natural environmental constraints and opportunities.

- Review and update the FNSB physical land use capability study prepared in 2010 (described earlier in this chapter) and the existing Borough Hazard mitigation plan and planned 5-year update. Actively use this information as an essential input into the updated borough-wide land use plan map recommended above, and also to develop new standards that respond to hazards and protect key ecological systems. Overall, aim to help landowners, developers, and the Borough better anticipate and respond to environmental conditions, including guiding growth to areas with fewer natural building constraints, such as permafrost, wetlands, or floodplains.

As part of this process identify important data needed that may not be currently available, and work with partners like UAF, the State, the federal Natural Resources Conservation Service and other entities to fill data gaps. One clear need is information on conditions affected by climate change, including permafrost thawing, flooding and wildfires.

- Review and amend the Borough’s existing but rarely used residential cluster subdivisions development code, to provide better tools for developers to design subdivisions that avoid environmental constraints and provide useful

open space and greenbelts. Using a cluster subdivision approach can require developers go through extra steps and invest more time than a standard subdivision process. Consequently, for the cluster code to be used, the process needs to offer incentives that provide a return on this investment. Key elements of a more successful cluster development code, for both developers and the public, include those below.

- Simplify and streamline the process and the code requirements
- Add density and other incentives so this code section provides a practical, financially viable way to create subdivisions that protect natural systems.
- Include standards so open space retained in the cluster subdivision has real value, and is not merely isolated leftover parcels.
- Evaluate the long-term impacts on water quality (and water availability) resulting from a development pattern of 1 acre lots using both on-site well and septic, and the potential water quality impacts of not requiring proof of approved septic system for every dwelling unit.
- Develop stronger land use and other policies to address air quality. This is a large complex subject that cuts across boundaries of land use, transportation and utilities, and with much work already in progress. But given that much of the F-35 Beddown growth will happen in the portion of the borough with greatest air quality challenges, it is important that air quality be a consideration in the preferred location of new development. Recommendations include:
  - Use improved water and sewer, coupled with zoning policies, to encourage more concentrated development patterns, and in particular more attached housing. Air quality benefits of this approach include:

**“ In the last 10 years we’ve had three pre-app meetings with developers interested in cluster subdivisions. When they see extensive requirements, the slow process and limited incentives they all choose the standard 60-day review process and go with larger lot sizes. ”**

*-Borough Planning Staff*

- Shared walls in attached housing help reduce heating bills, and emissions associated with home heating
- More concentrated, mixed use development allows more travel by foot or bicycle rather than by gas powered vehicles
- Smaller lots make provision of natural gas much less costly per household.
- Continue and strengthen policies controlling use of wood burning stoves.
- Consider requiring new housing built in areas with existing severe air quality problems to meet higher energy efficiency standards and to use high efficiency, low emission home heating alternatives.

## PZ6. Develop an active monitoring process to assess needs and track progress on land use goals.

Through this RGP, the TIGER team and related efforts, the Borough and its partners<sup>6</sup> are making an active effort to meet the overarching goals of the



F-35 Beddown. This process needs to continue, and needs reference points for evaluating progress.

The goals for responding to this growth that are noted earlier in this section, can serve this function. For this process to be meaningful, the goals (summarized below) need to be translated into performance measures that allow a clear, objective measurement of progress:

- For Incoming Air Force Personnel and Their Families: Quality Places to Live, Shop, Get Public Services, and Recreate
  - In individual homes
  - In neighborhoods
- For Existing Regional Residents, Land Owners and Businesses: Positive Impacts from F-35 Growth
- For the Local Development Community and Investors: A Supportive Environment So Developers Can Successfully Respond to Demand

The FNSB will need to lead this effort. To ensure these goals are met, a more formal, ongoing process should be established, focused on land use and infrastructure, that allows the Borough, the cities, the Department of Defense, and other partners to monitor progress on these goals, and provide the capacity to effectively and efficiently address challenges, or take advantage of new and changing opportunities.

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<sup>6</sup> Specific possible partners and plans include JLUS, AICUZ, ICUZ and other military plans and documents. Some of these are being updated or may be updated in the future. Other options include Tiger Team members, the Army Community Partnership







# Education and Early Childhood Development

## KEY TAKEAWAYS

- The F-35 Beddown at Eielson Air Force Base will bring an additional 1,930 individuals under the age of 17, for a total of 30,705 individuals age 17 and under in the FNSB by 2030. Approximately 62 percent of these individuals will be school-age, with the rest under the age of four.
- There is overall capacity available at the school district level to support this increase, but many of the individual schools near Eielson AFB are at capacity and may struggle to accommodate more students. In particular, there may be a shortage of facility capacity for elementary and middle school age students, beginning in 2021-2022.
- The FNSB region has a shortage of affordable infant and preschool age child care options. On-base care at EAFB is also maxed out, although in recent months the Air Force has successfully expanded provider capacity, thereby increasing the number of child care slots and reducing the number of children on waiting lists.
- To help meet the education and child care needs of EAFB families, a series of programmatic, policy, communication, and funding-related recommendations are offered at the end of this chapter.



The F-35 Beddown will increase the number of households in the Fairbanks North Star Borough (FNSB), both on Eielson Air Force Base and in the surrounding community. Many of these households will be accompanied by school-children and will need access to quality education, child care and other family supports. This chapter summarizes school district enrollment trends, population forecasts, and perspectives from educators and residents on student population growth and the ability of local schools to absorb the increase. It also discusses potential gaps and offers recommendations to ensure the community is prepared to accommodate the influx of students over the coming years.

**According to Blue Star Families' Annual Military Family Lifestyle Survey (2017):**

32% of service members and 39% of military spouses identified "military child education" as one of their top five military family issues of concern.



Another key focus of this chapter is the availability and need for child care, both on-base and in the surrounding community. Affordable child care is critical to maintaining a high quality of life for incoming families. High child care costs can discourage or prevent spouses from working, create burdensome cost pressures on households and impact the availability of affordable child care for other FNSB residents. The recommendations at the end of this chapter include a set of proposed strategies for increasing the availability of affordable child care for both military-connected and FNSB resident households.

In addition to their critical role as education centers for developing minds, child care centers and schools are also gathering places that link military families to their communities. This role is especially important for families who have recently relocated and are seeking ways to engage, contribute and connect in a new place. The availability and quality of early childhood development, child care and education options factor into a military family's decision on where to live during their time at Eielson and whether to stay in the FNSB area after military service. By ensuring military personnel and their families have access to quality education and child care, existing FNSB households will mutually benefit from improvements in service, access and sustained economic growth as a result of the F-35 Beddown.

**“ When deciding where to live, we look at the quality of schools nearby and the availability of after school activities. ”**

**-Eielson AFB Focus Group  
Participant**

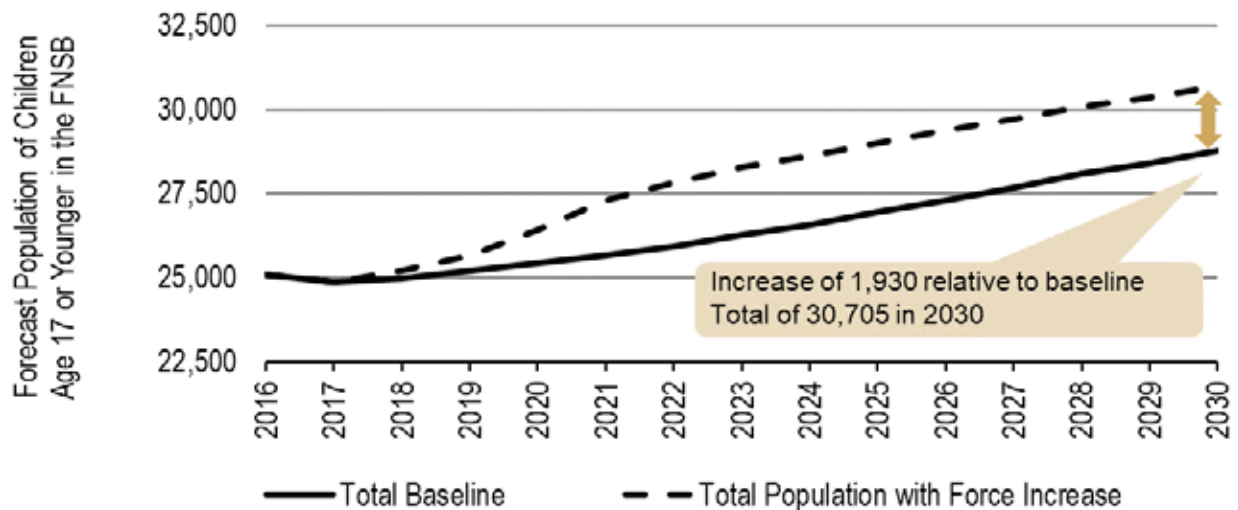
## PROJECTED NEED

The F-35 Beddown will bring approximately 1,353 new active duty personnel to Eielson Air Force Base, with an additional 1,782 dependents (including spouses and children). These families have already started to arrive. The number of households will continue to increase incrementally over the next five years as the Air Force expands capacity. Most of the additional households will be in place by year 2022.

Northern Economics’ REMI model, which develops population and employment forecasts based on historic, current and projected trends, estimates the F-35 Beddown will result in gradual and modest population growth for the FNSB. Since 2010, FNSB has experienced high outmigration

rates, meaning more residents are leaving the region than moving to the region. Over the past six years, these losses have been somewhat, but not completely, offset by natural population increases due to a higher rate of births compared with deaths. The REMI model predicts the F-35 Beddown will slow the loss of residents to outmigration; when combined with birth and death rates, this will result in an overall increase in the population over the coming years.<sup>1</sup> Taking into account the new Air Force households and induced growth forecasts, the REMI model estimates that by 2030, FNSB will have an additional 1,930 individuals under the age of 17 above the baseline population without the F-35s, for an estimated total of 30,705 individuals age 17 and under by 2030 (see Figure 1).

FIGURE 1: PRELIMINARY POPULATION PROJECTIONS FOR INDIVIDUALS AGE 17 AND UNDER



Source: Northern Economics REMI Model

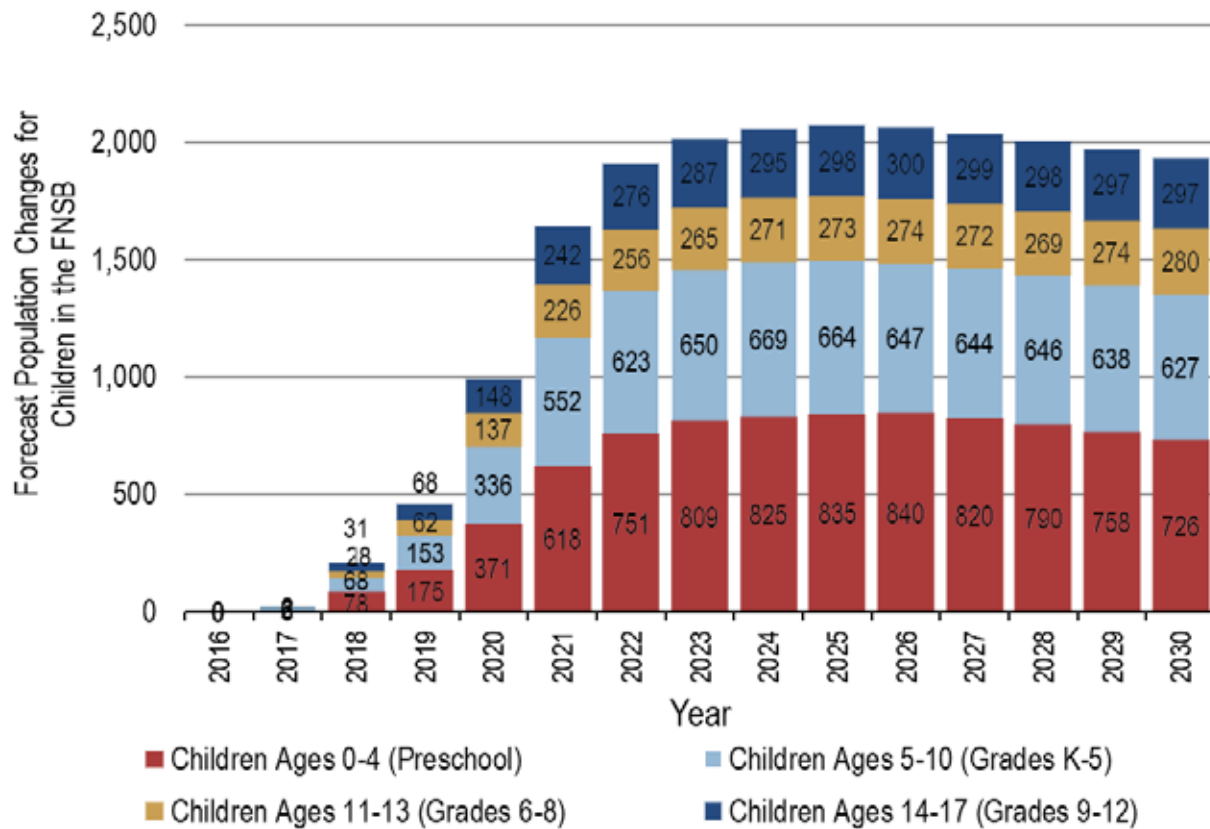
<sup>1</sup> For more detail on the REMI model methodology, inputs and estimates, see Growth Projections Focus Area.



Figure 2 breaks down the annual projected populations over baseline numbers by age group for those 17 and under. The largest increases are in the youngest age cohort, which includes infants and preschool children ages four and under. This age group is projected to experience the largest increases, with the highest count in 2026 with an estimated 840 additional young residents. The age group with the second largest increase is elementary-aged students ages five through ten (peak of 669 additional residents in 2024), with smaller increases in youth ages 11 through 13 (peak of 280 additional residents in 2030) and youth ages 14 through 17 (peak of 300 in 2026). Since the largest increases are projected to occur at

the younger ages (zero through four), the Eielson F-35 Beddown will likely have the strongest impact on demand for preschool and infant child care providers, as well as elementary schools. Since most of the families arriving at EAFB will ultimately be departing again for another station and replaced by other young families with similar demographics, the ratios of young children relative to older children stays similar over time. The specific impacts on schools will depend on where military families opt to live and enroll their children, while impacts on child care will depend on how many of the families with young children seek child care and the type of care they choose.

FIGURE 2: PRELIMINARY ANNUAL POPULATION INCREASES BY AGE COHORT



Source: Northern Economics REMI Model

# SUMMARY OF EXISTING PROGRAMS, SERVICES, INFRASTRUCTURE

## Schools

### Enrollment and Capacity

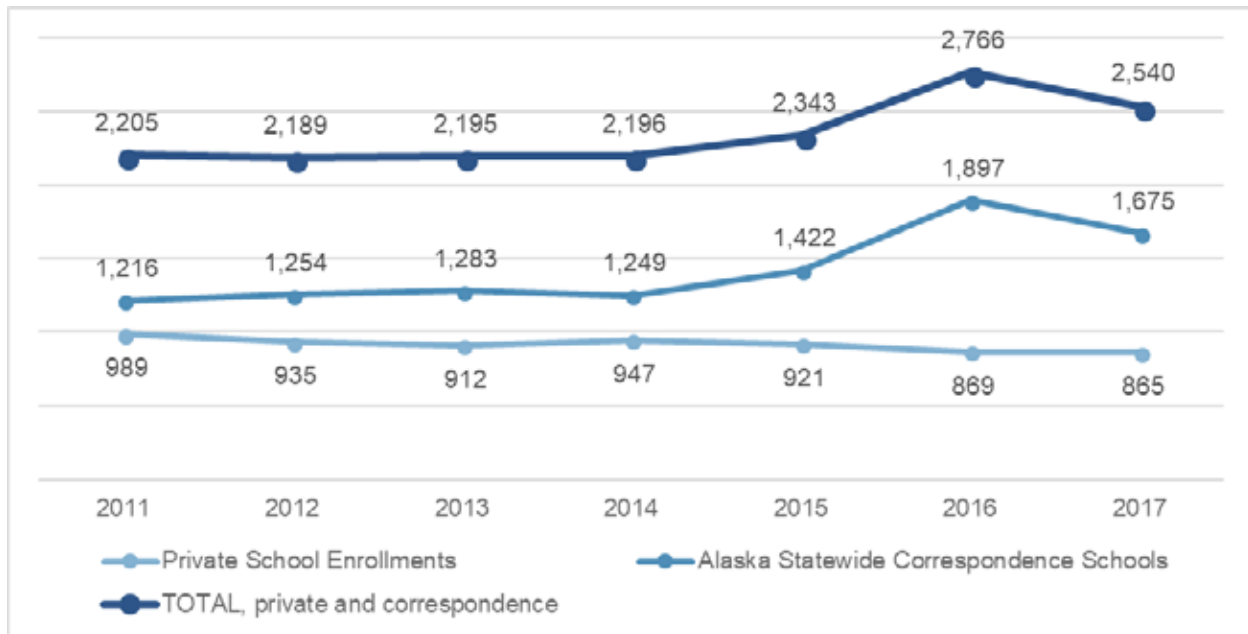
The FNSB has 36 schools, including four schools on military installations. On EAFB, kindergarten through second graders attend Anderson Elementary, third through six graders attend Crawford Elementary and middle and high school students attend Ben Eielson Junior/Senior High School. Total district enrollment in the 2017-2018 school year is 13,702 students, a one percent decline from the prior year of 13,840. Overall enrollment has shown a slight decline over the past eight years from a peak during the 2009-2010 school year (see Figure 3).<sup>2</sup>

While most school-age children attend the FNSB School District public schools, some are enrolled in private schools and statewide correspondence schools. According to the Winter 2017 issue of the FNSB Community Research Quarterly, there are 865 children enrolled in private schools and 1,675 children enrolled in correspondence schools in the 2017-2018 school year, for a total of 2,540 students enrolled in non-public schools (see Figure 3). Private school enrollment has been declining slightly since 2011. Between 2014 and 2016 there was a 52 percent increase in enrollment in statewide correspondence schools. When viewed as current percentages, 84 percent of children are enrolled in public schools, 10 percent in statewide correspondence schools and 5 percent in private schools.

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<sup>2</sup> From the Alaska Department of Education and Early Development, Statistics and Reports. Accessed August 2, 2017. <https://education.alaska.gov/stats/>

FIGURE 3: FNSB STUDENT ENROLLMENT IN PRIVATE AND CORRESPONDENCE SCHOOLS



Source: FNSB Community Research Quarterly, Winter 2017; Private school enrollment data comes from the Community Research Survey; statewide correspondence school enrollment comes from Alaska Department of Education & Early Development, Foundation Program Administrator, "Alaska Statewide Correspondence School Enrollments, FNSB School District, Attendance Office, "FTE October 20-school-Day ADM Count or October Count Period-Head Count (when ADM not available)", Juneau, Alaska, personal communication, 2011-2018.

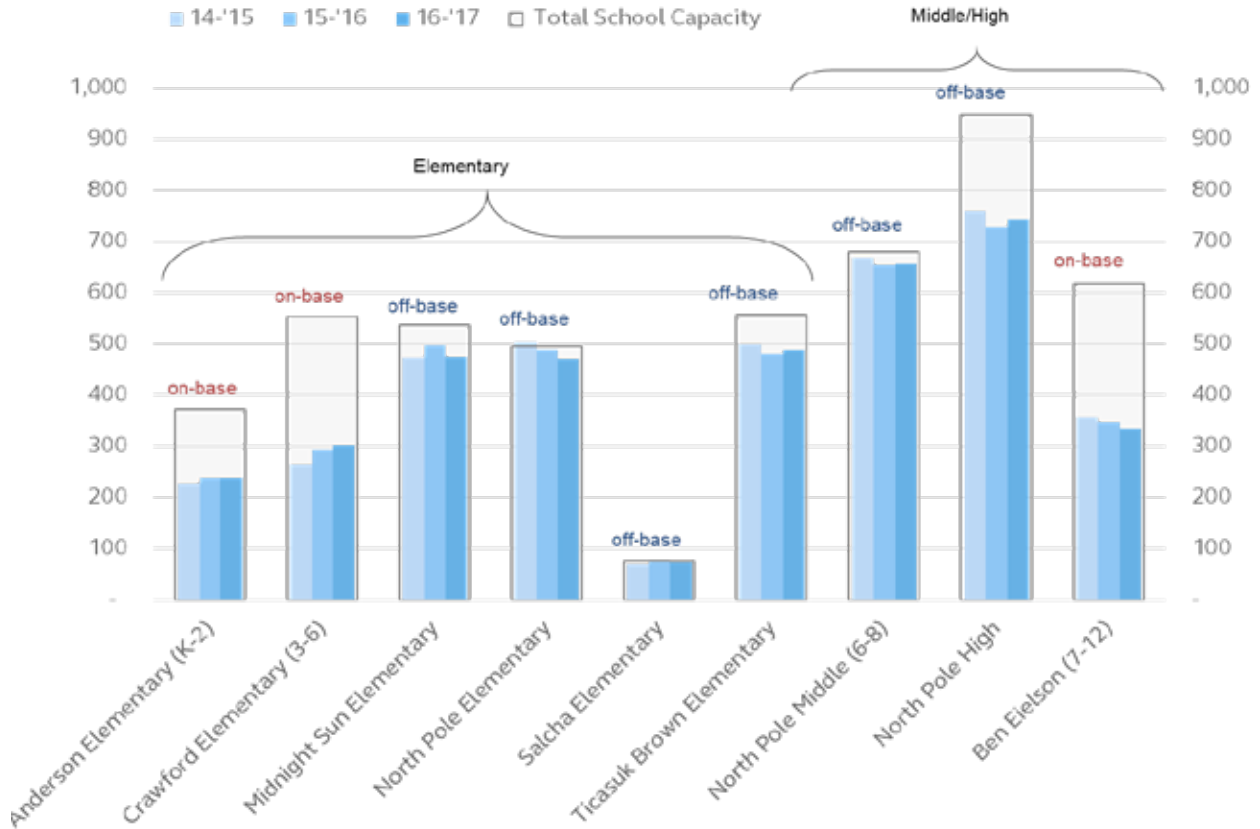
The FNSB School District is at 79 percent capacity, based on the combined capacity of each facility. While district counts show an overall decline in enrollment, specific enrollment trends by school vary. The schools on or near (within 20 minutes) of EAFB will be most impacted by the increase in individuals 17 and under, thus the importance of understanding both enrollment and capacity at these schools. Figure 4 shows enrollment trends and total capacity for schools on and near EAFB over the past five years, with total facility capacity for each school. Schools are listed left to right from elementary school to high school. As of the 2016-

2017 school year, the three schools on EAFB have significant capacity to take on additional students, while the elementary and middle schools in the area are at or near capacity:

### Located On Base

- Anderson Elementary (kindergarten through second grade, on-base): 65 percent capacity
- Crawford Elementary (third through sixth grade, on-base): 54 percent capacity
- Ben Eielson Junior-Senior High (on-base)

FIGURE 4: SCHOOL ENROLLMENT AND CAPACITY FOR SCHOOLS ON AND NEAR EAFB



Source: FNSB School District

### Located Near Base

- Midnight Sun Elementary (formerly Badger Road Elementary, off-base): 89 percent capacity
- North Pole Elementary (off-base): 99 percent capacity
- Salcha Elementary (off-base): 96 percent capacity
- Ticasuk Brown Elementary (off-base): 90 percent capacity
- North Pole Middle School (off-base): 96 percent capacity
- North Pole High School (off-base): 78 percent capacity



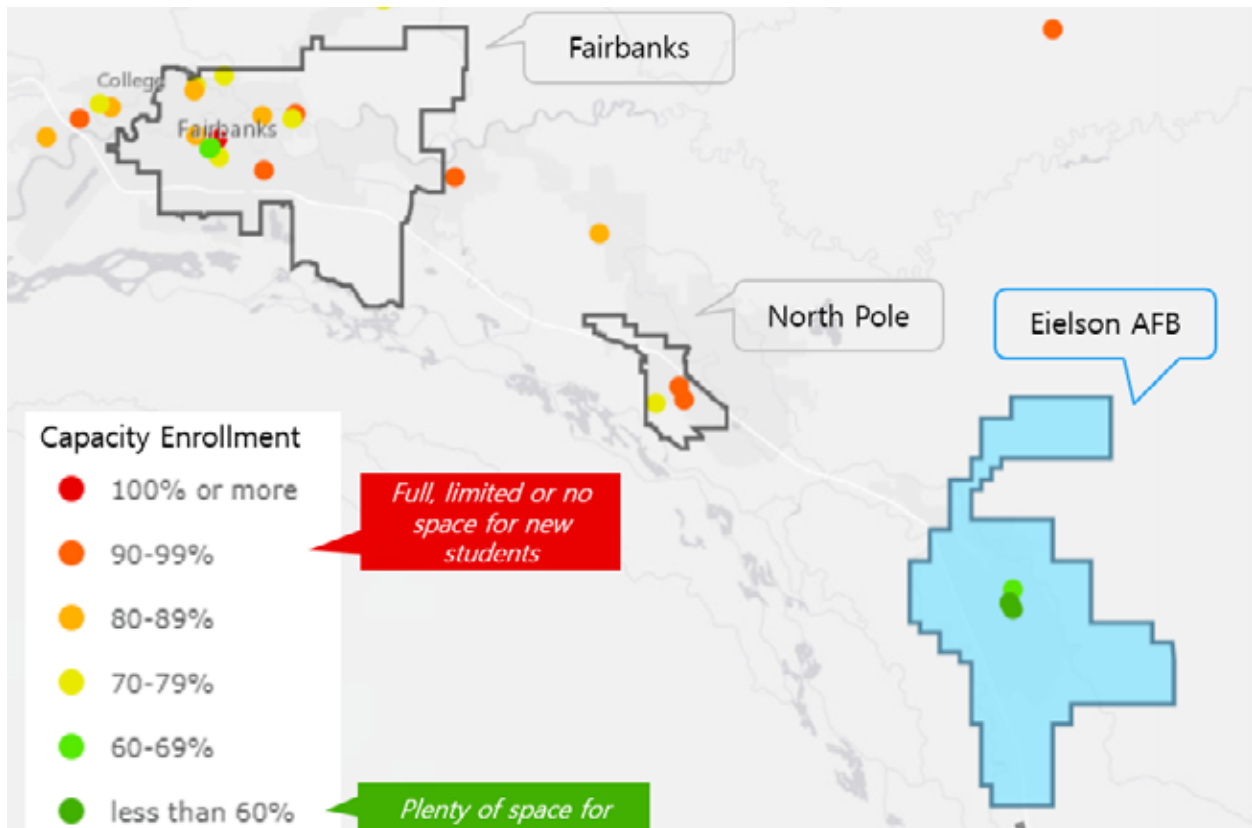
Credit: Fairbanks North Star Borough



This enrollment data can also be viewed geographically. Figure 5 is a map of the major metropolitan center of the FNSB. Each dot on the map represents the location of one of FNSB’s public schools. The color of each school’s data point indicates the capacity enrollment; schools that are red or dark orange are at or near capacity, while schools in green have the capacity to absorb more students. The boundaries of EAFB are highlighted in blue for reference. As seen on the map, EAFB

schools are all green and have sufficient capacity for new students. However, schools near EAFB are all near capacity, except for North Pole High School which is approximately 78 percent (this is the yellow dot within the City of North Pole boundaries). The remaining FNSB schools with significant capacity to absorb new students are in central and western Fairbanks, which is outside the likely commute distance of most EAFB households.

FIGURE 5: MAP OF SCHOOL LOCATIONS AND CAPACITY



Source: Map produced by Agnew::Beck with data from the FNSB School District

## OVERVIEW OF THE ENROLLMENT PROCESS FOR AIR FORCE FAMILIES

Air Force families typically receive a six-month tentative notice and a finalized three-month notice of their next base assignment, at which point they start looking at schools. When a family is assigned to Eielson Air Force Base, they normally enroll their school-age children online before arrival. Ideally enrollment happens prior to the start of the school year, positioning school staff to configure class sizes and staffing accordingly. However, when students arrive mid-year, the school district can make shifts to accommodate them. An Air Force School Liaison Officer helps parents navigate the school system during the transition, and provides additional support for parents with special needs children to ensure there are sufficient programs to meet their unique needs. The Air Force aims to limit disruption for families with school-age children by aligning Permanent Change of Station (PCS) dates with holiday or summer breaks.

If a family wants to enroll their child(ren) at a school outside their location-based designated school, they need to apply for an Out of Area Attendance (OAA) waiver. Each school has the discretion to review and process applications depending on the available classroom and teacher capacity; the school then submits the approved OAA waiver list to the school district office.<sup>3</sup> Families must re-apply for OAA acceptance each school year.

“ We have to develop projections for the upcoming year, which are used to establish our staffing plans and annual budget. If we estimate incorrectly, it impacts our budget and class sizes and we have to make last-minute adjustments, which sometimes includes moving teachers between schools. ”

- FNSBSD Administrator



Credit: Fairbanks North Star Borough

<sup>3</sup> Schools oversee the application process and submit their approved list to the school district office. Therefore, district-level data are only available for students who have approved OAA waivers in place. In spring 2018, the FNSBSD will be moving to electronic applications; FNSBSD will then know how many students apply to attend OAA rather than just the number who are approved.

For the 2017-2018 school year, there are 305 OAA students, or students enrolled in schools other than their local school. OAA enrollment for select schools is summarized in Figure 6. A total of 155 students, half of all students with OAA waivers, are enrolled in on-base schools, likely indicating that some military families are opting to live off-base and enroll their children in on-base schools. Crawford Elementary saw the highest number of OAA waivers with 58 students during the 2017-2018

school year; this number has increased significantly from 13 in 2014-2015. A few years ago, Air Force families who lived off-base were encouraged to enroll their students in on-base schools due to low enrollment. This may account for the increases in OAA waiver counts at Anderson and Crawford; both on-base elementary schools experienced 2017-2018 OAA enrollment numbers more than four times higher than 2014-2015 numbers.

**“ We live off-base and bring children on-base to go to school and they go to the youth center after school, which is very convenient. It was super easy to enroll on-base in an out of attendance area.”**

**“We were denied access to the on-base school.”**

*- Eielson AFB Focus Group Participants*

**FIGURE 6: NUMBER OF OUT OF ATTENDANCE AREA (OAA) STUDENTS ENROLLED AT SELECT SCHOOLS, 2014-2018**

School	2014-2015	2015-2016	2016-2017	2017-2018	Average OAA Enrollment, '14-'15 through '17-'18
<b>On Eielson Air Force Base</b>					
Anderson Elementary	5	14	26	23	17
Ben Eielson Jr High* <sup>1</sup>	6	4	24	25	14.8
Ben Eielson Sr High* <sup>1</sup>	7	17	53	49	31.5
Crawford Elementary	13	47	49	58	42
<b>Near Eielson Air Force Base</b>					
Midnight Sun Elementary	32	23		5	20
North Pole Elementary	46	46	36	24	38
North Pole Middle* <sup>1</sup>	2		2		2
North Pole High* <sup>1</sup>		2	5		4
Salcha Elementary	1	2	4	4	3
Ticasuk Brown Elementary	15	3	3	0	5
<b>Grand Total, Entire District (includes schools not listed above)</b>	<b>222</b>	<b>313</b>	<b>278</b>	<b>305</b>	<b>279.5</b>
1. Beginning 2016-17, students applying for secondary schools were required to complete an OAA form, prior to that it was only mandatory for elementary students					

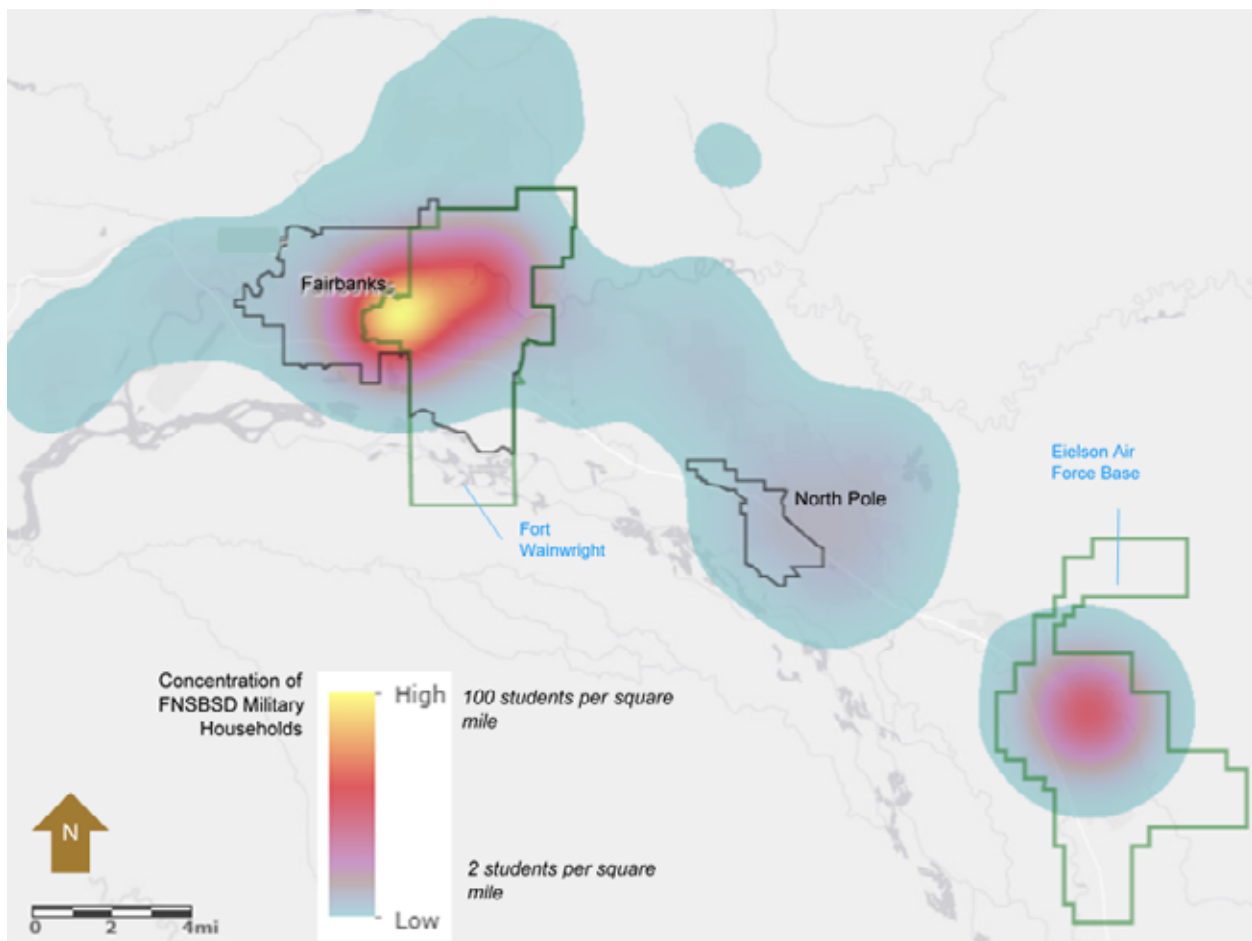
Source: FNSB School District

## Military-Connected Student Enrollment Data

The FNSB School District currently educates over 3,200 military students, who make up 26 percent of the total student population.<sup>4</sup> Figure 7 below shows the distribution of military households throughout the FNSB; areas with higher concentrations appear

yellow and red. Military families are concentrated in the population centers of Fairbanks and North Pole, and on the two military bases, Ft. Wainwright and Eielson Air Force Base.

**FIGURE 7: DISTRIBUTION OF MILITARY-CONNECTED HOUSEHOLDS WITH STUDENTS IN FNSB**



Source: Map produced by Agnew::Beck Consulting with data from the FNSB School District

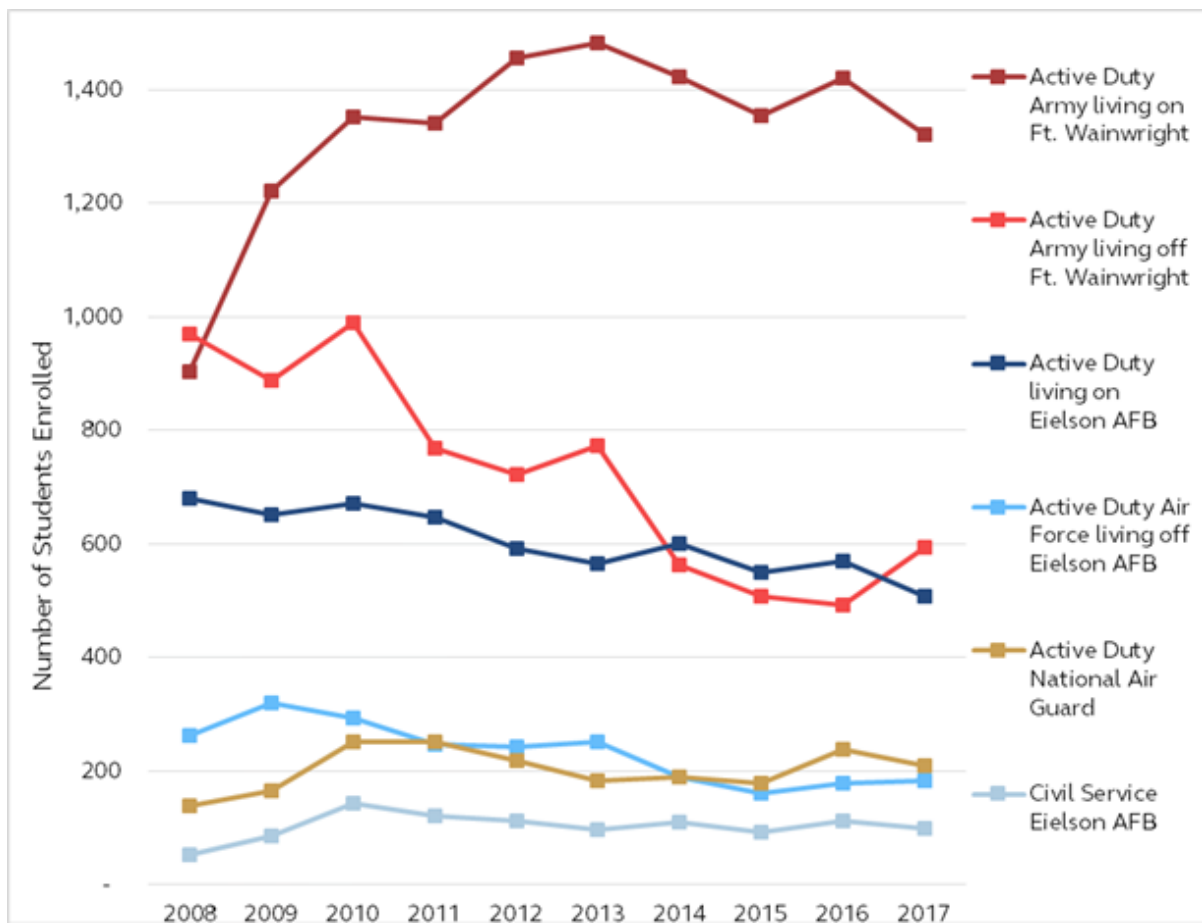
<sup>4</sup> Source: FNSBSD Military Student Support page, updated February 2018.



The federal government contributes money to school districts who serve families on military installations through a program called Federal Impact Aid. To track eligibility and quantity for this aid, the FNSB School District tracks data on its military-connected students using PL-874 surveys (the PL-874 name comes from the name of the congressional legislation, Public Law 874). The PL-874 data contains codes that identify the federal branch associated with a student’s family (e.g., Army, Air Force, Army Corp of Engineers, National Guard, Federal Aviation Administration) and where relevant, whether the household is located on a military installation. The database also contains information such as grade level,

military family member rank, school and more. Figure 8 shows district-wide student enrollment for military-connected students in categories with 100 or more students, with trend data over the past ten years. As shown, students in Active Duty Ft. Wainwright households make up the two largest categories, followed by Air Force families living on-base. In 2017, there were a combined 1,914 students associated with the Army installation at Ft. Wainwright (1,321 on-base and 592 off-base), while the Air Force had a combined 789 students associated with Eielson Air Force Base (508 on-base, 182 off-base and 99 with a parent in the Air Force civil service).

**FIGURE 8: DISTRICT-WIDE STUDENT ENROLLMENT BY TOP MILITARY-CONNECTED CATEGORIES, 2008-2017**



Source: FNSB School District

The FNSB School District collects PL-874 data on the number of military-connected students by each school. A subset of this data is shown in Figure 9. Unsurprisingly, all three of the schools on EAFB have the highest number of military students. Of the three, Crawford Elementary is lowest with approximately three out of every four students who are military-connected, while Ben Eielson Junior/Senior High is highest with almost nine out of every ten students from a military-connected household. Most of these enrollment numbers are from children in on-base households. Some non-military families who live in Moose Creek and Salcha are in the service boundary for the on-base schools.

FNSBSD also has a “school without walls” called Fairbanks Building Educational Success Together (BEST), which supports parents who want to homeschool their children using alternative programs that meet state content and performance

standards. As of the 2017-2018 school year, there are 301 students enrolled in the BEST program, including 14 Air Force-connected students. Families who opt to homeschool their children in other programs outside of the school district or through private schools are not captured in the data in this chapter.

Schools near Eielson primarily serve Air Force families who are living off-base, plus some civilians and an even smaller number of on-base Air Force households who opt to send their children to school off-base. Of the schools near EAFB, Salcha Elementary has the highest proportional air force-connected student enrollment, with nine students out of 73 (12 percent of the student body), and North Pole High has the highest total Air Force-connected enrollment with 43 students (6 percent of the student body).

**FIGURE 9: NUMBER OF AIR FORCE-CONNECTED STUDENTS BY SELECT FNSB SCHOOLS, 2015-2017**

	2015	2016	2017	% of students w/ military connection
<b>Schools on EAFB</b>				
<b>Anderson Elementary</b>	<b>216</b>	<b>224</b>	<b>192</b>	
Air Force off-base	9	7	13	81%
Air Force civil service	7	7	4	
Air Force on-base	200	210	175	
<b>Crawford Elementary</b>	<b>216</b>	<b>227</b>	<b>224</b>	
Air Force off-base	25	18	24	74%
Air Force civil service	9	9	10	
Air Force on-base	182	200	190	
<b>Ben Eielson Junior/Senior</b>	<b>185</b>	<b>193</b>	<b>177</b>	
Air Force off-base	12	20	23	88%
Air Force civil service	18	36	30	
Air Force on-base	155	137	124	
<b>Schools near EAFB</b>				
<b>Midnight Sun Elementary</b>	<b>33</b>	<b>33</b>	<b>32</b>	
Air Force off-base	28	29	25	7%
Air Force civil service	5	4	6	
Air Force on-base	0	0	1	

	2015	2016	2017	% of students w/ military connection
<b>North Pole Elementary</b>	<b>26</b>	<b>26</b>	<b>27</b>	
Air Force off-base	18	20	20	6%
Air Force civil service	5	2	5	
Air Force on-base	3	4	2	
<b>North Pole High</b>	<b>37</b>	<b>44</b>	<b>43</b>	
Air Force off-base	24	22	25	6%
Air Force civil service	13	20	17	
Air Force on-base	0	2	1	
<b>North Pole Middle</b>	<b>30</b>	<b>43</b>	<b>33</b>	
Air Force off-base	18	28	22	5%
Air Force civil service	11	15	10	
Air Force on-base	1	0	1	
<b>Salcha</b>	<b>9</b>	<b>9</b>	<b>9</b>	
Air Force off-base	5	4	5	12%
Air Force civil service	4	5	4	
Air Force on-base	0	0	0	
<b>Ticasuk Brown Elementary</b>	<b>11</b>	<b>13</b>	<b>10</b>	
Air Force off-base	9	13	9	
Air Force civil service	2	0	1	
Air Force on-base	0	0	0	
<b>Grand Total</b>	<b>763</b>	<b>812</b>	<b>747</b>	

Source: FNSB School District

Increases and decreases in the number of military-connected students in the FNSBSD can be dramatic from year to year and have a significant impact on overall student enrollment trends. Figure 10 shows the annual change in enrollment for the FNSBSD over the past nine years; this data is also available in graphic form in Figure 11. The annual changes are split into three categories for analysis: Air Force-connected students (navy blue), Army-connected students (medium blue) and all other students (gold). As seen in the graph, changes in military enrollment are one of the primary drivers of overall enrollment increases and decreases. For example, going into the 2008-2009 school year, the district had 297 more Army and Air Force-connected students enroll than the previous year, which offset a decline in other enrollment (loss of 196 students) for a total enrollment increase

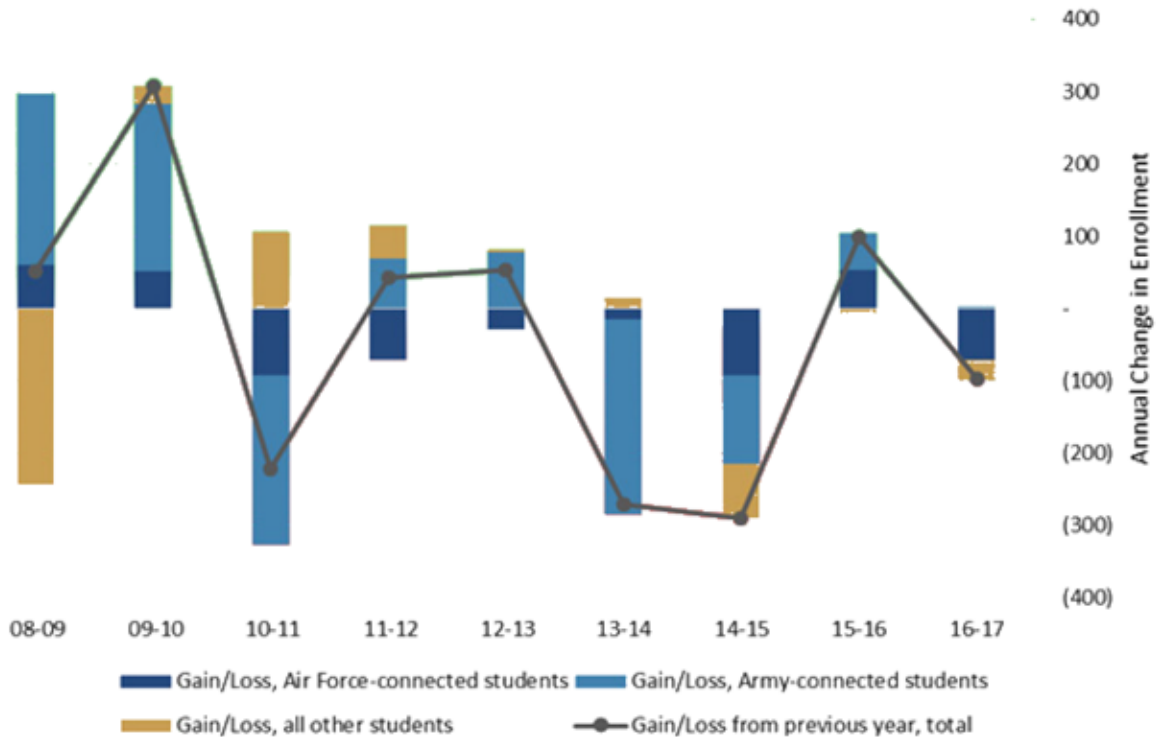
of 101. However, the 2013-2014 school year had a net loss of 280 students; 269 of those students (96 percent) were from a net loss in the number of Army-connected families who were enrolled in FNSB schools. These fluctuations can be difficult for school administrators who must coordinate enrollment and staffing needs across the district to meet changing enrollment patterns. It is also a challenge from a budgeting perspective, because the FNSBSD's proposed budget is based in part on student enrollment estimates, and uncertainty in military enrollment can result in large variations between proposed and actual budget numbers. Since changes in the number of military-connected students have such a strong impact on overall enrollment, having accurate enrollment forecasts from the military installations can help the FNSBSD prepare for and respond to these fluctuations.

**FIGURE 10: ANNUAL GAINS/LOSSES IN ENROLLMENT AND COMPONENTS OF CHANGE FROM AIR FORCE AND ARMY**

Year	08-09	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17
<b>ENROLLMENT</b>									
<b>Total District Enrollment</b>	<b>14,080</b>	<b>14,132</b>	<b>14,439</b>	<b>14,218</b>	<b>14,260</b>	<b>14,313</b>	<b>14,043</b>	<b>13,753</b>	<b>13,851</b>
Air Force Enrollment	1,056	1,107	1,015	943	914	899	807	861	789
Army Enrollment	2,110	2,342	2,108	2,177	2,255	1,986	1,863	1,913	1,914
<b>GAINS/LOSSES</b>									
<b>Total change from previous year</b>	<b>52</b>	<b>307</b>	<b>(221)</b>	<b>42</b>	<b>53</b>	<b>(270)</b>	<b>(290)</b>	<b>98</b>	<b>(98)</b>
Air Force-connected students	60	51	(92)	(72)	(29)	(15)	(92)	54	(72)
Army-connected students	237	232	(234)	69	78	(269)	(123)	50	1
All other students	(245)	24	105	45	4	14	(75)	(6)	(27)

Source: FNSB School District

**FIGURE 11: COMPONENTS OF CHANGE: STUDENT ENROLLMENT GAINS AND LOSSES**



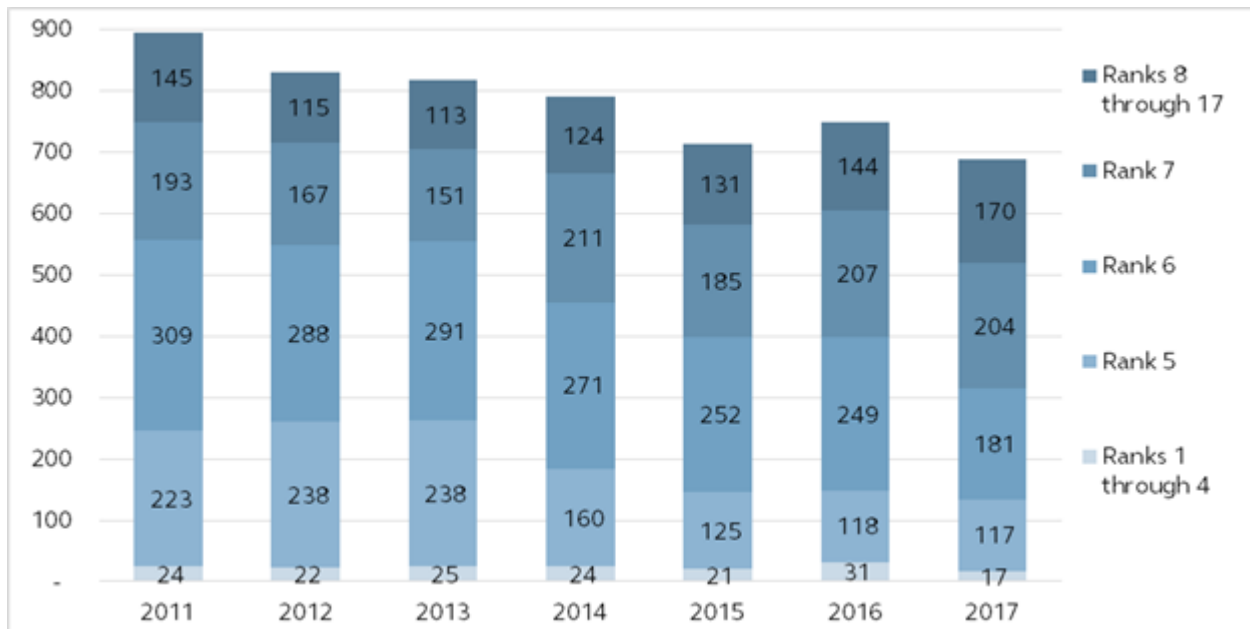
Source: FNSB School District



The FNSB School District’s PL-874 database includes the military rank of military-connected students’ parent(s) (See Figure 12). The housing stipend amount Air Force families receive is based in part on a member’s rank, so this data helps predict the housing stipend amount families will have available for renting or buying a home.

Overall, the number of Eielson-connected students dropped between 2011 and 2017; however, the number of students with parents at higher rank levels is increasing. For example, in 2011 the percentage of students with parents at a rank of 7 or higher was 38 percent, which steadily increased to 54 percent in 2017.

**FIGURE 12: NUMBER OF EIELSON-CONNECTED STUDENTS ENROLLED IN FNSB SCHOOLS BY MILITARY FAMILY RANK LEVEL, 2011-2017<sup>5</sup>**



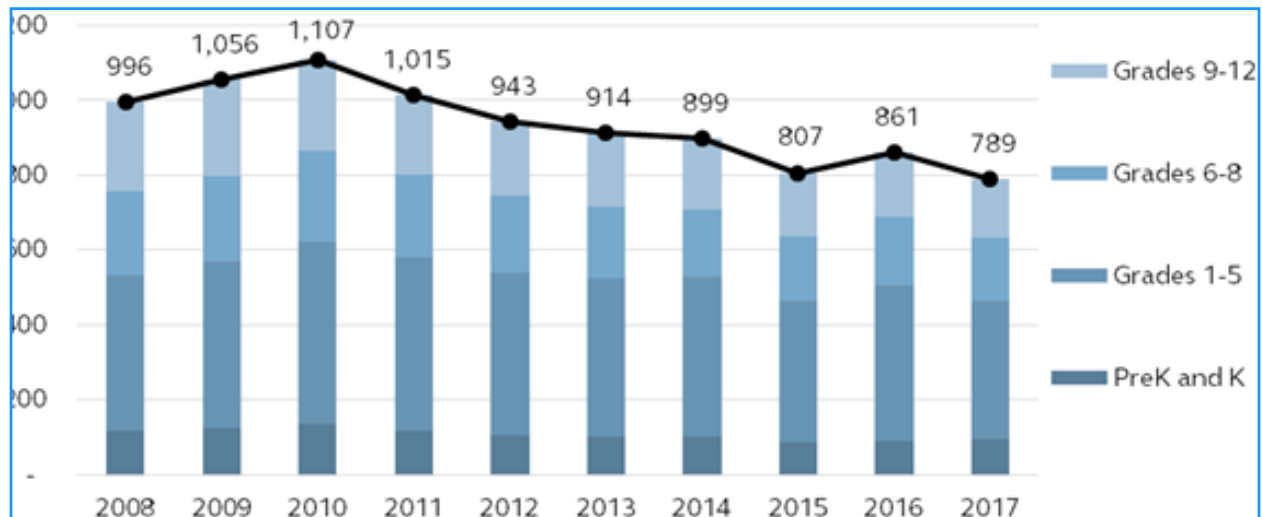
Source: FNSB School District

<sup>5</sup> In this case, “Eielson-connected” includes the following PL-874 Categories: EAFB (Active Duty living on Eielson Air Force Base), FTWWEAFB (Active Duty living on Ft. Wainwright and working on Eielson), EAFBFTWW (Active Duty living on Eielson and working on Ft. Wainwright), AIR FORCE (Active Duty Air Force living off-base)

During the planning process, FNSB School District administrative staff indicated they would like to know the estimated number of children by grade who will likely be enrolling in the school district as a result of the F-35 beddown. Unfortunately, exact enrollment by grade is not available because the specific families arriving at EAFB are not yet known and that information is not typically made available by the Air Force prior to the arrival of

new households. However, we can look at current and historical trends to see if enrollment by grade differs for military-connected students than the overall student body. Enrollment by grade level groups are shown below for the subset of Eielson-connected students (Figure 13). As the figures show, the distribution of students by grade level has remained constant over the past ten years, even with slight fluctuations in overall enrollment trends.

**FIGURE 13: ENROLLMENT BY AGE GROUP, EIELSON-CONNECTED STUDENTS, 2008-2017**

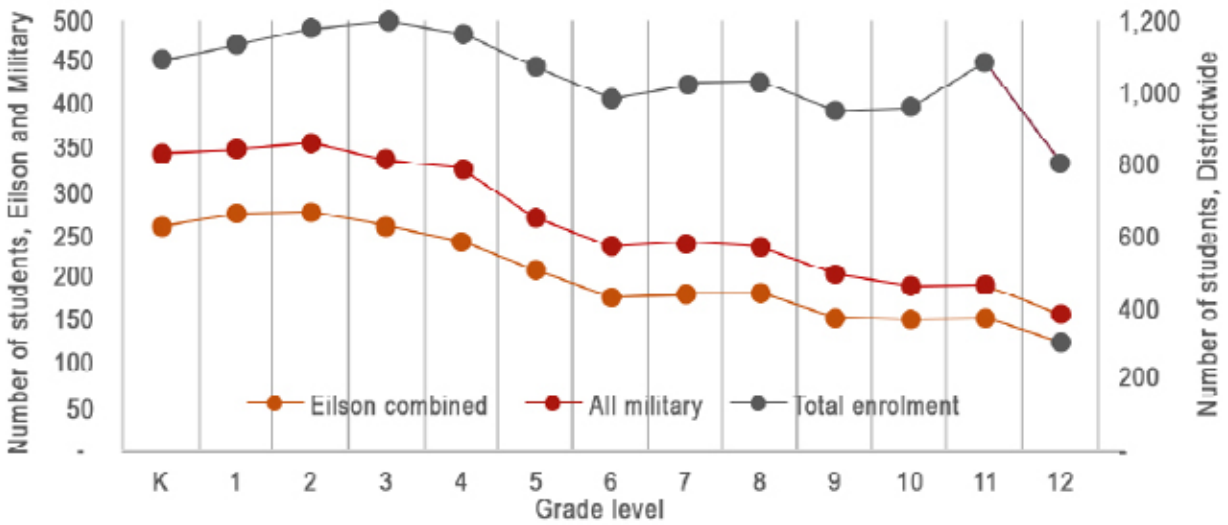


Source: FNSB School District

Figure 14 shows a one-year snapshot of the proportion of Eielson-connected and military-connected students enrolled in each grade compared with grade enrollment for the entire district. The military and Eielson-connected students show a similar distribution across grade levels when compared with the district-wide numbers. In all categories, there are more students in elementary school grades than middle school grades, and more students in middle school

grades than in high school grades. There is only one outlying category in the data: a spike in the number of 11th grade students enrolled in the FNSB District in 2017. Both the year-to-year historic trends and the current breakout by grade level indicate that assuming the incoming military-connected students will follow historic grade-level distribution trends for military and Eielson-connected families, student increases will likely be in proportion to current enrollment by grade levels.

FIGURE 14: DISTRIBUTION OF STUDENTS BY GRADE, 2017



Source: FNSB School District

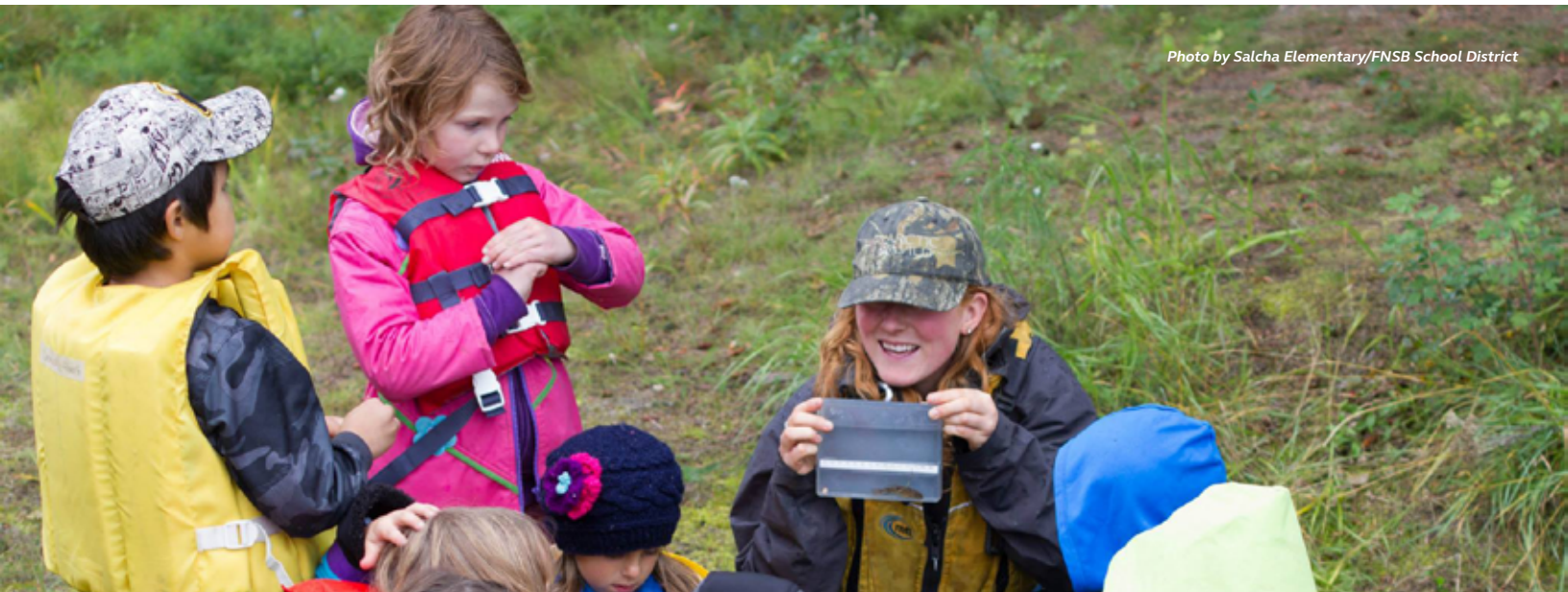


Photo by Salcha Elementary/FNSB School District

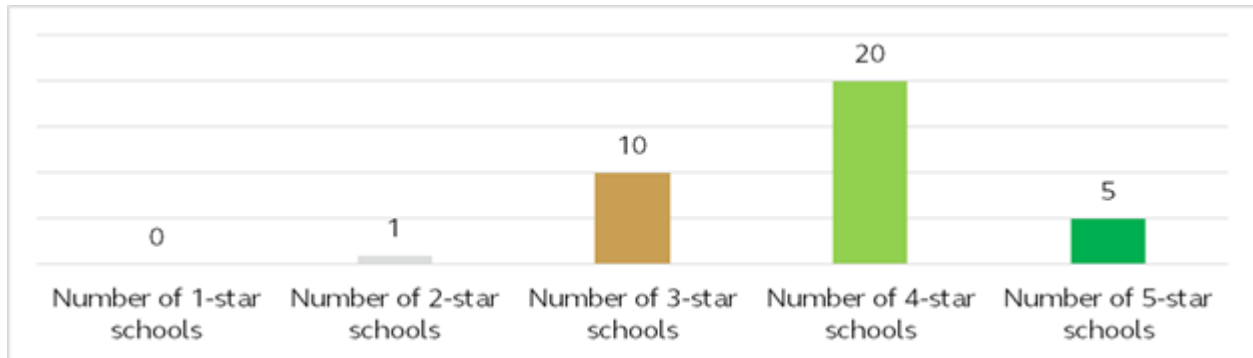
## School Quality

When selecting a place to live, Air Force families with school-age children take into account the quality and programming of local schools. School satisfaction also contributes to the quality of Air Force families’ experiences during their time stationed at Eielson. The State of Alaska develops report cards for each school and district to track performance and progress based on a series of measures including the qualification level of teachers, attendance rates, graduation rates, dropout rates and student test scores. The report cards include an Alaska School Performance Index (ASPI) score. The State is in the process of changing the assessment methodology so the most current scores are from the 2013-2014 school

year. Under ASPI, each school is assigned a score on a 100-point scale and given a star rating from 1 (lowest) to 5 (best). Figure 15 shows the number of FNSB schools scoring at each level. More than half the FNSB schools are at a 4-star level, with five schools at the 5-star level, 10 schools at the 3-star level and one school (Star of the North) at the 2-star level. The FNSB School District does not have any 1-star schools.

“ Most teachers here are flexible and work well with Eielson students. They help with the new school transition. ”  
 -EAFB School Liaison

FIGURE 15: NUMBER OF FNSB SCHOOLS BY ASPI SCORE, 2013-2014 SCHOOL YEAR



Source: FNSB School District

FIGURE 16: ASPI SCORES FOR SELECT SCHOOLS ON AND NEAR EIELSON, 2013-2014 SCHOOL YEAR

On Eielson Air Force Base	Score	Near Eielson Air Force Base	Score
Anderson Elementary (K-2)	95.35	Midnight Sun Elementary	89.70
Crawford Elementary (3-6)	95.35	North Pole Elementary	89.88
Ben Eielson Junior/Senior High	86.39	Salcha Elementary	96.81
		Tikasuk Brown Elementary	87.10
		North Pole Middle	89.93
		North Pole High	77.20
Source: FNSB School District			

Source: FNSB School District



Scores for schools on and near EAFB are shown in Figure 16. Both elementary schools on EAFB are 5-star schools, and Eielson Junior/Senior High is a 4-star. In North Pole, the elementary and middle school are both scored as 4-stars; the high school is the lowest in the area with 3 stars. Salcha Elementary is a five-star school. When compared with the 2011-2012 school year, three of these schools have achieved significant gains in their scores, with North Pole Middle Elementary and North Pole Middle School both moving up one star level (from 3 to 4-star) and Salcha moving up two star levels (from a 3 to a 5-star).

During the Eielson Regional Growth Plan process, residents and Air Force families have shared a variety of feedback, insights and perspectives on the quality of local schools. Overall, parents are satisfied with FNSBSD elementary schools. However, parents expressed mixed results for middle and high schools.

According to reports and surveys from Blue Star Families and reinforced in focus groups with current Eielson Air Force families, schools are a significant factor for many military families with children when selecting a place to live. When selecting a school, parents consider the following:

- School quality as based on performance scores, classroom size, etc.
- Availability of social and emotional supports for military families
- Location
- Specific programming such as special education and after-school activities and sports
- Maintaining continuity of curriculum from previous school

“ We live off-base and bring our children on-base to go to school. They go to the youth center after school, which is very convenient. ”

-Eielson AFB Focus Group  
Participant

The District supports multiple programs and partnerships that assist military families and their children. The FNSBSD currently receives three grants funded through the Department of Defense Education Activity (DoDEA) that serve military-connected students:

### Basic Training 1:1

- **Timing:** 2015 - 2019
- **Funding Amount:** \$1.5 million
- **Description:** this program seeks to improve academic outcomes for students in military families throughout the school district by working with the district’s youngest cohorts of military-connected students. The program focuses on students at five of the district’s most military-oriented elementary schools: Ladd, Anderson, Crawford, Arctic Light and Midnight Sun. The grant covers funding for a one-to-one iPad initiative for grades one through three and a coordinator who provides professional development to teachers at the participating schools.

### Project D.I.P.L.O.M.A.S. (Developing Innovative Personalized Learning Opportunities Maximizing the Achievement of Students)

- Timing: September 25, 2017 – March 24, 2022
- Funding Amount: \$1 million
- Description: this grant supports the implementation of personalized learning at five secondary schools with high military-connected enrollment: Ben Eielson Junior/Senior High School, North Pole Middle School, North Pole High School, Tanana Middle School and Lathrop High School.

### Project 360

- Timing: August 1, 2016 – July 31, 2021
- Funding Amount: \$1.5 million
- Description: this grant aims to increase social-emotional supports for transitioning and at-risk students at ten target schools while providing the staff who serve these students with sustained and embedded professional development to remove barriers to student success and enable ongoing student growth.

These programs support both Army and Air Force families throughout the FNSB.



*Photo by Ben Eielson High School/FNSB School District*

## CHILD CARE

### Demand and Availability of Child Care in FNSB

This section assesses the need for and availability of child care resources in the FNSB. The analysis generally focuses on child care for pre-school-age children (typically under six years of age), although child care can include services for children under 13 years of age. Alaska has approximately 81,482 families with children, including 26,522 single parent families and 22,395 families with two parents in the labor force who have children under the age of six.<sup>6</sup> Child Care Aware of America estimates there are 39,348 children under the age of six who potentially need child care in Alaska, while there are 29,513 spaces available in child care programs.<sup>7</sup> This includes 253 center-based child care programs, 554 family child care homes, 68 school-aged care programs and a smaller subset of other programs. Only eight percent of center-based child care programs are nationally accredited in Alaska, and none of the family child care homes are nationally accredited; this is likely because state licensing standards do not align with federal standards and the national accreditation requirements are expensive and difficult to obtain.

The Alaska Child Care Program Office conducted a 2015 statewide survey of child care providers. Figure 17 provides an overview of some of the results for the Fairbanks Region, an area defined by FNSB boundaries. In the Fairbanks Region, 63 out of approximately 75 child care providers responded to the survey, an estimated 84 percent response rate. Of those who responded, 24 were licensed centers, 23 were licensed group homes and 16 were licensed homes. Overall, 52 percent of providers are operating at licensed capacity. Top reasons for not operating at full capacity were lack of enrolled

children (77 percent), lack of child care staff (10 percent), and not wanting to operate at full capacity (10 percent).

#### What are the types of licensed child care providers in Alaska?

##### Licensed Child Care Centers

- 13 or more children
- 243 centers in Alaska, with 4,549 staff

##### Licensed Child Care Group Homes

- 9 to 12 children at one time.
- 83 homes in Alaska, with 373 staff

##### Licensed Child Care Homes

- Up to eight children at one time
- 291 homes in Alaska, with 543 staff

*Source: McDowell Group: Economic Impact of Early Care and Learning in Alaska, October 2015*

<sup>6</sup> Based on American Community Survey Five-Year Averages, 2011-2015, as reported in the 2017 State Child Care Facts in the State of Alaska handout by Child Care Aware of America. Available here: [http://usa.childcareaware.org/wp-content/uploads/2017/07/AK\\_Facts.pdf](http://usa.childcareaware.org/wp-content/uploads/2017/07/AK_Facts.pdf)

<sup>7</sup> Data comes from on Child Care Resource and Referral Agencies for Child Care Aware® of America's 2017 State Fact Sheet Survey. Data reflects the 2016 calendar year.

FIGURE 17: CHILD CARE PROVIDER TYPE, CAPACITY AND WAITLISTS IN THE FNSB, 2015

Number of Licensed Providers in FNSB		
Provider Type	Number of Respondents	% of Respondents Operating at Full Capacity
Licensed Center	24	46%
Licensed Group Home	23	61%
Licensed Home	16	50%
Total Respondents*	63	52%
<b>*The Fairbanks region had an 84 percent response rate, indicating 12 providers did not respond and are not included in the data</b>		
Number of Children in Licensed Child Care		
Age Group	Children in Child Care	Children on Waiting List**
Infant Care Birth - 18 months	185	322
Toddler Care 19 months - 36 months	171	267
Preschool Age Care 37 months - 6 years	922	373
School Age Care 7 years - 12 years	333	77
<b>**Children can be on more than one waiting list, so there may be some duplicate counts in this column</b>		
Source: 2015 Alaska Child Care Market Price Survey Report, prepared in 2015 by the Alaska Child Program Office. Available here: <a href="http://dhss.alaska.gov/dpa/Documents/dpa/programs/ccare/Documents/Resources-Reports/2015-Alaska-Child-Care-Market-Price-Survey-Report.pdf">http://dhss.alaska.gov/dpa/Documents/dpa/programs/ccare/Documents/Resources-Reports/2015-Alaska-Child-Care-Market-Price-Survey-Report.pdf</a>		

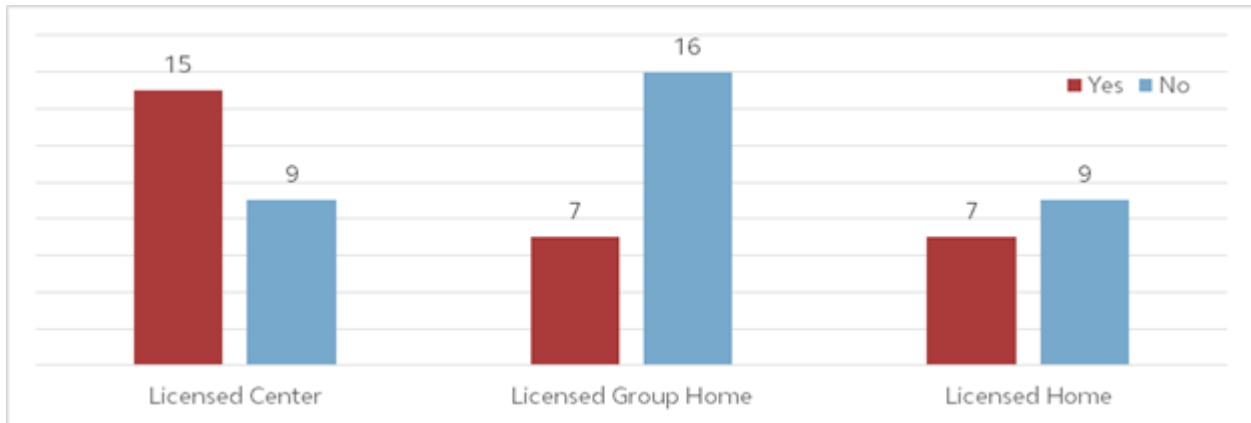
The survey also asked providers about their waiting list counts (see Figure 18). Twenty-nine of the 63 responding providers have active waiting lists. Children may be listed on more than one waiting list for different providers, so these numbers may overestimate the number. Preschool age children are the largest category on the waiting list with 373 children, followed by infants with 322 on the waiting list. While the actual count is smaller, the number of infants on waiting lists is 75 percent higher than the number of infant children currently served by FNSB providers, indicating there is a disproportionate shortage of space for infants. This reinforces perspectives shared by stakeholders that there is a shortage of infant and preschool age care options in the community.

“ Our baby was on the waiting list for child care since before she was born, and she is almost 12 months old. ”

-Eielson AFB Focus Group Participant



FIGURE 18: NUMBER OF FNSB LICENSED PROVIDERS WITH WAITING LISTS



Source: 2015 Alaska Child Care Market Price Survey Report, by the Alaska Child Program Office



In addition to the lack of available capacity for child care in FNSB, many families struggle with the high costs of care. According to Child Care Aware, on average child care in Alaska costs 10-12 percent of household median income. For a household with both an infant and a 4-year old, the annual costs are \$22,464 for a center and \$19,746 for a licensed in-home provider; this equates to 64-73 percent of the total income of a married family living at the poverty line.

## Child Care Resources on Eielson Air Force Base

Eielson has a Child Development Center that offers care for children between the ages of six weeks to five years old, with recreational and educational programming based on the Air Force Creative Curriculum. The Child Development Center has 113 children enrolled, with a waiting list of about 13 children. The number on the waiting list has dropped significantly over the past few months; at its peak, the list included over 100 children. The total facility capacity is 206 children but is not fully staffed due to a shortage of personnel. In recent years as families have departed Eielson through Permanent Change of Station (PCS), many child care providers have left and incoming dependents have demonstrated less interest in working in the child care field. EAFB has been undergoing significant outreach campaigns on-base to recruit additional staff to expand capacity at the Center; however, this is a slow process, and can take six months or more for new staff to be “cleared.” Staff turnover remains an ongoing struggle, since individuals are only stationed at EAFB for a few years. According to Air Force staff, individuals who live off-base generally do not apply for positions at the Center, possibly because the Center’s wages are not competitive with other job opportunities in the North Pole and Fairbanks area.

Eielson also has a Family Child Care Office which offers provider training and helps families identify child care options on-base. The website: [www.militarychildcare.com](http://www.militarychildcare.com) contains a database of certified child care providers and lets military families search and connect with potential providers. Air Force in-home providers do not need to be accredited to become certified to provide care, but they must go through intensive training and once open, they receive monthly inspection visits from EAFB Family Child Care office staff. Due to the real and perceived costs of becoming a certified in-home provider, some families choose to set up informal agreements and reciprocal child care plans with neighbors and friends, and other parents opt to work from home. As of December 2017, there are three in-home providers on-base and one in North Pole. This is up from only one provider in September, with one more currently going through the certification process. These in-home providers may care for up to six children, including their own, with no more than two children under the age of two.

For school-age children, Eielson has the School Age Center, which offers before and after school care and full day care on days the local schools are not in session. All children enrolled in on-base schools are eligible for services at the School Age Center, including families living on and off-base. Approximately 20 percent of on-base EAFB families utilize the services at the School Age Center. EAFB child and youth services staff conducted an analysis to forecast future capacity needs and found the current School Age Center lacks the capacity to absorb the anticipated increase of children from the F-35 Beddown. As a result, the Air Force is in the design phases to construct a new, \$22.6 million replacement facility, projected to open in 2021 with a capacity for 240 school age children. The current facility, which was originally scheduled to be removed in 2008, will be demolished.

The Air Force also has child care fee assistance available for use with off-base providers. The program is managed by Child Care Aware of America. Active Duty Air Force households may use the fee assistance when on-base child care is not an available or viable option. Families living within 15 miles or 20 minutes of on-base child care must be on the Child Development Center wait list before applying for assistance. Subsidy amounts are based on total family income of eligible families, and monthly payments are provided directly to the care provider. Air Force households are only allowed to use military subsidies for off-base child care with providers who meet national accreditation standards. The accreditation indicates a program meets strict criteria and offers high quality child care. The standards are stricter than Alaska's state licensing requirements; as a result, most licensed community providers are not eligible for the military subsidy.

## Statewide Child Care Resources

The State of Alaska oversees a Child Care Assistance Program (CCAP), which provides financial assistance on a sliding fee scale for child care expenses for eligible families who are working or participating in an education/training program. Military families are eligible to participate in the program. The subsidy can only be used with eligible care providers who meet the minimum licensing requirements, and payments go directly to the child care provider. Subsidies can also be applied for on-base child care programs. Thread is responsible for service delivery in Alaska's northern region, which includes the FNSB. The program was recently updated, with revised eligibility requirements and rates effective on October 1, 2017. The changes include an updated family income and contribution schedule, and now offers benefits for households up to 85 percent of state median income, instead

of the previous cap of 75 percent. Rates were also updated to more closely match market prices. During the month of October 2017, 320 children across 209 families were authorized to use CCAP funds in the Fairbanks region; providers receiving the subsidies included 29 licensed centers, 31 group homes and 19 homes.<sup>8</sup> On October 2017, none of the CCAP funds went to military-sponsored centers or military homes in the Fairbanks region; however, interviews with EAFB child and youth services staff indicate that some Air Force families do utilize these programs from time to time. According to correspondence with the research unit of the State's Child Care Assistance Program, there is one military-affiliated family in the northern region currently receiving child care assistance.

Thread also oversees Alaska's Quality Recognition and Improvement System (QRIS), called Learn



& Grow. QRIS is a method to assess and communicate the level of quality in early child care and education settings to help providers become higher quality and to help families make educated decisions when selecting a provider. QRIS networks are being established all over the country and exist in some form in every state except Mississippi. Alaska's Learn & Grow resources include technical assistance, professional development funding and quality improvement grants. The program began in July 2016 and is still being built up in Alaska, with implementation happening in phases. As of mid-2017, only 8.2 percent of all available child care slots belong to programs participating in QRIS. Ultimately Learn & Grow will offer five levels of quality benchmarks, with a framework for each

<sup>8</sup> Child Care Services Monthly Report, September 2017. Published by the Alaska Department of Health & Social Services, Division of Public Assistance, Child Care Program Office.

level for different categories of providers. Currently there are training programs in place for levels one and two, and level three is in development. QRIS level five will be the equivalent of the national accreditation standards required for Air Force fee assistance. Achieving level five requires significant

training time and investment; once all five levels of QRIS have been defined in Alaska, providers may still choose not to pursue this level of accreditation unless external or supplementary funding is available.

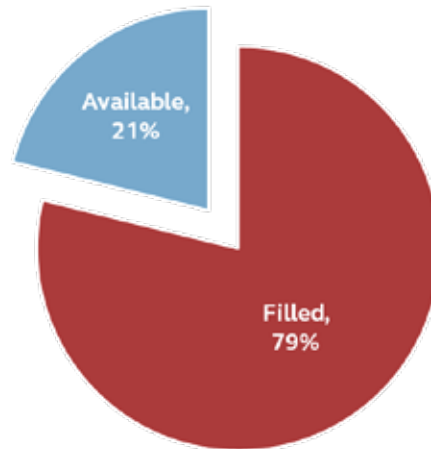
**ESTIMATED GAPS – WHAT ARE THE GAPS BETWEEN NEEDS AND EXISTING PROGRAMS, SERVICES, INFRASTRUCTURE?**

Schools

**Enrollment and Capacity**

During the 2016-2017 school year, the FNSB School District was at 79 percent capacity overall based on total facility capacity, with the ability to absorb up to 3,387 additional students (Figure 19). At a glance, it appears the district should easily absorb the projected 1,204 additional school-age individuals under the age of 17 expected to be in the FNSB by 2030 as a result of the F-35 Beddown and related growth. However, capacity varies for each school, and some of the schools closest to EAFB are already at or near capacity. This includes Salcha Elementary (96 percent capacity), North Pole Elementary (99 percent capacity), Midnight Sun Elementary (89 percent capacity), Tikasuk Brown Elementary (90 percent capacity) and North Pole Middle School (96 percent capacity).

FIGURE 19: FNSB SCHOOL DISTRICT CAPACITY



Source: FNSB School District



FIGURE 20: CAPACITY OF FNSBSD SCHOOLS TO SUPPORT INCOMING YOUTH POPULATION

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Elementary: ages 5-10 (grades K-5)													
A. Projected total student population increase/decrease	17	99	289	592	727	845	940	1,010	1,064	1,052	1,046	1,028	1,008
B. Number of new students likely enrolling in EAFB-area public schools (80% of A)	13	79	231	473	582	676	752	808	851	842	837	822	807
C. Total available capacity, elementary schools (Anderson, Crawford, Midnight Sun, North Pole, Ticasuk Brown, Salcha)	509	509	509	509	509	509	509	509	509	509	509	509	509
Total projected available capacity, EAFB-area elementary schools (C-B)	496	430	278	36	-73	-167	-243	-299	-342	-333	-328	-313	-298
Middle: ages 11-13 (grades 6-8)													
A. Projected total student population increase/decrease	10	52	116	198	241	246	267	264	285	368	443	522	523
B. Number of new students likely enrolling in EAFB-area public schools (80% of A)	8	41	93	158	193	197	214	211	228	294	354	418	418
C. Total available capacity, middle schools (North Pole Middle, Ben Eielson Jr/Sr High)	118	118	118	118	118	118	118	118	118	118	118	118	118
Total available capacity, EAFB-area middle schools (C-B)	109	76	24	-41	-75	-79	-96	-94	-111	-176	-237	-300	-301
High: ages 14-17 (grades 9-12)													
A. Projected total student population increase/decrease	-45	-25	51	140	178	193	193	218	213	227	244	240	339
B. Number of new students likely enrolling in EAFB-area public schools (80% of A)	-36	-20	41	112	142	155	155	174	170	181	195	192	271
C. Total available capacity, high schools (North Pole High, Ben Eielson Jr/Sr High)	397	397	397	397	397	397	397	397	397	397	397	397	397
Total available capacity, EAFB-area high schools (C-B)	434	417	357	285	255	243	243	223	227	216	202	205	127
A. Combined population increase/decrease	-19	126	456	930	1,146	1,284	1,400	1,492	1,562	1,646	1,733	1,791	1,870
B. Number of new students likely enrolling in EAFB-area public schools (80% of A)	-15	101	365	744	916	1,027	1,120	1,193	1,250	1,317	1,386	1,433	1,496
C. Total available capacity, all EAFB-area schools (based on 2016 capacity)	1,024	1,024	1,024	1,024	1,024	1,024	1,024	1,024	1,024	1,024	1,024	1,024	1,024
Total available capacity, all EAFB-area schools (C-B)	1,039	923	659	280	108	-3	-96	-169	-226	-293	-362	-409	-472

## Source and Methodology:

A. Projected total student increase/decrease combines two numbers from the Alaska REMI Model projections; a) 100 percent of F-35 Beddown induced growth for the selected age group, and b) 25 percent of baseline population growth, since enrollment in Eielson-area schools represents approximately 25 percent of total district enrollment.

B. Approximately 80 percent of school-age youth are enrolled in FNSBSD schools; the others are in private/correspondence schools or not attending school.

C. School capacity comes from the FNSBSD and is based on availability to accept additional students during the 2016-2017 school year based on total facility capacity and current enrollment at each school. The calculation assumes 1/3 of Eielson Junior/Senior High capacity is available for middle school and 2/3 for high school.

Figure 20 compares the available capacity of select FNSBSD schools with the projected population increases by age cohort from 2018 to 2025. The capacity numbers are from the 2016-2017 school year and consider the total capacity of each school, minus existing enrollment. The same baseline capacity numbers are used for all projection years. These calculations are not intended to be exact but provide some preliminary insights into the ability of elementary, middle and high schools to absorb additional students.

Overall, schools in the project area have capacity for an additional 1,024 students based on 2016 capacity, with space for 509 at the elementary level, 118 at the middle school level and 397 at the high school level. The estimated student increases take into account F-35 Beddown related growth, baseline population increases/decreases, and percentage of school-age youth who are enrolled in FNSBSD public schools. When comparing capacity with forecasted age group population increases, the high schools in the project area have

sufficient capacity to absorb the increase. However, at the elementary school level, the enrollment projections exceed capacity in year 2022, while the enrollment projections exceed capacity for middle schools starting in year 2021. These calculations assume schools max out at 100 percent capacity, although schools are often able to absorb some additional growth through the use of portable classrooms and other techniques.

In general, on-base schools have more capacity to meet the needs of the incoming population – they are between 54 and 65 percent capacity and have combined space for an additional 665 students before reaching full capacity. This could help alleviate some of the burden on the schools surrounding the base. If families opt to live off-base and enroll their children on-base, they must provide transportation, which may be a challenge for some families depending on deployments, shift hours, etc.

This chapter focuses primarily on the capacity and use of public schools for accommodating the additional increase in the number of school age children associated with the F-35 beddown. However, some parents opt to send their children to private schools and/or homeschool their children. One potential additional resource that could help absorb some of the additional student capacity is a proposed K-8 charter school in North Pole, called Discovery Peak Charter School, which is pending approval by the FNSB Board of Education and the statewide school board. The proposed school would open in fall 2019 and enroll 198 students.<sup>9</sup>

<sup>9</sup> Source: Fairbanks Daily News-Miner. “K-8 Charter School planned for North Pole.” April 19, 2018. Available here: [http://www.newsminer.com/news/local\\_news/k--charter-school-planned-for-north-pole/article\\_659a91ba-42e1-11e8-b8cc-9ffd368b5f1d.html](http://www.newsminer.com/news/local_news/k--charter-school-planned-for-north-pole/article_659a91ba-42e1-11e8-b8cc-9ffd368b5f1d.html)



Photos by FNSB School District



## Bus Transportation<sup>10</sup>

Bus transportation is provided for students who live at least 1.5 miles from the school. About half of total enrollment, or 7,000 students, ride the bus to school. If a family opts to enroll their students in an out-of-attendance area, transportation is not provided, and parents are responsible for bringing their child(ren) to school. Bus transportation is provided through a contract with First Student, a bus transportation company based in Ohio that operates nationwide; the district is in year two of a five-year contract.

In recent years, the school district has been plagued with late buses and unreliable service due to a lack of bus drivers, coinciding with a nationwide shortage of bus drivers. For example, on the first day of the first full week of the 2017-2018 school year, 27 of the district's 137 bus routes – or one in five buses – were late. Parents are dissatisfied with the unpredictability of service and poor communication when buses are running late.

First Student has responded to the shortage using various techniques, including combining routes and bringing drivers from out-of-state, but the lack of reliability remains an issue. The existing number of drivers slimly covers the district's daily routes. When there are problems such as drivers out ill or inclement weather, major delays occur due to a shortage of standby drivers.

According to an overview of current and target staffing provided by the FNSB School District Transportation Coordinator, summarized in Figure 21, there is a total shortage of three drivers, and at least six routes are unfilled. However, there are 14 drivers who are not currently assigned to a route. Some of the unassigned drivers have struggled to provide coverage for unfilled routes because they are unfamiliar with the area and/or winter driving conditions; it is unclear why these drivers have not been assigned to permanent routes. The North Pole area has been hit the hardest, with four open routes.

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<sup>10</sup> Information in this section comes from Fairbanks Daily News-Miner articles published on August 23rd, 2017 and September 3, 2017, plus supplemental information from the FNSB School District Transportation Coordinator.



FIGURE 21: OVERVIEW OF BUSING CHALLENGES AND STAFFING

	Routes	Total Drivers	Composition of Driver Positions
Ideal/target staffing	137	151	137 Regular drivers 14 Standby drivers (target is 10%) 0 Unassigned drivers
Current staffing with condensed routes	129	148	123 Regular drivers 11 Standby drivers 14 Unassigned drivers
Source: FNSB School District Transportation Coordinator			

A series of barriers make it difficult to hire reliable drivers. Extensive employment requirements may limit the ability to hire new drivers include the need to pass a background check, drug test, take a three-week training course and obtain a Commercial Driver's License (CDL). There are other CDL job openings in the area that offer better pay, so bus driving positions are not always competitive. Drivers also need to work well with students and manage behavior on a bus. Finally, absenteeism contributes to staffing challenges, and frequent absences put additional strain on the ability of First Student to adequately fill routes.

While the reliability of school buses is a challenge for students, parents and teachers, fortunately the increased number of F-35 Beddown-related students is unlikely to further exacerbate the situation. Current school bus routes have almost 50 percent additional capacity available for more students, so most of the new students will be absorbed by the existing route map. However, addressing the reliability of bus transportation will be critical to ensure incoming students are able to get to school on time and to maintain satisfaction levels for Air Force and local resident families alike.

## Course Offerings and Extracurricular Programs

Eielson parents who participated in a set of focus groups indicate they are generally satisfied with the community's elementary schools, but have mixed opinions on the local middle and high schools. According to focus group parents, the secondary schools are large and have limited class offerings, especially for higher performing students. For example, North Pole High School does not offer Advanced Placement (AP) courses or a robotics team and has limited foreign language class offerings.

Families who participated in focus groups say they appreciate the benefits and resources associated with the military support grants, including the technology purchases and the additional counseling options. However, parents acknowledge many of the teachers lack military affiliation and could use additional military-specific training, especially for dealing with behavioral challenges.

Parents also expressed frustration with limited before and after school options at some schools such as Salcha Elementary and North Pole Elementary. This can be a challenge for working parents who struggle to find child care during the gaps between work hours and school hours.



## Timing of Student Arrivals

In an ideal setting, the FNSB School District knows by mid-spring the estimated enrollment numbers for each school for the upcoming fall so they have sufficient time to adjust district boundaries, staffing distribution, bus routes, class lists and other variables to most efficiently and effectively distribute students and resources. However, military families sometimes transition mid-year and/or may not have sufficient time to enroll their students until close to or at the start of the school year. This creates challenges for administrators who need to accommodate last-minute additions.

## Transitioning from Other Districts

A group of Eielson-connected parents offered a summary of education suggestions and concerns during a focus group in October 2017. Parents expressed some frustration with testing for different programs, including the extended learning program (ELP) for gifted and talented students, which required students to re-test after arriving in Alaska even if they had previously tested in another state. Some parents also shared they feel some of the Alaska performance standards are lower than districts from other station locations, and have concerns about their children falling behind and struggling to catch up after a move to another district with different standards.

## Supporting Military Families in Off-Base Schools

Military families who opt to live and enroll children off-base experience a variety of hurdles to staying involved on-base. According to focus group participants, many military family events that occur at the chapel and youth center on-base happen immediately after the on-base school day ends,

which is an hour before students at off-base schools are released (excluding travel time to the base). This makes it difficult for military families with children enrolled off-base to participate in these family activities.

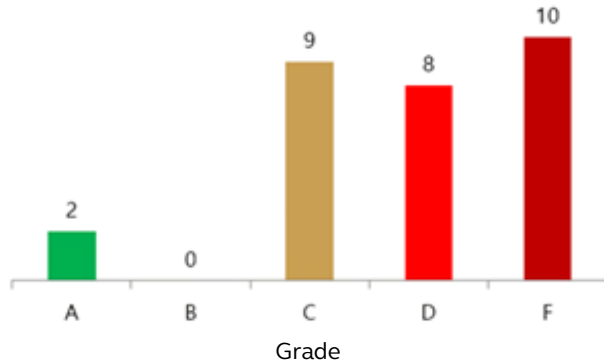
According to Eielson focus group participants, parent engagement at off-base schools is low. Teachers, students and parents could benefit from increased volunteering from military families; schools and Parent-Teacher Associations (PTAs) may want to explore ways to make schools more welcoming and inviting for military parents to engage and participate in school activities.

## CHILD CARE

### Shortage of Child Care Providers

Conversations with stakeholders throughout FNSB indicate a lack of affordable child care for families with young children. Eielson families were asked about their level of satisfaction with access to child care during a series of project focus groups (results are in Figure 23). Out of a group of 29 EAFB participants, all but two respondents ranked their level of satisfaction with access to child care as a grade C or lower; the option with the highest selections was grade F. According to the nonprofit Thread, quality and affordable care for infants and school age children is in especially high demand. Infants are more time intensive to care for and are associated with stricter regulatory requirements, which likely contributes to the shortage. Parents of school age children are often only looking for a few hours of supplemental care (e.g., after school), which can be hard for providers to accommodate since they prefer all-day arrangements with families.

**FIGURE 22: EIELSON HOUSEHOLD FOCUS GROUP RESULTS IN RESPONSE TO THE PROMPT, “GRADE YOUR LEVEL OF SATISFACTION WITH ACCESS TO CHILD CARE”**



The on-base Child Development Center (CDC) is primarily staffed by military dependents who rotate locations every two to three years. This results in high turnover at the CDC, which causes periodic staffing shortages and reduced capacity to offer care for Air Force families. This issue is exacerbated by the slow application process for bringing on new staff, which includes a background check that can delay the hiring process for months.

The challenge of unmet child care is not unique to EAFB. According to Blue Star Families’ 2017 Military Family Lifestyle Survey, 67 percent of

military family respondents indicated they are not always able to obtain the child care they need. Survey results also indicate these child care challenges impact women more than men: for example, 67 percent of female service members reported they could not find child care that works with their schedules compared to only 33 percent of male service members.

## National Accreditation Standards

Stringent national accreditation standards are another barrier that limit Air Force families’ access to child care. When the on-base child care center reaches capacity, the Air Force has a fee assistance program to help offset costs for Air Force families who opt to use an off-base provider as an alternative. However, the provider eligibility requirements for the fee assistance are stricter than Alaska’s licensing requirements. Achieving the national accreditation is expensive and there are very few, if any, resources for providers to access the needed training in Alaska. As a result, the fee assistance is essentially unusable for Eielson households seeking off-base child care.

# EDUCATION AND CHILD CARE STRATEGIES – WHAT ARE OUR RECOMMENDED SOLUTIONS FOR MEETING ANTICIPATED GAPS?

## Education

E1. Improve information-sharing between the Air Force and the FNSBSD around arrival and demographics of families with school-aged children.

This will allow the school district to be more proactive rather than reactive when planning for new student arrivals. Today, parents typically wait to register their children in school until after they have identified a housing location, which often results in last minute registrations that create a challenge for school administrators and impact budget estimates. To help the school district prepare for incoming students, the Air Force should communicate the estimated timing of arrival and number of students by grade levels for incoming households, so at a minimum the District has an estimate of the number of new Air Force students and can begin preparations in advance of student registration at a regional level.

“ The FNSBSD has a new software system called VersaTrans, which includes school locations and zoning boundaries. We can move boundaries around and run what-if scenarios to see how boundary changes impact enrollment numbers at different schools. ”

-FNSBSD Administrator

E2. Continue to encourage EAFB families to enroll their children in on-base schools, even if living off-base.

- a. Fill on-base schools that have additional capacity.
- b. Decrease pressure on off-base schools that are at or very near capacity.
- c. Consider streamlining this process, such as changing the Out of Attendance Area waiver requirement so it only needs to be filled out once instead of annually, and explore ways to coordinate transportation for off-base military families with children enrolled on-base. (See Fiscal Impacts chapter for additional related strategies).

E3. Explore options for elementary and middle schools that are anticipated to reach maximum capacity, especially in the Greater North Pole and Salcha areas.

- a. Utilize the FNSB School District’s new technology to reevaluate school boundaries and make updates to accommodate changing distribution and enrollment patterns. This will be especially important as new housing developments are constructed in and around North Pole, where many schools are already at or near capacity.

- b. Consider techniques such as the addition of portable classrooms to support schools that are over capacity.
- c. As necessary, and after having exercised other options, evaluate need and feasibility of constructing an additional elementary or middle school in the Greater North Pole area (99705).

E4. Support implementation of existing military grants and explore additional funding opportunities.

E5. Encourage the State of Alaska to maintain or increase existing levels of funding, including the Base Student Allocation formula.

E6. Streamline the approval process for military-connected students transferring from other states for programs.

E7. Modify schedules for on-base family events and activities at the chapel, youth center and other locations to make it easier for military families with children enrolled in off-base schools to participate in programs.

E8. Encourage off-base schools and parent-teacher associations (PTAs) with high military-connected student enrollment to expand outreach and education to better engage military families.

E9. Continue to encourage the bus contractor First Student to improve the reliability of bus transportation.

E10. Offer before and after child care programming and/or child care at all local elementary schools.

- a. Off-base schools typically release students about an hour after on-base schools and need time to travel to on-base activities.



## Child Care

E11. Work with the Air Force to waive part of the national accreditation requirements so licensed Alaska providers are eligible for Air Force Child Care Fee Assistance.

E12. Conduct marketing efforts to ensure local child care providers know about the opportunities, training needs and requirements associated with the F-35 Beddown.

E13. Expand workforce recruitment to encourage residents and incoming dependents to get trained and licensed as child care providers.

- a. Increase advertising and outreach regarding existing training opportunities.
- b. Consider scholarships or incentives for pursuing a degree or career in child care, such as loan forgiveness programs for those who work in the field for a minimum period of time.
- c. Continue to build collaborative partnerships with workforce development programs, trade schools and universities to increase access to training opportunities.
- d. Identify ways to reduce the time for the approval and certification process for hiring new staff at the Eielson Child Development Center.

E14. Continue to implement Alaska's Quality Recognition and Improvement System (QRIS) program.

- a. Develop additional training levels and encouraging provider participation.

E15. Increase communication and collaboration between EAFB Child and Youth Services programs with community and state child care organizations to increase utilization of community resources.

“ Some of our staff recently attended a Thread training session and it was fabulous. We should do more collaboration with them. ”

-EAFB Child and Youth Services  
Interviewee



## Workforce Development

## KEY TAKEAWAYS

- The F-35 beddown is expected to create an estimated 4,215 additional jobs relative to the baseline by year 2022, tapering off to 3,358 additional jobs relative to the baseline by 2030. This job growth will be phased over multiple years.
- An estimated 1,474 jobs, or one-third of total job gains will be from active duty and civilian employment at EAFB; the remaining non-military related jobs are forecasted increases in construction (563 jobs), business and household services (477 jobs), retail/wholesale trade (477 jobs) and other categories during the peak of F-35 Beddown-related employment in 2022. Construction employment peaks earlier than overall employment, with 922 additional jobs relative to the baseline in 2019.
- The FNSB workforce must be prepared to fill the increase in new non-military jobs. Targeted and accessible workforce development programs and policies will play an important role in recruiting and training residents and military spouses for these jobs. Partners such as the University of Alaska Fairbanks Community and Technical College (CTC), the Fairbanks Job Center, and the Fairbanks North Star Borough School District's Career and Technical Education Program all have adaptable and community-focused training programs. Building on these existing programs to meet incoming needs will be critical.
- An estimated 535 non-military spouses will be accompanying active duty members to EAFB. Many of these individuals will be seeking local employment. The community, the Air Force and the State of Alaska can reduce barriers to military spouse employment through better information sharing, expanding access to affordable child care and removing occupational licensing barriers.
- Military bases are made up of transient households. While there will be a short-term increase in demand for workforce training and employment needs for EAFB dependents, this demand will not go away after the F-35 force increase. To be a military-friendly community, FNSB should put in place long-term sustainable tools for working with the Air Force to proactively assess and address needs to support incoming dependents, including conducting employment-related outreach to families prior to their arrival.





Credit: Fairbanks North Star Borough

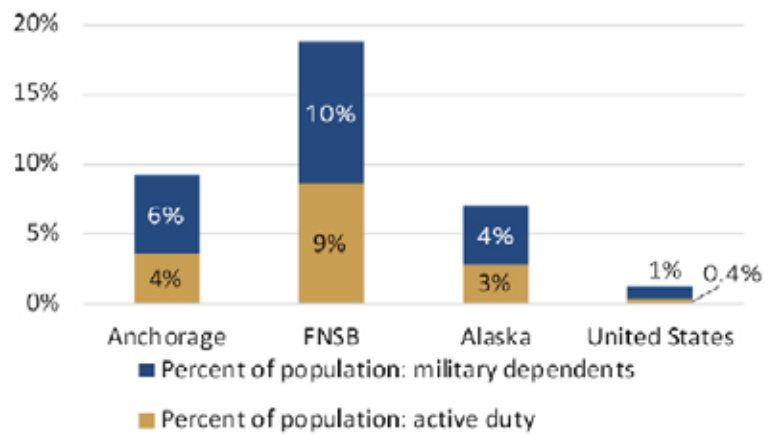


The Fairbanks North Star Borough (FNSB) has one of the highest concentrations of active duty military personnel in Alaska. According to the Alaska Department of Labor and Workforce Development (DOLWD), approximately nine percent of FNSB residents are active duty and another ten percent are dependents (See Figure 1). Military households in the FNSB generate economic activity, and dependents contribute to a significant portion of the regional workforce.

EAFB active duty members and dependents make up about one-quarter of the military population in the FNSB. There are currently 1,813 EAFB active duty and 3,535 EAFB dependents in the FNSB (Figure 2).<sup>1</sup> EAFB is a key driver of the region’s economy; according to a 2010 publication from the Fairbanks Economic Development Corporation, EAFB generates \$1.5 billion in annual revenue for the local economy, equivalent to ten percent of total annual revenue in the FNSB.

<sup>2</sup> From U.S. Department of Defense (DoD) Alaskan Command (ALCOM), as reported in the fall 2017 issue of the FNSB Community Research Quarterly

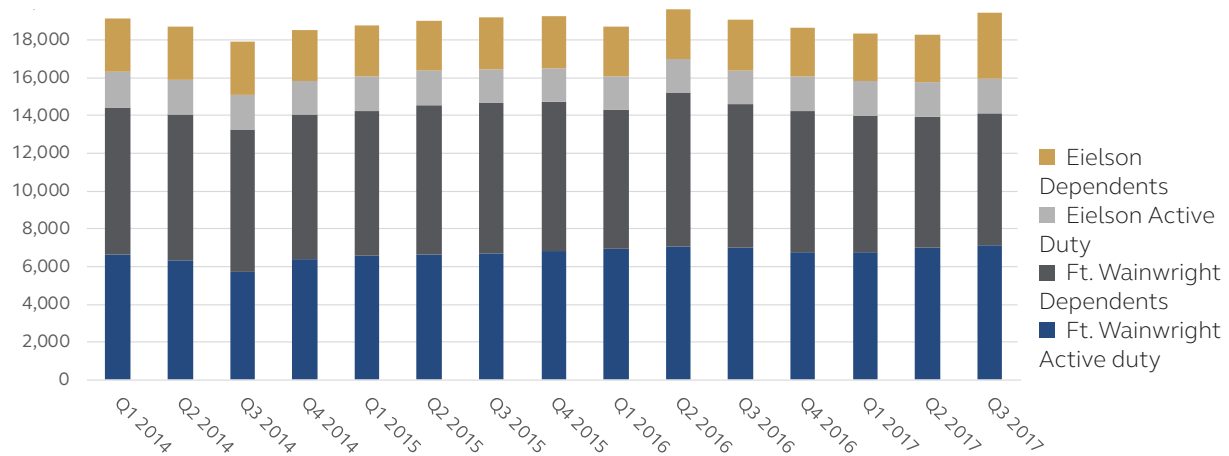
FIGURE 1: ACTIVE DUTY AND MILITARY DEPENDENT POPULATION



Source: Alaska Dept. of Labor & Workforce Development, Research & Analysis Section: Alaska Population Overview, 2016 Estimates; U.S. Estimates from U.S. Department of Defense 2016 Demographic Profile of the Military Community



**FIGURE 2: POPULATION ON EAFB AND FT. WAINWRIGHT, 2014-2017**



Source: FTWW Plans, Analysis & Integration Office (PAIO) & ALCOM, Alaskan Command, 2014-2017; ALCOM, Alaskan Command & 2013-2016; as reported in the Fall 2017 issue of the FNSB Community Research Quarterly

The F-35 beddown will generate new economic opportunities for FNSB. It will directly create demand for business and jobs through construction contracts to complete on-base expansion projects. It will also create indirect growth: anticipated increases in population will generate demand for more businesses and services, creating a need for more jobs across industry sectors. This chapter includes job creation estimates broken out by

industry sector and occupation, description of existing employment and workforce development, and an analysis of FNSB’s ability to meet the new job demand. It summarizes job projections, highlights potential gaps, and identifies preliminary opportunities to help connect residents with existing and expanding employment needs. The chapter also highlights the demand for and gaps to military spouse employment.

Credit: Todd Paris/University of Alaska Fairbanks – Community and Technical College



## Methodology and Data Sources

The narrative in this section synthesizes quantitative and qualitative research from a range of federal, state and local sources; key resources are summarized below. The secondary data sources in particular each have their own methodology, time periods, definitions and focus; when patched together, they help tell the story of the FNSB workforce.

- Northern Economics' **Alaska REMI model**: this tool develops local population and employment forecasts based on historic, current and projected trends from national government sources such as the U.S. Bureau of Labor Statistics (BLS), U.S. Bureau of Economic Analysis (BEA), and U.S. Census data. For additional information on the methodology and inputs into the Alaska REMI model, please refer to the Growth Projections Focus Area.
- In October 2017, **five focus groups** were conducted with current EAFB families, with a combined total of 38 participants. Focus group participants shared insights on their experience and perspectives moving to and living in the FNSB, highlighted key gaps and offered recommendations to better support military families. While these focus groups provided detailed information about perceptions and opinions that are difficult to collect using other research tools, they are not meant to be representative of all EAFB personnel and their families.
- Input from interviews and a November 2017 strategy session with **regional workforce development specialists and representatives**.
- The FNSB Community Planning Department publishes the **FNSB Community Research Quarterly** four times each year, with a summary of relevant socio-economic data for the FNSB. Each issue includes a series of economic indicators such as airport passenger and freight volume, employment data, housing information, cost of living and other key indicators, collected from a variety of sources.
- The **State of Alaska Department of Labor and Workforce Development (DOLWD), Section of Research and Analysis** publishes a range of population, wage, employer and workforce characteristics data. Much of the workforce data came from unemployment insurance and therefore excludes federal workers (including military) and the self-employed. The department also releases monthly Economic Trends reports that explore different labor and workforce topics in depth.



Credit: Fairbanks North Star Borough



- **Blue Star Families** and the **Defense Manpower Data Center** publishes statistically-valid surveys on active duty military members and their families that offer insights into key concerns, challenges and priorities of U.S. military households.
- The **U.S. Census Bureau** collects and publishes extensive information at the state, county and community scale. The Census Bureau's American Community Survey offers income and employment data, and estimates population data during the years between the decennial Census (last conducted in 2010). The Census Bureau also acts as a clearinghouse for many other data sources used in this chapter. This includes Nonemployer Statistics, which offers a snapshot of self-employment by providing data on establishments and earnings for businesses with no employees.
- The **U.S. Department of Labor's Quarterly Census of Employment and Wages** program publishes a quarterly count of employment and wages, based on state unemployment insurance data and classified by industry. The data excludes military employment.
- The University of Minnesota published a nationwide study in November 2017 titled "**Military Spouse Licensure Portability Examination**," which examines military-specific occupational licensing policies in each state. This report includes a review of Alaska-specific policies and associated recommendations.



Credit: Fairbanks North Star Borough

## PROJECTED NEED

### Anticipated Job Creation

Alaska REMI model projections indicate the FNSB will see a 5.4 percent increase over baseline population over the coming years, for an estimated increase of 5,671 additional residents in FNSB by 2030. This brings the projected total population to 110,879 by year 2030. There are two primary factors driving this increase, summarized below and available in table form (Figure 3) and graphic form (Figure 4). For more details on anticipated increases, baseline projections and methodology, see Growth Projections Focus Area.

- An estimated direct increase of 3,256 active duty personnel, civilians, consultants and dependents by the year 2022 arriving through the F-35 beddown.
- Indirect and induced population growth of 2,415 by the year 2030, relative to the baseline. Indirect and induced population growth occurs as new money is spent, jobs are added, and the economy grows and re-spends in response to the activity from the F-35 beddown. As the economy grows, natural growth (births exceeding deaths) and in-migration occur at a higher rate than out-migration (people moving away from FNSB) simultaneously occurring, resulting in a higher retention rate of residents.

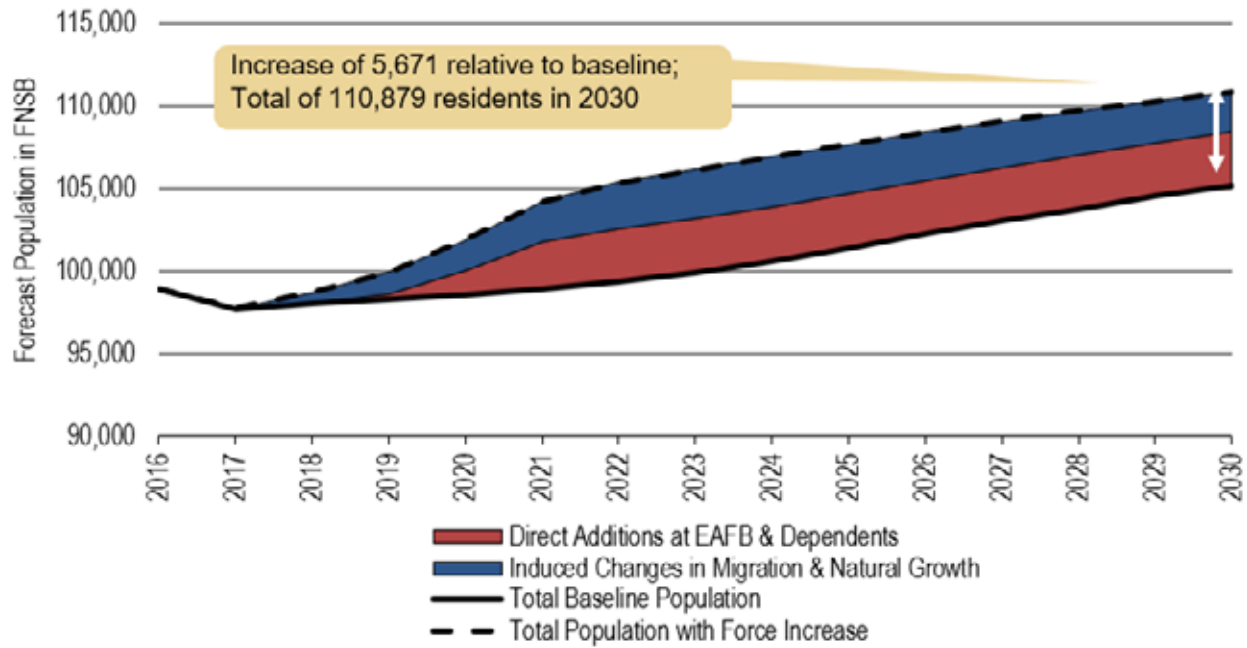
FIGURE 3: BREAKDOWN OF FNSB POPULATION INCREASES

Component of Population Change	Estimated Increase	Timing
<b>Direct EAFB Employees and Dependents</b> (broken out below)	+ 3,256	By 2022
<i>active duty personnel</i>	1,353	Start to arrive in 2017
<i>federal civilian employees</i>	66	
<i>technical consultants</i>	55	
<i>dependents of direct employees</i>	1,782	
<b>“Induced” and Natural Growth</b>	+ 2,415	By 2030
<b>TOTAL</b>	<b>= 5,671 additional/retained residents</b>	<b>By 2030</b>

Source: Northern Economics; Alaska REMI Model



FIGURE 4: PRELIMINARY FNSB POPULATION PROJECTIONS

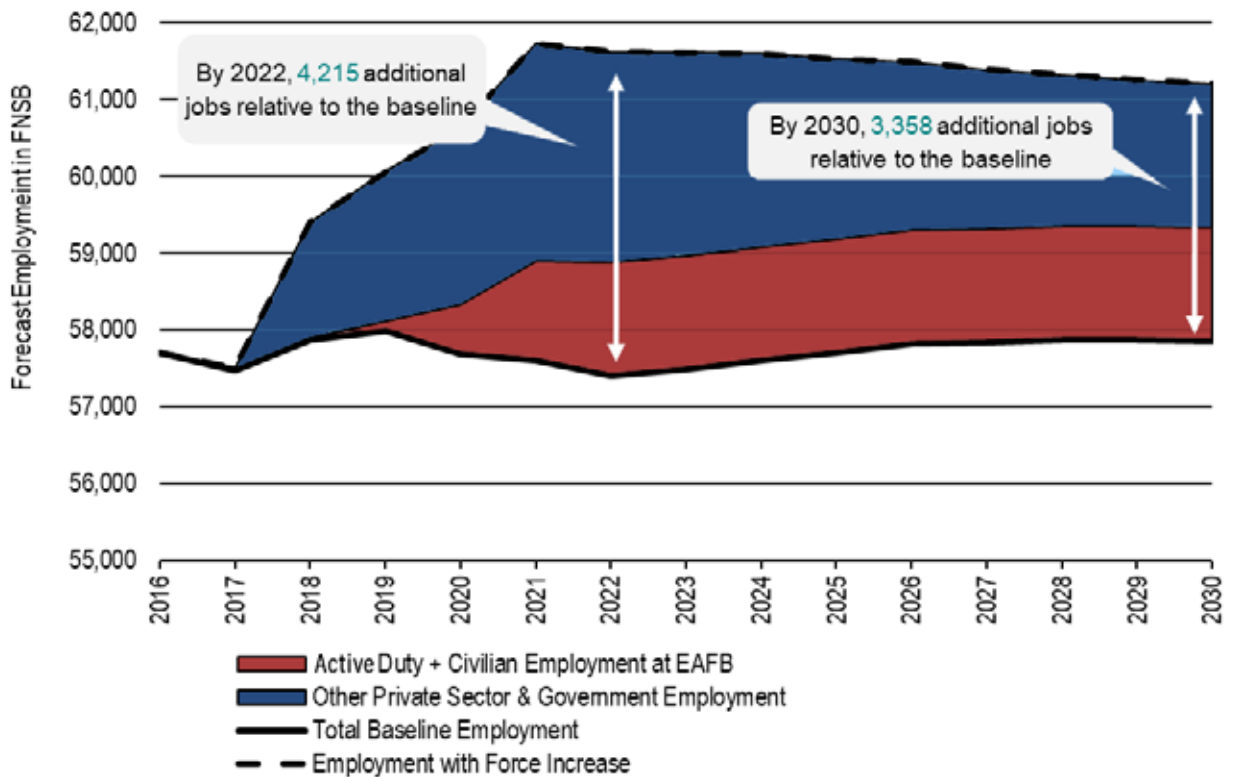


Source: Northern Economics; Alaska REMI Model

The Alaska REMI model F-35 baseline employment projections for FNSB forecast a decline in employment. This decline is due to the state’s ongoing economic challenges and the outmigration of working-age residents away from FNSB. The F-35 beddown is expected to create an estimated 4,215 additional jobs relative to the baseline by year 2022, which will slightly decline to 3,358 additional jobs above baseline levels by 2030 (see Figure 5). Construction jobs peak in 2019 and overall jobs peak in 2022 with the full force increase at EAFB, with decreased intensity moving out toward 2030.

The employment projections in this plan compare baseline employment with new activity resulting from the F-35 beddown; they are not intended to be comprehensive predictions of the FNSB economy. The Limitations and Exclusions discussion at the end of the Growth Projections chapter summarize other relevant trends and potential projects that could impact future population and employment numbers in the FNSB.

**FIGURE 5: PRELIMINARY EMPLOYMENT PROJECTIONS FOR F-35 BEDDOWN OPERATIONS AT EAFB**



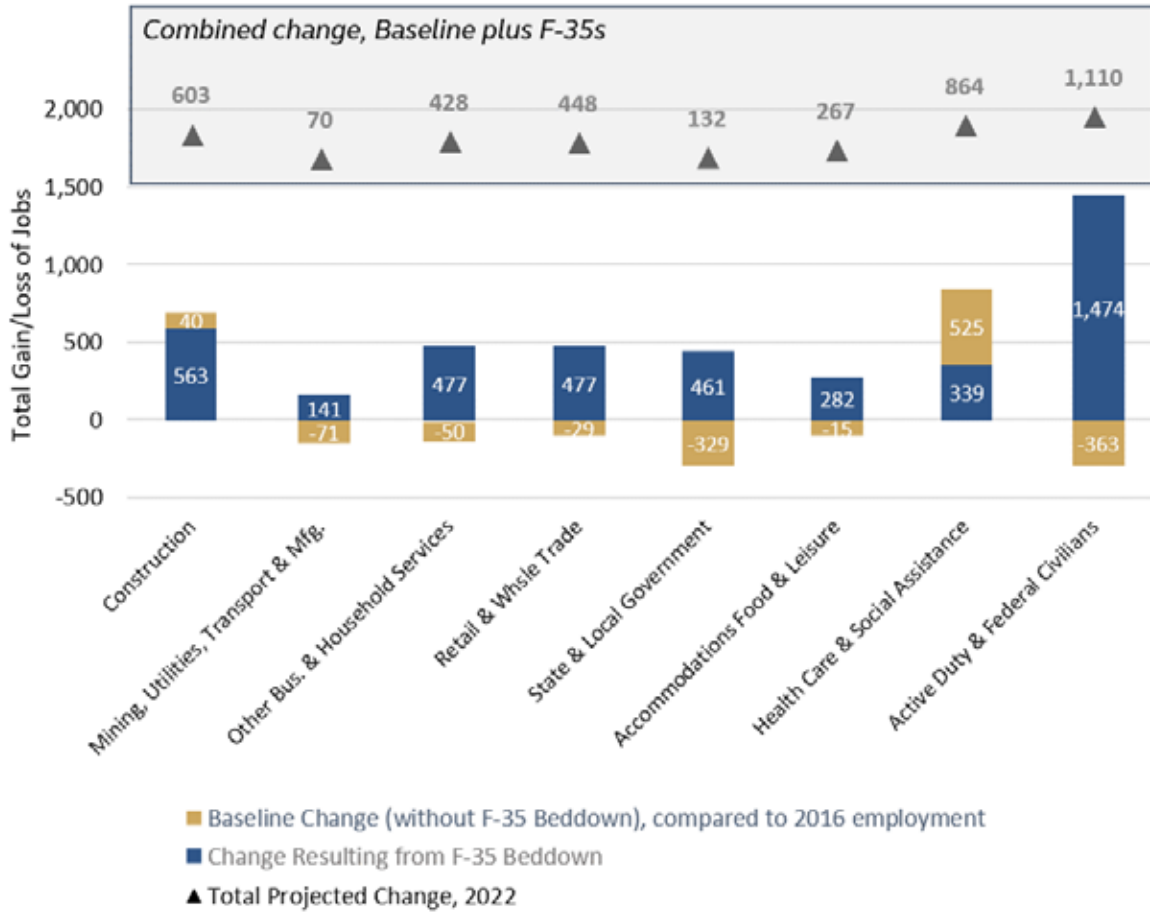
Note: “Civilian Employment” includes federal civilian employees and technical consultants working at EAFB.  
 Source: Northern Economics; Alaska REMI Model

As shown in Figure 5, approximately one-third of F-35 related gains will be from active duty and civilian employment at EAFB; the remaining are from other private sector and government employment changes. These projections consider both baseline employment projections plus new growth from the F-35 beddown. In some industries, F-35 related growth balances a forecasted decline in baseline employment.

Figure 6: FNSB Projected Change in Employment by Industry: 2022, Peak of F-35-Related Growth shows a breakdown of the projected change in employment in year 2022, the peak of F-35-related growth. The gold bars show the estimated change in the baseline number of jobs for each industry compared with 2016 numbers; the blue bars show the estimated number of new jobs created as a

result of the F-35 beddown within each industry category. The grey bar at the top highlights the combined change for each industry; in some cases, such as the state and local government category, the F-35-related growth projection of 4,614 new jobs nearly balances the baseline employment losses of 329 lost jobs for a total increase of 32 jobs; in other categories such as health care and social assistance, both the baseline and the F-35 projections forecast industry sector growth for a combined 864 new jobs. While overall F-35 related employment growth peaks in 2022, the construction sector peaks earlier, with a high of 922 additional jobs in 2019.

FIGURE 6: FNSB PROJECTED CHANGE IN EMPLOYMENT BY INDUSTRY: 2022, PEAK OF F-35-RELATED GROWTH



Source: Agnew::Beck Consulting with data from Northern Economics; Alaska REMI Model

A detailed breakdown of the projected FNSB baseline, and F-35 beddown employment impacts by sector from 2016 to 2030 is laid out in Figure 7, and illustrated in Figure 8.

Figures 7 and 8 also provide total employment in the FNSB with F-35 beddown impacts included. For example, without the existence of F-35 beddown, the health care and social assistance sector in the FNSB is projected to employ 6,720

people by 2030 (under “Baseline Employment”). The F-35 beddown is projected to add 330 additional direct, indirect, and induced health care and social assistance employees to the FNSB by 2030 (under “F-35 Employment Impacts Relative to the Baseline”). The total health care and social assistance employment, with new additions from F-35 beddown, is expected to be 7,050 by 2030 (under “Baseline + F-35 Employment”).



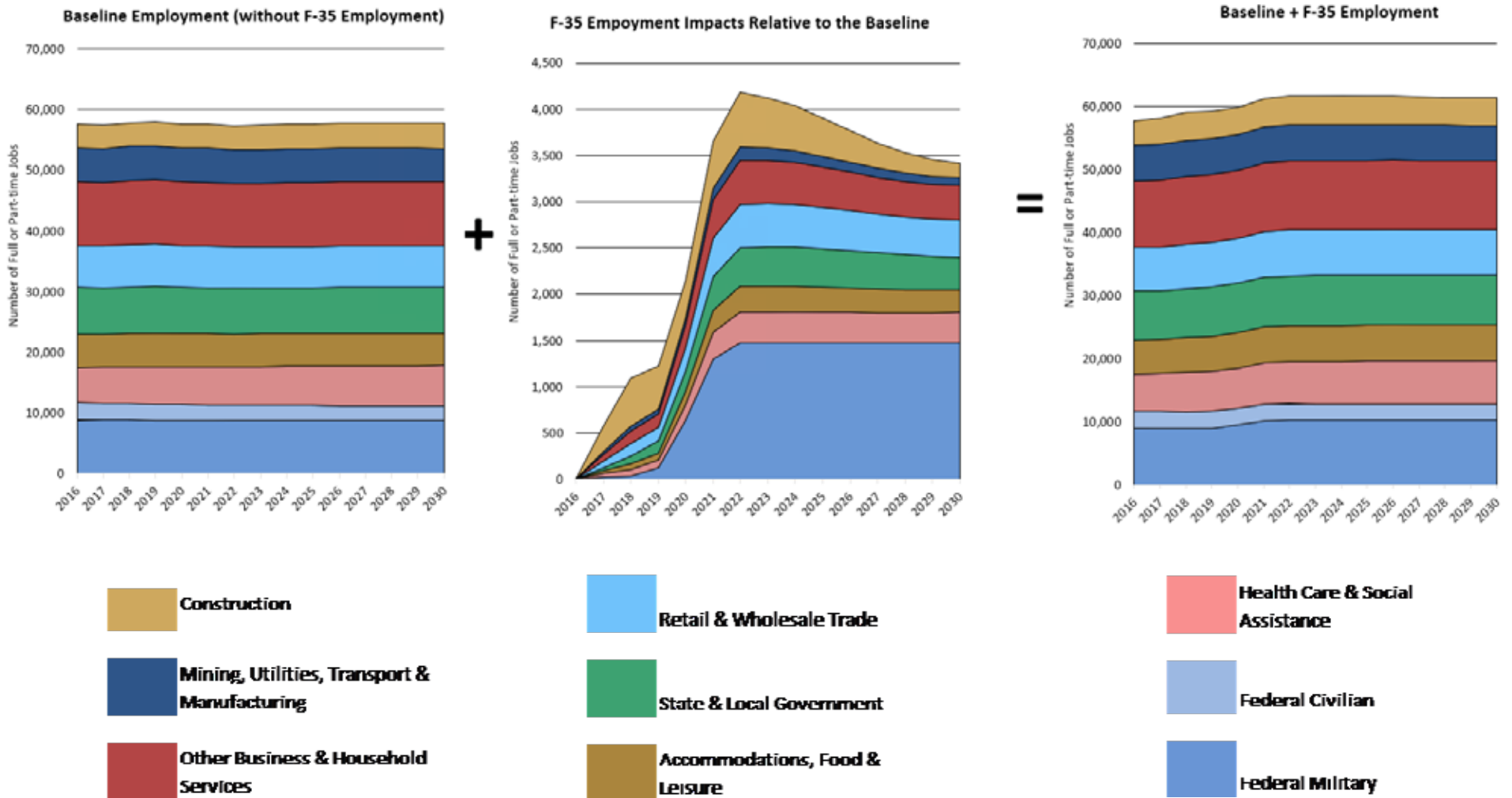
Credit: Fairbanks North Star Borough



FIGURE 7: PROJECTED EMPLOYMENT INCREASES BY SECTOR AND YEAR FROM BASELINE

Employment Sector	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Baseline Employment</b>															
Construction	3,944	3,864	3,917	3,934	3,933	3,963	3,984	4,030	4,098	4,155	4,183	4,211	4,233	4,243	4,249
Mining, Utilities, Transport & Manufacturing	5,618	5,600	5,617	5,601	5,577	5,576	5,547	5,547	5,550	5,541	5,533	5,526	5,521	5,505	5,489
Other Business & Household Services	10,546	10,509	10,604	10,629	10,565	10,542	10,496	10,507	10,524	10,523	10,527	10,512	10,499	10,479	10,456
Retail & Wholesale Trade	6,814	6,842	6,910	6,923	6,863	6,831	6,785	6,782	6,780	6,796	6,818	6,822	6,825	6,824	6,819
State & Local Government	7,811	7,673	7,676	7,678	7,594	7,537	7,481	7,478	7,483	7,498	7,523	7,534	7,551	7,569	7,595
Accommodations, Food & Leisure	5,443	5,443	5,505	5,532	5,489	5,463	5,427	5,424	5,420	5,412	5,412	5,396	5,378	5,358	5,335
Health Care & Social Assistance	5,820	5,920	6,091	6,216	6,257	6,311	6,345	6,408	6,461	6,515	6,579	6,620	6,657	6,692	6,720
Federal Civilian	2,875	2,785	2,716	2,641	2,590	2,554	2,512	2,480	2,459	2,439	2,415	2,397	2,385	2,372	2,361
Federal Military	8,830	8,830	8,830	8,830	8,830	8,830	8,830	8,830	8,830	8,830	8,830	8,830	8,830	8,830	8,830
<b>Total Baseline Employment</b>	<b>57,701</b>	<b>57,466</b>	<b>57,867</b>	<b>57,984</b>	<b>57,698</b>	<b>57,607</b>	<b>57,409</b>	<b>57,486</b>	<b>57,606</b>	<b>57,708</b>	<b>57,821</b>	<b>57,847</b>	<b>57,879</b>	<b>57,874</b>	<b>57,854</b>
<b>Annual Change in Baseline Employment (Jobs)</b>		<b>-235</b>	<b>401</b>	<b>117</b>	<b>-286</b>	<b>-91</b>	<b>-198</b>	<b>77</b>	<b>119</b>	<b>103</b>	<b>113</b>	<b>25</b>	<b>32</b>	<b>-5</b>	<b>-19</b>
<b>Annual Change in Baseline Employment (%)</b>		<b>-0.4%</b>	<b>0.7%</b>	<b>0.2%</b>	<b>-0.5%</b>	<b>-0.2%</b>	<b>-0.3%</b>	<b>0.1%</b>	<b>0.2%</b>	<b>0.2%</b>	<b>0.2%</b>	<b>0.0%</b>	<b>0.1%</b>	<b>0.0%</b>	<b>0.0%</b>
<b>F-35 Employment Impacts Relative to the Baseline</b>															
Construction	0	5	778	922	790	708	563	518	445	362	286	223	177	146	130
Mining, Utilities, Transport & Manufacturing	0	2	68	88	109	143	141	132	120	108	98	90	84	81	79
Other Business & Household Services	0	5	186	249	343	473	477	466	446	422	401	384	372	366	364
Retail & Wholesale Trade	0	5	181	243	337	468	477	471	456	440	425	411	402	397	395
State & Local Government	0	4	97	185	308	438	461	455	442	424	405	386	369	356	347
Accommodations, Food & Leisure	0	3	86	122	187	272	282	280	275	266	259	252	247	243	241
Health Care & Social Assistance	0	3	110	152	225	326	339	341	337	331	327	323	323	324	328
Federal Civilians + Federal Military at EAFB	0	20	30	125	638	1,298	1,474	1,474	1,474	1,474	1,474	1,474	1,474	1,474	1,474
<b>F-35 Impacts Relative to the Baseline</b>	<b>0</b>	<b>48</b>	<b>1,537</b>	<b>2,085</b>	<b>2,937</b>	<b>4,126</b>	<b>4,215</b>	<b>4,136</b>	<b>3,994</b>	<b>3,826</b>	<b>3,675</b>	<b>3,543</b>	<b>3,447</b>	<b>3,387</b>	<b>3,358</b>
<b>Baseline + F-35 Employment</b>															
Construction	3,944	3,869	4,695	4,856	4,724	4,670	4,547	4,548	4,543	4,517	4,469	4,433	4,410	4,390	4,379
Mining, Utilities, Transport & Manufacturing	5,618	5,602	5,685	5,689	5,686	5,718	5,688	5,679	5,670	5,649	5,631	5,616	5,605	5,585	5,567
Other Business & Household Services	10,546	10,514	10,790	10,878	10,908	11,015	10,974	10,973	10,969	10,945	10,929	10,896	10,871	10,846	10,821
Retail & Wholesale Trade	6,814	6,847	7,091	7,166	7,201	7,299	7,263	7,253	7,236	7,235	7,243	7,233	7,227	7,221	7,215
State & Local Government	7,811	7,677	7,773	7,863	7,903	7,975	7,943	7,933	7,925	7,922	7,929	7,920	7,920	7,926	7,942
Accommodations, Food & Leisure	5,443	5,446	5,592	5,654	5,676	5,735	5,710	5,704	5,694	5,678	5,672	5,648	5,625	5,602	5,576
Health Care & Social Assistance	5,820	5,923	6,201	6,368	6,481	6,638	6,685	6,749	6,798	6,846	6,906	6,943	6,980	7,016	7,049
Federal Civilian	2,875	2,787	2,719	2,646	2,617	2,612	2,578	2,546	2,525	2,505	2,481	2,463	2,451	2,438	2,427
Federal Military	8,830	8,850	8,860	8,955	9,467	10,128	10,304	10,304	10,304	10,304	10,304	10,304	10,304	10,304	10,304
<b>Total employment Baseline + F-35 Impacts</b>	<b>57,701</b>	<b>57,514</b>	<b>59,403</b>	<b>60,069</b>	<b>60,635</b>	<b>61,733</b>	<b>61,624</b>	<b>61,622</b>	<b>61,599</b>	<b>61,535</b>	<b>61,496</b>	<b>61,390</b>	<b>61,326</b>	<b>61,261</b>	<b>61,212</b>
<b>Annual Change in Baseline + F-35 Employment (Jobs)</b>		<b>-187</b>	<b>1,890</b>	<b>665</b>	<b>567</b>	<b>1,097</b>	<b>-109</b>	<b>-1</b>	<b>-23</b>	<b>-64</b>	<b>-38</b>	<b>-107</b>	<b>-63</b>	<b>-65</b>	<b>-49</b>
<b>Annual Change in Baseline + F-35 Employment (%)</b>		<b>-0.3%</b>	<b>3.2%</b>	<b>1.1%</b>	<b>0.9%</b>	<b>1.8%</b>	<b>-0.2%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>-0.1%</b>	<b>-0.1%</b>	<b>-0.2%</b>	<b>-0.1%</b>	<b>-0.1%</b>	<b>-0.1%</b>

FIGURE 8: PROJECTED EMPLOYMENT INCREASES BY SECTOR AND YEAR FROM BASELINE



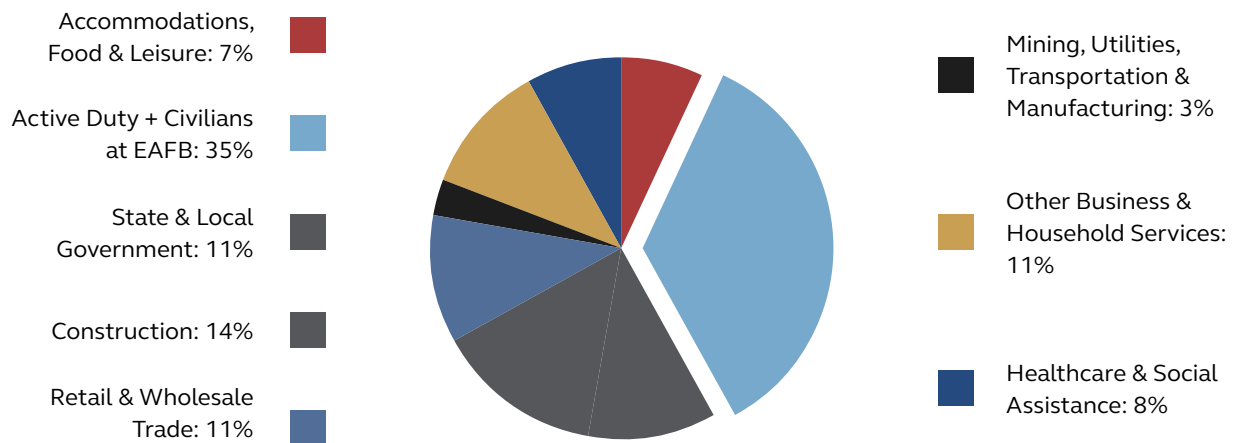
For certain industries and projects, a proportion of new jobs will likely be filled by residents outside of the FNSB. Non-FNSB resident jobs are not included in the FNSB-specific projections in the charts and tables in this chapter. For example, the Alaska REMI model estimates that for military construction projects at remote locations such as Clear Air Force Base, only 25 percent of estimated new construction employment positions will be filled by FNSB residents; the other 75 percent are likely to be filled by non-local contractors and are not factored into the REMI projections for FNSB.

The biggest non-military job gains will occur in the construction industry, with a high of 922 jobs in 2019. Most of the construction jobs are due to increases in on-base EAFB expansion construction plans, although the forecasts also factor in military-related construction projects on Fort Wainwright, Fort Greely and Clear Air Force Station. While construction employment peaks in 2019, overall F-35 Beddown-related employment peaks in 2022. The composition of new jobs by industry in 2022 is shown as a pie graph in Figure 9. Construction

is expected to be the largest non-military industry, with 563 new jobs in year 2022 (14 percent of all new jobs). An additional 33 percent of the gains are shared evenly across three sectors: retail and wholesale trade (477 jobs or 11 percent); state and local government (461 new jobs or 11 percent); and other business and household services (477 new jobs or 11 percent).

The military and construction increases are directly related to the F-35 beddown; growth in other sectors is primarily driven by increased demand for goods and services due to the overall population increase in the region. Growth in the “state and local government” category is almost all local government, which includes administrative support, the school district (including teachers) and public safety. The “other business and professional services” category includes financial, professional and information services, real estate, insurance and other administrative services, except for public administration captured in the government category.

**FIGURE 9: DISTRIBUTION OF ESTIMATED NEW NON-MILITARY JOBS BY INDUSTRY, 2022**

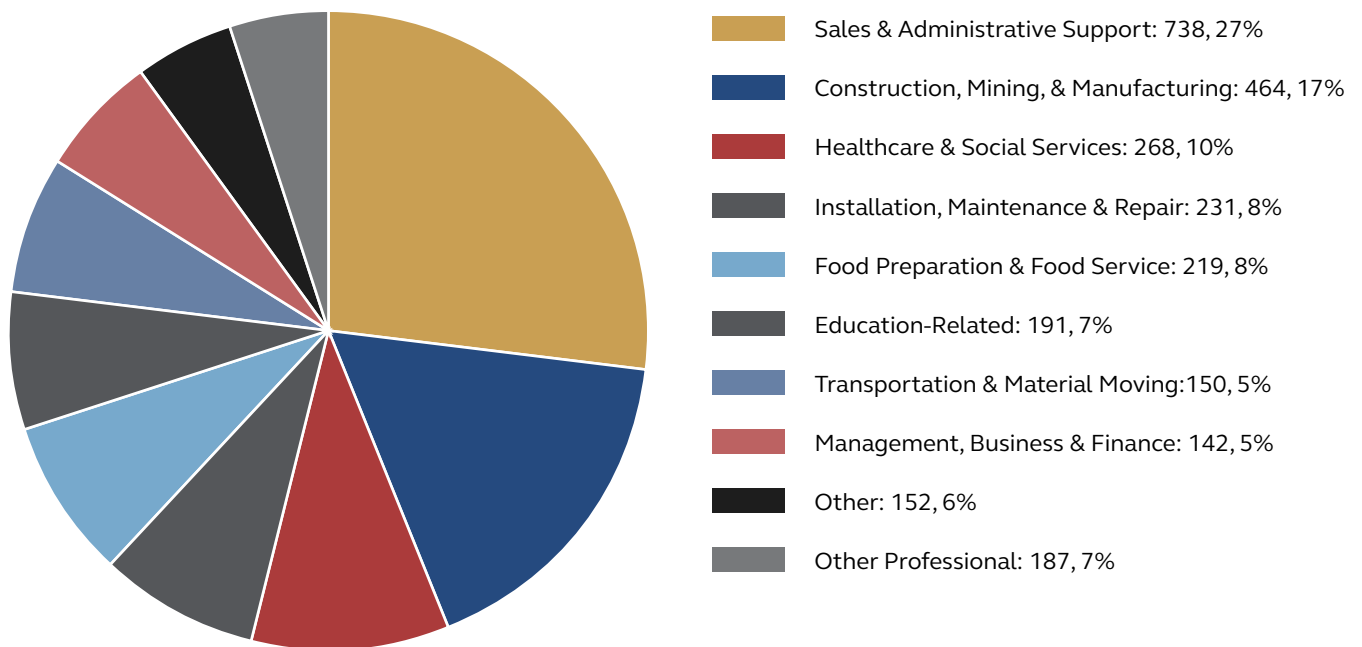


Source: Northern Economics; Alaska REMI Model

Figure 10 provides a summary of the projected new non-military jobs by occupation. The occupation categories are based on the specific duties associated with certain jobs and do not necessarily align with the industry categories on the previous pages. For example, an accountant from within the “management, business and finance” occupation could work in any one of the industries described above.

More than a quarter of the additional 2,741 new non-military jobs in 2022 will be in sales and support administration occupations (27 percent); this category includes a broad spectrum of professions including salespersons, office and administrative staff and professional business services. The second largest occupation is construction, mining and manufacturing (17 percent), followed by health care and social services (10 percent).

**FIGURE 10: DISTRIBUTION OF ESTIMATED NEW NON-MILITARY JOBS BY OCCUPATION, 2022**



Source: Northern Economics; Alaska REMI Model



## Military Spouses

Many of the active duty members who will be stationed at EAFB are married and will be accompanied by their spouses. Approximately 81 percent of Air Force marriages are between an active duty member and a civilian spouse. This equates to an estimated 535 non-military spouses who will be accompanying active duty members.<sup>2</sup> Many of these individuals will be seeking local employment in the FNSB. Sufficient workforce development programs should be in place so incoming residents can receive training that aligns with the types of employment opportunities available in the community. Fortunately, many programs already exist. It will also be important to ensure incoming families have easy access to job information and employment opportunities prior to and upon arrival.

**“ We have a military community of incredibly well-educated spouses. ”**  
-EAFB focus group participant

<sup>2</sup> This estimate uses a combination of personnel estimates from the U.S. Air Force and marriage demographics by rank from October 2017 and 2015 Demographics Profiles of the Military Community. It excludes active duty members who are married to civilians but arriving unaccompanied (relocating to EAFB without their spouse). More information on the estimated household composition of arriving Air Force families is available in the Housing Appendix A.



# SUMMARY OF EXISTING WORKFORCE NUMBERS AND WORKFORCE DEVELOPMENT OPPORTUNITIES

## The FNSB Workforce Today

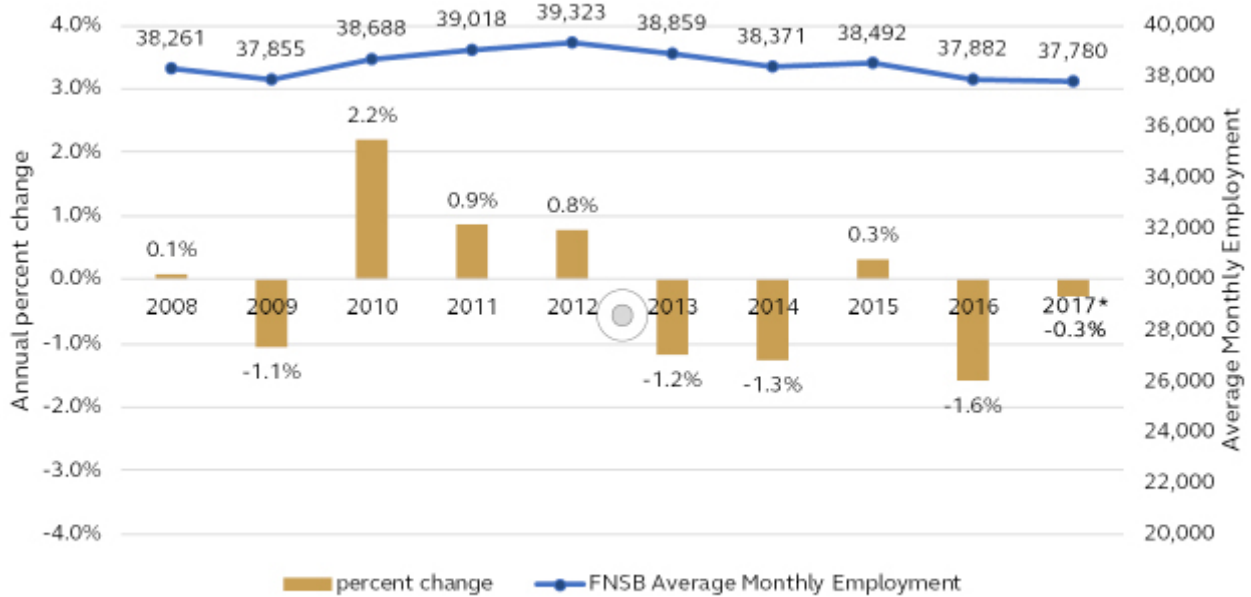
### Overall Employment Trends

According to the Alaska DOLWD’s January 2018 issue of Alaska Economic Trends, the FNSB has been losing jobs annually since an employment peak in 2012. Figure 11 shows average monthly FNSB employment over time and the annual percent change between years. The average monthly employment in 2012 was 39,323, compared with 37,780 for the first three quarters of 2017. 2016 saw the biggest job losses, with a 1.6 percent decline in monthly employment, equivalent to 610 fewer jobs. However, state economists predict that trend will reverse starting in 2018 due in large part to the military growth at

EAFB. The military has historically been a strong economic driver in the FNSB and remains so today; more than eight percent of FNSB residents are active duty and another 10 percent are military dependents.

<sup>2</sup> This estimate uses a combination of personnel estimates from the U.S. Air Force and marriage demographics by rank from October 2017 and 2015 Demographics Profiles of the Military Community. It excludes active duty members who are married to civilians but arriving unaccompanied (relocating to EAFB without their spouse). More information on the estimated household composition of arriving Air Force families is available in the Housing Appendix A.

FIGURE 11: FNSB AVERAGE MONTHLY EMPLOYMENT



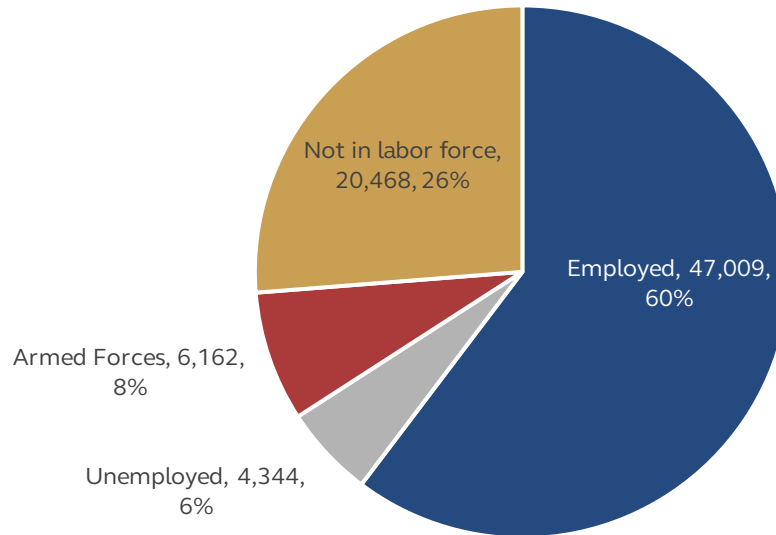
\*preliminary; does not include data from the 4th quarter of 2017

Source: Quarterly Census of Employment and Wages (QCEW) with supplemental information from the Alaska DOLWD, Research and Analysis section, as downloaded from DOLWD. Excludes fishermen, agricultural workers and the self-employed

The U.S. Census Bureau's American Community Survey includes local labor force data within the U.S. While the annual datasets for FNSB have high error margins due to small sample sizes, the five-year averages offer insight into the overall local labor force breakdown, as shown in Figure 12. Of

the 77,983 residents age 16 and over, 57,515 (74 percent) are in the labor force, with 60 percent civilian employment, eight percent in the armed forces and six percent unemployed. The pages that follow break down each of these segments of the labor force in more detail.

**FIGURE 12: EMPLOYMENT STATUS, FNSB POPULATION 16 AND OVER**



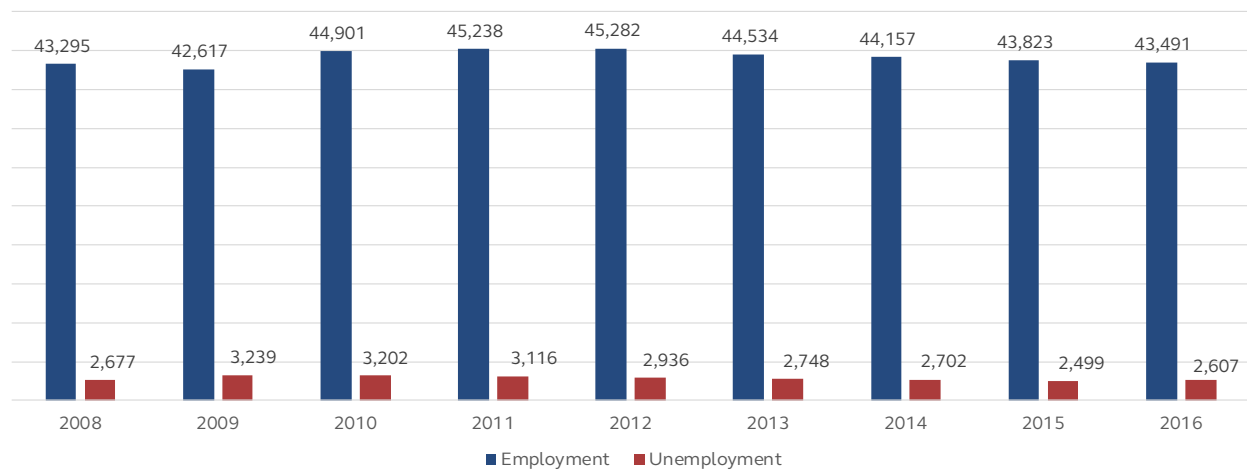
Source: American Community Survey Five-Year Estimates, 2012-2016

The State of Alaska generates employment numbers based on unemployment data. Unlike the American Community Survey data above, this data excludes federal workers, the military and the self-employed. According to the state data, in 2016 there were 43,491 people employed in FNSB in state, local and private employment, a slight increase from 2015 but smaller than 2014 (Figure 13). Employment numbers have remained relatively consistent over the past ten years. There were 2,607 unemployed individuals in FNSB in 2016; over the past ten years, unemployment was highest in 2009 (7.1 percent) and 2010 (6.7 percent), reflecting nationwide trends during the national recession. Preliminary unemployment

numbers from DOLWD estimate FNSB's January 2018 unemployment rate at 7.5 percent, compared with 4.5 percent in the United States and 8.1 percent in Alaska.<sup>3</sup> As new employment opportunities open in the FNSB, it is expected unemployment numbers will decline as residents are hired to fill new positions.

<sup>3</sup> These are preliminary estimates from DOLWD, Research and Analysis Section. They are not seasonally-adjusted, which means they have not been modified to remove seasonal fluctuations from the data; as a result, these monthly unemployment percentages are typically higher than annual estimates because FNSB and Alaska both experience higher unemployment during winter months. For the most current estimates and more information on methodology, visit <http://live.laborstats.alaska.gov/labforce/>

FIGURE 13: EMPLOYMENT AND UNEMPLOYMENT IN THE FNSB, 2008-2016



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

These unemployment counts include only those who do not have a job but are available to work and have actively looked for a job in the prior four weeks. Those who are not employed but have not sought work in the past four weeks are considered out of the labor force and are not included in the data; this includes groups such as students and seniors, those who opt not to work due to family responsibilities, and discouraged workers who are no longer actively seeking a job. For additional information on unemployment and labor force data in Alaska, see the May 2016 Alaska Economic Trends article, “The Working-Age Population and Unemployment”: <http://laborstats.alaska.gov/trends/may16art3.pdf>.

As discussed above, the state’s employment data does not capture those who are self-employed. The U.S. Census Bureau publishes non-employer statistics with data collected from Internal Revenue Service tax return information for firms with no employees, which can be used to approximate the number of self-employed individuals in FNSB. In 2015, the most recent data year available, there were 5,587 non-employer establishments; these

establishments collectively reported receipts of \$230 million. The number of establishments in FNSB has increased by 338 over the past two years; the receipts have remained constant, with a slightly higher uptick in 2014 to \$242.6 million receipts.

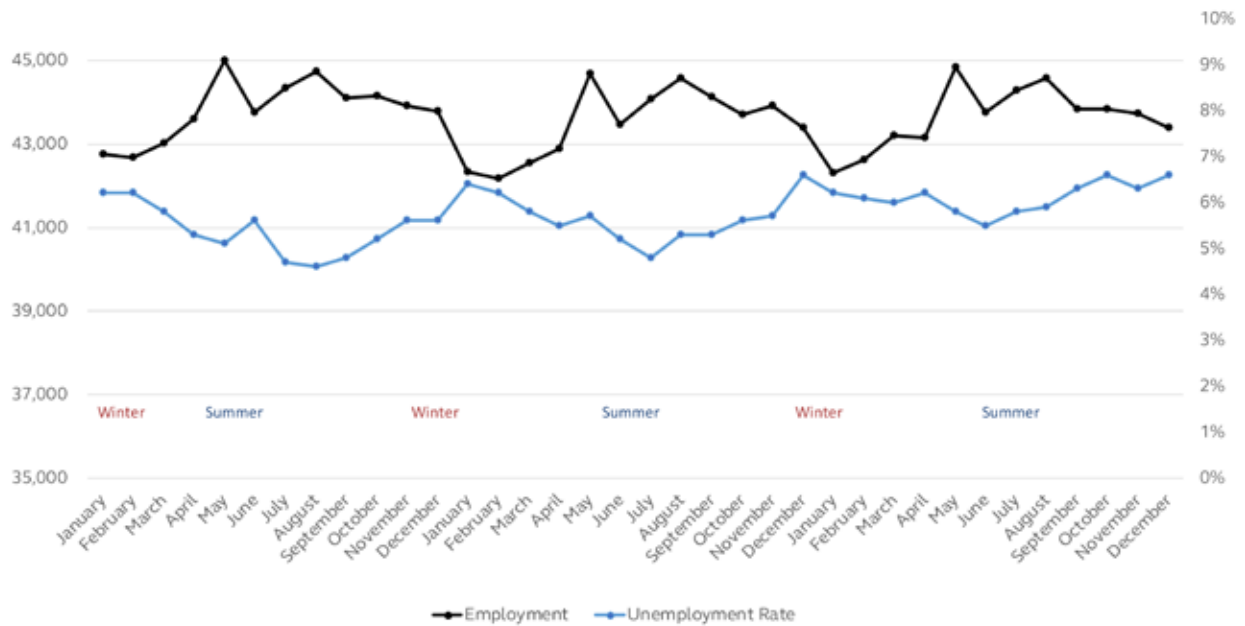
The state’s employment data focuses on residential workers, but DOLWD also tracks information on non-resident employment. The FNSB has slightly lower non-resident employment than the statewide average. According to a 2016 DOLWD report on non-resident employment in Alaska, non-residents make up approximately 21.5 percent of Alaska’s total workers, whereas in FNSB, 17 percent of total workers are nonresidents. The largest industry category for the non-resident workers in FNSB is the accommodation and food services with 31.5 percent of all FNSB non-resident employment, followed by retail trade, health care and construction. Having effective workforce development programs and policies in place will help ensure that local residents are trained and qualified for the additional jobs created through the F-35 beddown.



Much like the rest of Alaska, FNSB has a somewhat seasonal economy, with slightly higher employment in the summer and lower employment during winter months (see Figure 14). Average annual unemployment in FNSB was at 5.7 percent

in 2016, slightly lower than the statewide rate of 6.6 percent. Preliminary estimates for December 2017, the most recent month available, estimate FNSB unemployment is at 6.6 percent, which is consistent with historic rates for the month of December.

**FIGURE 14: SEASONAL EMPLOYMENT TRENDS AND UNEMPLOYMENT RATE IN THE FNSB**



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



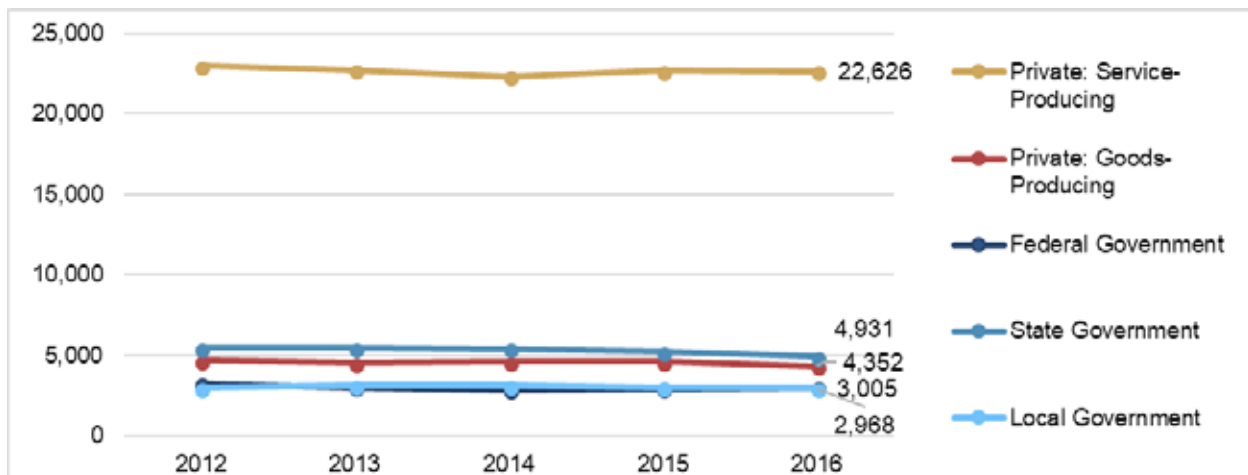


## Employment by Industry

The U.S. Bureau of Labor Statistics collects and publishes the Quarterly Census of Employment and Wages (QCEW). The QCEW provides monthly and annual snapshots of employment data in regions around the country based on unemployment insurance, federal agency reporting

and other sources, and helps broadly define the FNSB economy. The data excludes the self-employed and those in the military. Figure 15 shows average annual employment by sector in the FNSB from 2012 to 2016.

**FIGURE 15: AVERAGE ANNUAL FNSB EMPLOYMENT BY SECTOR, 2012-2016**



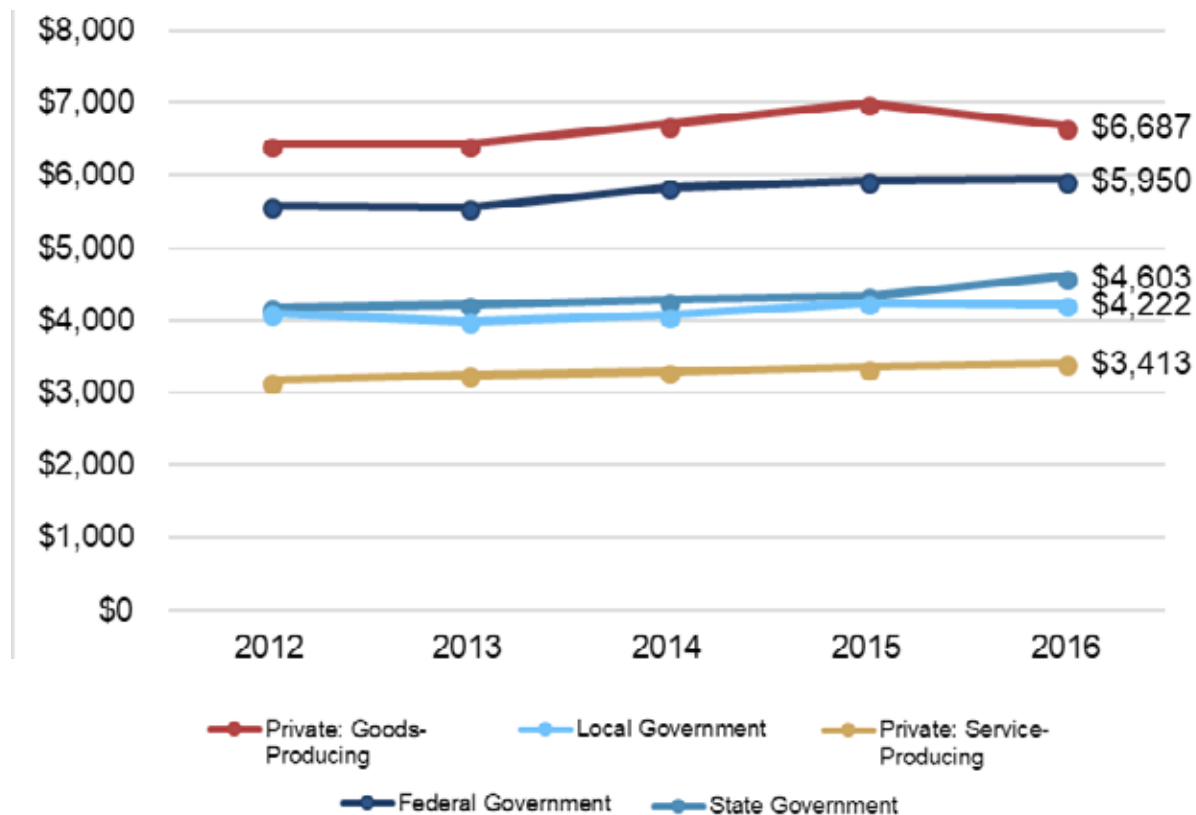
Source: U.S. Department of Labor, Bureau of Labor Statistics: Quarterly Census of Employment and Wages

In 2016, private sector employment comprised 71 percent of total employment. QCEW broadly classifies private sector employment into two categories: service-producing and goods-producing. 60 percent of FNSB employment is service-producing, including retail, professional services, health care and more; an additional 11 percent are in goods-producing industries such as mining and agriculture. The remaining 29 percent are in government employment, with 13 percent in state employment and eight percent each for federal and local government employment. It is important to note, the federal government estimates are actually higher because the QCEW data does not include active duty military personnel. In 2016 there were 8,763 active military personnel employed at Ft. Wainwright and EAFB. For additional details on private sector employment by industry, see Figure 18.<sup>4</sup>

Figure 16 depicts the average monthly wages for the sectors captured in Figure 15. While only 11 percent of total employment, the private sector goods-producing jobs pay the highest average monthly wages at \$6,687 per month in 2016, followed by federal government jobs with \$5,950 per month. The goods producing category includes natural resources and mining, construction and manufacturing. Many of the projected jobs related to the F-35 beddown will be in this category due to increased construction activity in the region. Private sector service-producing jobs are the largest employment sector but have the lowest wages, with average monthly wages of \$3,413 in 2016 – almost half the amount of the goods-producing category.

<sup>4</sup> Source: Fall 2017 issue of the FNSB Community Research Quarterly

FIGURE 16: AVERAGE MONTHLY WAGES IN FNSB BY SECTOR, 2012-2016



Source: U.S. Department of Labor, Bureau of Labor Statistics: Quarterly Census of Employment and Wages

Alaska DOLWD also tracks and shares industry and occupational data for resident workers. The data does not include federal workers, the military, self-employed and non-resident workers. Figure 17 summarizes this data for the past three years

and highlights the percent change for each of the top industries between 2014 and 2016. Figure 18 shows the breakdown of employment by industry for 2016.

**FIGURE 17: FNSB EMPLOYMENT BY INDUSTRY, 2014-2016**

	2014	2015	2016	% change, 2014 to 2016
Trade, Transportation + Utilities	8,019	8,081	7,976	-1% (-43 jobs)
Educational and Health Services	4,988	5,063	5,187	<b>4% (+199 jobs)</b>
State Government	5,018	4,881	4,629	-8% (-389 jobs)
Leisure and Hospitality	3,962	3,919	4,135	<b>4% (+173 jobs)</b>
Local Government	3,646	3,486	3,410	-6% (-236 jobs)
Professional + Business Services	3,153	3,042	2,920	-7% (-233 jobs)
Construction	3,114	2,999	2,779	-11% (-335 jobs)
Natural Resources and Mining	1,810	1,914	1,794	-1% (-16 jobs)
Financial Activities	1,269	1,268	1,283	<b>1% (+14 jobs)</b>
Other	1,054	1,028	961	-9% (-93 jobs)
Manufacturing	756	702	703	-7% (-53 jobs)
Information	510	527	504	-1% (-6 jobs)

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

NOTE: Data based on worker residency; does not include federal workers, military, self-employed and nonresident workers

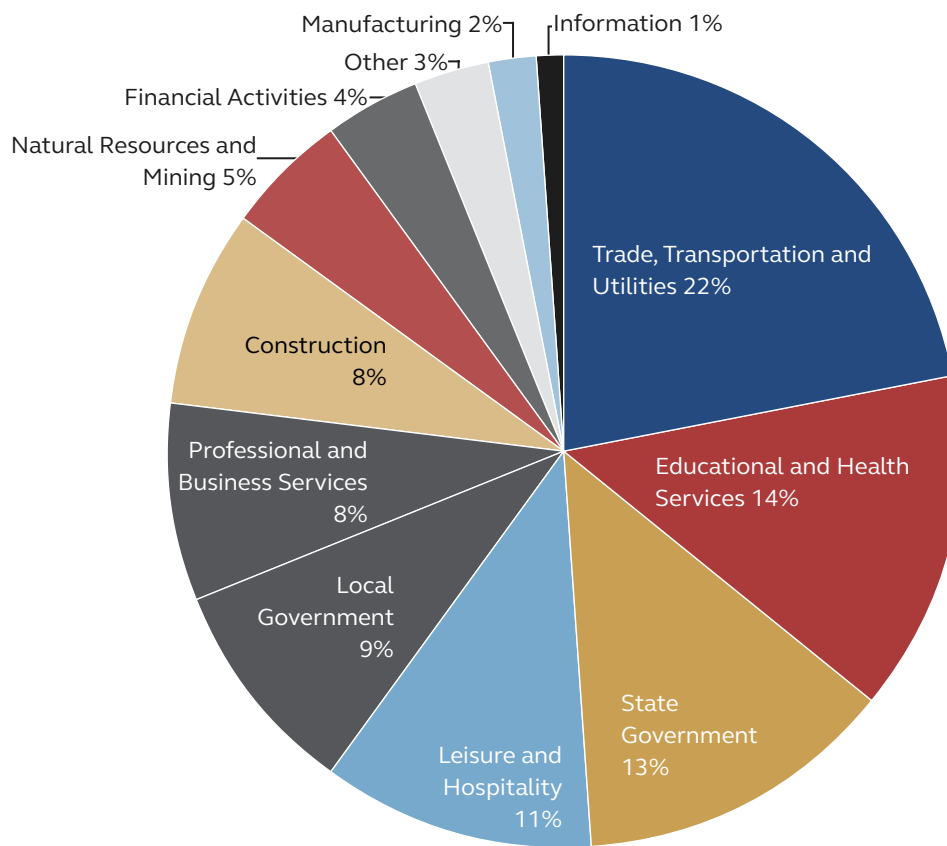
The largest industry in the FNSB, employing 7,976 residents, is the trade, transportation and utilities industry. This industry has remained relatively flat with a one percent decline between 2014 and 2016. The second largest employment industry is education and health services with 5,187 in 2016, which showed a four percent increase between 2014 and 2016. According to Economic Trends articles from DOLWD, most of this increase can be attributed to increases in the health sector. The leisure and hospitality industry has also grown four percent over the two-year period to 4,135 in 2016.

Many FNSB industries have seen a decline in employment since 2014. Construction has declined

11 percent in FNSB. The January 2018 Alaska Economic Trends, published by DOLWD, cites this construction decline to a lack of new residential and commercial construction, lower state capital budgets and shrinkage in contracting projects for the oil and gas industry. This trend is expected to reverse as EAFB buildout occurs. Other declines occurred in state government, down by eight percent over the two-year period. This decline is in part due to state budget cuts which have impacted employment at the University of Alaska Fairbanks (UAF). According to DOLWD's Alaska Economic Trends, UAF has lost more than 500 jobs since its employment peak in 2013.



FIGURE 18: FNSB EMPLOYMENT BY INDUSTRY, 2016

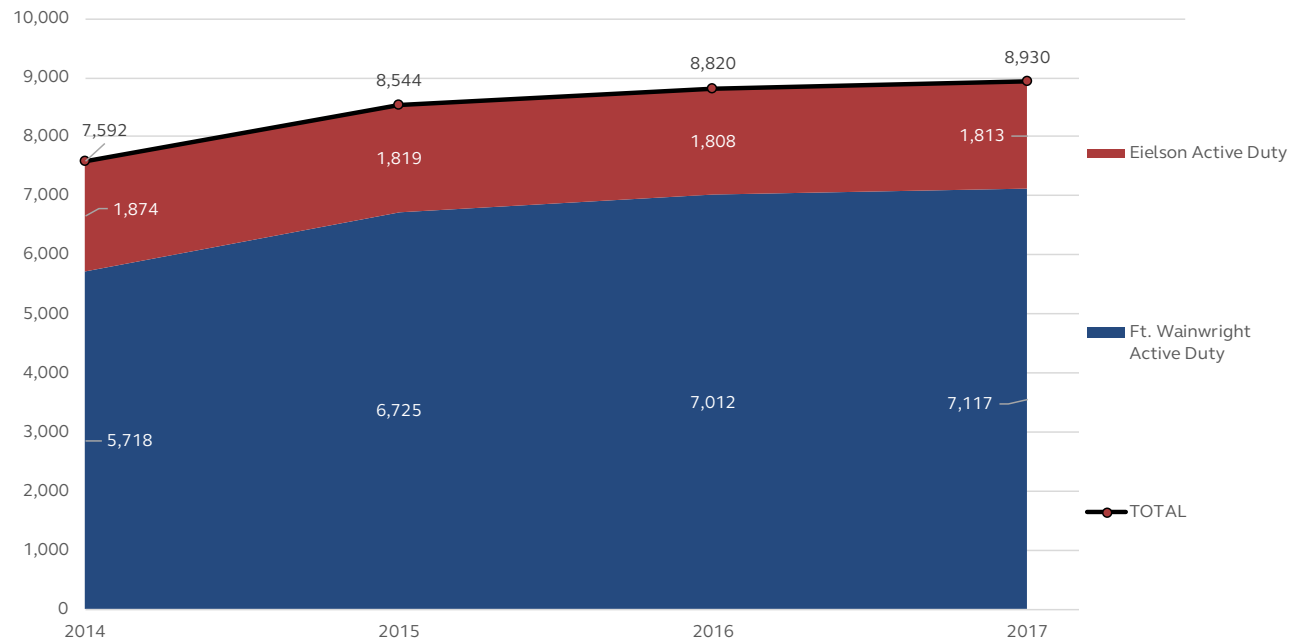


Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section  
 NOTE: Data based on worker residency; does not include federal workers, military, self-employed and nonresident workers

DOLWD data provides helpful insights into current and historic industry trends but they exclude one of the most important categories: military employment. The FNSB publishes the results in its Community Research Quarterly which shows active duty military counts for Eielson Air Force Base (EAFB) and Ft. Wainwright (FTWW), the two most prominent military installations in FNSB. The numbers reflect summer counts for active military; they do not include civilian positions or military dependents. As of summer 2017, EAFB and FTWW have a combined 8,930 members, exceeding the largest categories in the

DOLWD industry employment data. Active duty military counts have been increasing annually since 2014, mostly due to increases at FTWW. In 2017, approximately one-fifth (1,813) of these active duty military members were stationed on EAFB and the rest were at FTWW. As discussed in the Growth Projections Focus Area, these Air Force numbers will increase as EAFB personnel ramps up during F-35 beddown implementation.

**FIGURE 19: ACTIVE DUTY MILITARY AT EIELSON AND FT. WAINWRIGHT, 2014-2017**



Source: FT. W.W. Plans, Analysis and Integration Office (PAIO), and ALCOM, Alaskan Command, as reported in the Fall 2017 issue of the FNSB Community Research Quarterly

Many veterans depart the military at a working age and become part of the local workforce; some may need training to help them transition into civilian positions. Alaska has the highest per capita concentration of veterans in the country. FNSB has the second highest concentrations of veterans in the state, slightly behind that of Southeast Fairbanks Census Area. According to the U.S. Census Bureau’s American Community Survey 2012-

2016 Five-Year Estimates, 15.8 percent of FNSB residents are veterans, compared with 12.8 percent in Alaska and eight percent nationwide. Maintaining the FNSB’s status as a military-friendly community encourages military families to stay in the area after they depart military service, including seeking local employment as they integrate into the community.

## Employment by Occupation

Figure 20 shows the top ten occupations for FNSB for 2016, with comparative data for 2014. The column on the far right shows the percentage of workers in each occupation who are over the age of 45 as of 2016. The information comes from DOLWD's occupational database, where employers provide the occupation and place of work for all workers covered by Alaska unemployment insurance. The top two occupation categories in 2016 are both sales-related activities, with a combined 2,746 workers. According to a conversation with DOLWD staff, the large increase in retail salespersons and the decline in cashiers between 2014 and 2016 is likely a change in categorization from one or more major FNSB employers rather than an actual change in occupational employment; overall, the two combined categories saw a gain of 104 workers.

These retail categories are likely to see additional growth, since the Alaska REMI model predicts that sales and administrative support will be the largest-growing occupation category (see Figure 10 for projections of new non-military jobs by occupation). The third largest FNSB occupation is food preparation and serving workers (766 workers). Office workers, construction laborers, truck drivers, janitors/cleaners, teachers and operating engineers/construction equipment operators round out the top ten. In three of these categories (heavy and tractor-trailer truck drivers, janitors and cleaners and teachers and instructors), 50 percent or more workers are over the age of 45, indicating there may be a need for new workers to fill jobs of an aging and retiring workforce.

FIGURE 20: TOP TEN OCCUPATIONS IN THE FNSB, 2016

Occupation	Number Employed, 2016	Change from 2014	Percentage over 45
Retail Salespersons	1,967	417	27%
Cashiers	779	-313	29%
Combined Food Preparation and Serving Workers	766	18	14%
Office and Administrative Support Workers, All Other	676	0	36%
Construction Laborers	620	-45	26%
Office Clerks, General	610	-30	42%
Heavy and Tractor-Trailer Truck Drivers	592	-24	55%
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	576	-64	49%
Teachers and Instructors, All Other	504	113	52%
Operating Engineers and Other Construction Equipment Operators	499	-12	44%

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

NOTE: Data based on worker residency; does not include federal workers, military, self-employed and nonresident workers

## EXISTING WORKFORCE DEVELOPMENT PROGRAMS

### On EAFB

The Airman and Family Readiness Center (A&FRC) offers assistance for military spouses seeking employment. The A&FRC offers resume classes, practice interviews and shares information about job openings through USA Jobs: <https://www.usajobs.gov/>. The A&FRC also has supportive staff who are able to provide one-on-one personalized sessions for dependents seeking customized employment assistance. Resources such as a lending library with employment assistance information and computers for searching and applying for jobs are also available. The A&FRC also offers support materials on the Military Spouse Career Advancement Account (MyCAA) scholarship program, which provides up to \$4,000 of financial assistance for eligible military spouses to pursue a license, certification or Associate's degree in a portable career field and occupation.<sup>5</sup>

The A&FRC has an active Facebook page where local jobs are posted. Occasionally, off-base partners participate in job fairs and other workforce development activities. The A&FRC works closely with the EAFB Civilian Personnel Office (CPO), which oversees hiring and aids with civilian positions on base. The A&FRC is also involved in the on-base high school, offering employment preparedness and training activities such as mock interviews, cover letter and resume reviews, and individualized feedback sessions. Further, spouses and dependents with disabilities who are seeking employment can receive guidance through Exceptional Family Member Program (EFMP), housed in the A&FRC.



The website <http://www.militaryonesource.mil> is another resource for military spouses and dependents seeking information and resources. In particular, Military One Source includes Spouse Education and Career Opportunities Program (SECO) and Military Spouse Employment Partnership (MSEP), where individuals can receive support in the following areas:

- Career Exploration
- Education, Training, & Licensing
- Employment Readiness
- Career Connections
- Career Management
- Free Career Coaching

<sup>5</sup> To learn about the MyCAA program, visit [http://download.militaryonesource.mil/12038/MOS/Factsheets/SECO/MyCAA\\_Factsheet\\_Overview.pdf](http://download.militaryonesource.mil/12038/MOS/Factsheets/SECO/MyCAA_Factsheet_Overview.pdf)



In an interview with staff at the Airman and Family Readiness Center, staff shared that one of the most popular positions for EAFB spouses is a teaching job with the local schools. However, military spouses who are teachers must apply for an Alaska teaching certificate; this includes a required six credits of Alaska history. For some military spouses that would like to teach in Alaska, the cost and time required to fulfill the Alaska History requirement is a deterrent for Alaska certification. Fortunately, online courses that meet the Alaska History requirements are available and some spouses choose to take the course before arrival. Others choose to substitute teach because there are fewer requirements and increased flexibility; substitute teachers can choose when and how often to teach.

EAFB Regional Growth Plan focus group participants offered a variety of perspectives on employment and training opportunities for military dependents. On a scale of “A” through “F,” with “A” as “very satisfied” and “F” as “very dissatisfied,” participants were asked to grade their satisfaction with access to employment opportunities and training in the FNSB (see results in Figure 21). Of the 32 participants, only eight (25 percent) noted

an “A” or “B” grade. Thirteen of the responses (41 percent) gave a “C” grade, and 11 (34 percent) “D” or “F” grades. Focus group participants expressed a variety of frustrations with the local job market, including EAFB’s distance from Fairbanks, the challenge of transferring occupational licenses and the quality and pay of local positions. According to participants, many of these challenges are not unique to EAFB; spouse employment can be challenging during any Permanent Change of Station (PCS) move between military installations.

**“ Job opportunities are plentiful but the quality of the jobs is low and the pay is low.”**

**“It’s a challenge across all military operations to help spouses find jobs and workforce development. This is always an issue. Often there is no education or workforce development on base.”**

*-EAFB focus group participants*

**FIGURE 21: EAFB FOCUS GROUP PARTICIPANT RESPONSES TO THE PROMPT, “GRADE YOUR SATISFACTION WITH ACCESS TO EMPLOYMENT OPPORTUNITIES AND TRAINING”**

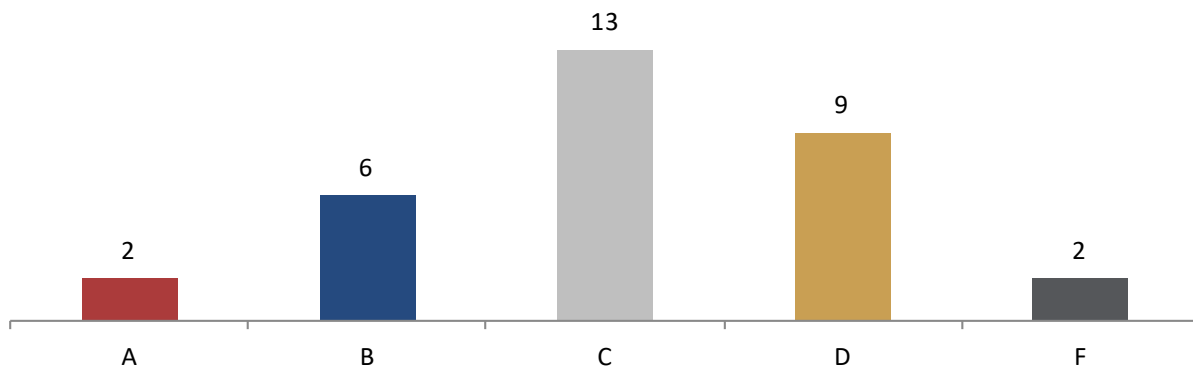




Photo by FNSB School District Career & Technical Education

## Education and Training Programs

Many education and training programs are available in the FNSB. Alaska DOLWD maintains an extensive list of training providers around the state, categorized by community. The list of training providers in the FNSB is shown below. For additional details on each provider, including a description, list of programs and contact information, visit the DOLWD website: <http://live.laborstats.alaska.gov/atc/providers.cfm>

- Alaska Joint Electrical Apprenticeship and Training Trust
- Alaska Laborers Training School
- Alaska West Training Center
- Alaska Works
- Associated General Contractors of Alaska
- Calypso Farm and Ecology Center
- Center for Employment Education
- Central Texas College, Ft. Wainwright
- Cherokee Riders
- Environmental Management Inc
- Fairbanks Area Carpenter Training Center
- Fairbanks Area Plumbers and Pipefitters
- Fairbanks Flight Training
- Kindred Spirits School of Massage
- Laborers Local 942
- Literacy Council of Alaska
- Mane Place Hair Design and Academy
- North Star Computing
- NTL Alaska, Inc.
- Painters and Allied Trades, Alaska Local 1959
- School of Integrating Shaitso Alaska
- Thomas Edison State University

## University of Alaska Programs

The University of Alaska's Technical Vocational Education Program (TVEP) funds many of UA's workforce classroom and trainings, including industry and on-the-job training. The TVEP fund was established by the Alaska Legislature in 2000 from a portion of unemployment insurance receipts. The program directs UA funding toward industry sector needs as identified in statewide workforce development plans. In fiscal year 2019, the UA Workforce Development Committee identified the following priority career clusters based on state and industry priorities:

- Agriculture, Food & Natural Resources  
(Includes Fisheries, Energy, Environmental Science & Green Jobs)
- Architecture & Construction
- Education & Training
- Health Sciences
- Human Services
- Manufacturing (Includes Mining & Process Technology)
- Science, Technology, Engineering & Mathematics (Includes Research)
- Transportation, Distribution & Logistics  
(Includes Maritime)

The TVEP funds are also intended to support the priority needs identified in Alaska's five completed workforce development plans: the Maritime Workforce Plan, the Teacher Education Plan, the Oil & Gas Workforce Plan, the Mining Workforce Plan and the Health Workforce Plan. Copies of these plans are available at: <http://www.alaska.edu/research/wp/plans/>.

The University of Fairbanks (UAF) <sup>6</sup> plays an important role in workforce development for FNSB residents. UAF is a flagship campus for the University of Alaska. The University has nine



*Photo by University of Alaska Fairbanks – Community and Technical College*

colleges and schools that offer 178 degrees and certificates in 114 disciplines. UAF employs 2,603 staff, including 597 faculty. In 2016, the University enrolled 9,330 students including a mix of undergraduate students (87.6 percent) and graduate students (12.4 percent). Just over 6,000 of the enrolled students attend classes on the Fairbanks campus; the rest are spread around satellite campuses in the state, and/or participate through eLearning and Distance Education. UAF is also the primary research center for the University of Alaska system.

<sup>6</sup> Information in this section comes from the University of Alaska Fairbanks Office of Admissions and the Registrar Fact Sheet: <https://www.uaf.edu/pair/factsheet/>



UAF's Community and Technical College (CTC) also plays a critical role in helping FNSB meet the existing and emerging employment needs of local businesses and FNSB industries through its various vocational and technical programs. CTC offers more than 40 one-year certificate and two-year associate degree programs in high demand career fields to prepare graduates for immediate employment. CTC can adapt and develop new programs to meet emerging industry needs; for example, staff are in the early stages of developing a comprehensive aviation and maintenance program. This ability to respond to community and industry needs will be critical during the F-35 beddown as demand increases for workers in industries such as construction. CTC is also designated as a Military Friendly School and offers Northern Military Programs in partnership with local military installations, including EAFB. CTC works closely with local unions, and 99 percent of CTC graduates get a job.<sup>7</sup>

In addition to UAF campus activities, the University of Alaska Anchorage oversees a network of Small Business Development Centers (SBDC), with funding from the U.S. Small Business Administration, the State of Alaska and other sponsors. An SBDC office is located in the Fairbanks area. The Centers offer no-cost advising services and low cost educational programs for entrepreneurs seeking to start or grow a small business. SBDC staff are available for one-on-one support to help with management, marketing, sales, finance, accounting and other topics. The Fairbanks SBDC offers a variety of programs, including a "Boots to Business" 2-day entrepreneurship program targeted toward those exiting active duty and considering opening a small business.<sup>8</sup>

The University of Alaska launched the Emsi Career Coach in late 2017, a web-based career exploration tool that maps and guides users to varied academic

“ During the welcome [to Eielson] meetings, they showed the courses that were available and there are so many online options available now. ”

-EAFB focus group participant

pathways through an online assessment: <https://alaska.emsicc.com>. The tool offers customized career recommendations and current labor market and wage data for Alaska residents at varying career stages, from high school students to transitioning military service members and their spouses. The university hopes to collaborate with state agencies, school districts and other workforce and training programs to promote Career Coach and increase its use around the state.

<sup>7</sup> Information in this section comes from CTC staff and the CTC website: <https://www.ctc.uaf.edu/>

<sup>8</sup> Information in this section comes from SBDC staff and the SBDC website: <https://aksbdc.org/>







## State of Alaska Resources

The Fairbanks Job Center, one of DOLWD's 16 job centers in Alaska, specializes in helping job seekers connect with employment opportunities, such as workshops to build resume and networking skills, labor market information to identify potential career paths or occupations, and resources such as computers to improve access to job listings. Other more intensive counseling, assessment, training and support, offered in-house and through partnerships with local employers are also available.<sup>9</sup>

## Apprenticeships

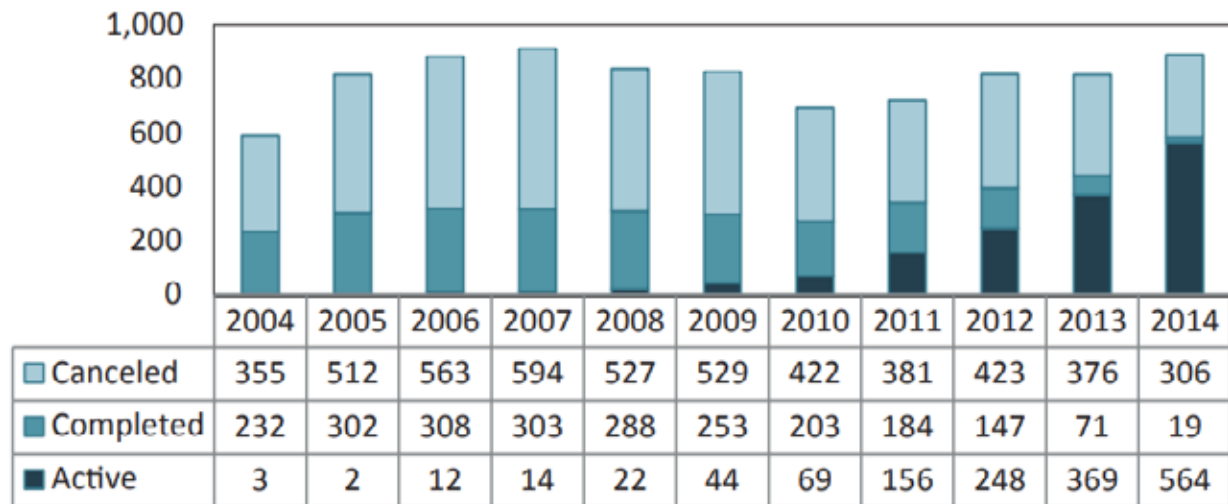
Apprenticeships are becoming increasingly popular in Alaska as a method to train workers in specific technical fields. DOLWD covered Alaska apprenticeships in detail in the March 2016 issue of Alaska Economic Trends. Figure 22 shows the number of apprenticeship registrations in Alaska between 2004 and 2014. Over the ten-year period, the number of active apprenticeships increased from the single digits in 2003 and 2005, to 564 active registrations in 2014. Cancelled apprenticeships have also declined, with 2016 showing the fewest cancellations over the past ten

years.<sup>10</sup> DOLWD reports the most common industries for apprenticeship participants are construction with 40 percent, followed by natural resources and mining with 11 percent. On average, workers who complete an apprenticeship earn higher wages than industry averages. Based on average data from 2004 to 2014, the top occupations for registered apprenticeships are 1) electricians, 2) plumbers, pipefitters and steamfitters, 3) laborers, 4) carpenters and 5) operating engineers/other construction equipment operators. While apprenticeships have traditionally been used in trade industries, more recently the model has expanded into other fields such as aviation and health care. For example, the State of Alaska has expanded apprenticeship targets and Alaska Hire requirements for state-funded projects; additionally, new apprenticeship programs have been established through the Alaska Primary Care Association, the Alaska Air Carriers Association and the Pipeline Training Center.

<sup>9</sup> Information in this section comes from Fairbanks Job Center staff and the Alaska Job Center Network website: <http://www.ajcn.state.ak.us/jt/>

<sup>10</sup> According to the March 2016 Alaska Economic Trends, many apprenticeship programs last three to five years; if a program is not a good fit, participants may cancel. Most cancellations occur within the first 12 months.

FIGURE 22: APPRENTICESHIP REGISTRATIONS IN ALASKA, 2004-2014



Source: Alaska Department of Labor and Workforce Development, as reported in March 2016 Issue of Alaska Economic Trends

## Fairbanks North Star Borough School District

The Fairbanks North Star Borough School District (FNSBSD) also has a strong suite of vocational education programs through its Career and Technical Education (CTE) program. CTE seeks to introduce workforce training and skills into high schools, thereby building a younger generation of workers, ready for employment right after graduation with career readiness in mind.

Through CTE programs, high school students can earn college credits, enroll in union apprenticeships and develop specific trade and industry skills that align with community and industry needs. CTE offers eight career clusters and 126 courses, including 51 courses eligible for college credit. All five of FNSBSD's high schools offer CTE coursework; Hutchison High School in Fairbanks is a CTE intensive school. Many of CTE's students will graduate with the abilities to fill some jobs created through the F-35 beddown and related activities. Sustaining active partnerships between

CTE and local industries and employers (including the Air Force) will help ensure CTE's curriculum and programs remain relevant.

In early 2018, FNSB published the results of a CTE community assessment, which collected input from 72 employers, and a combined 2,055 FNSBSD students, staff and parents. The assessment identifies careers of interest for students and parents, the skills FNSB employers seek in job candidates, perspectives on education requirements for varied positions and recommendations for delivering CTE course work in the most effective ways possible. Notable findings from the assessment include:

- Students' top five industries of interest were #1 Health/Medical, #2 Science, Technology, Engineering and Math (STEM), #3 Arts, Audio/Visual Tech and Communications, #4 Military, and #5 Law, Public Safety, Corrections and Security.

- Only one quarter of students indicated they are interested working in the Fairbanks area after graduation.
- Employers are looking for more than just hard skills. Critical soft skills most sought by employers include verbal communication, real-world problem solving and motivation/work ethic.
- Regardless of the industry, students, parents and staff all had the perception that the amount of education required by employers for entry-level positions is much higher than what employers actually require.

The results from the assessment will help CTE and other workforce development programs adapt to accommodate the interests and preferences of young residents, while ensuring programs meet community and industry employment needs. The next phase of the assessment will be to develop a five-year plan for the CTE program.<sup>11</sup>

## Unions

Unions are also part of the FNSB workforce development landscape. Labor councils seek labor agreements to provide service contracts, and are then able to offer that work to union contractors and train new workers to fill gaps through training and apprenticeship programs. Unions are also often able to help ease the transition for union workers arriving from other states. Local unions have been working closely with Lockheed Martin, UAF and other large regional employers to ensure the FNSB workforce is prepared to meet the employment demand related to the F-35 beddown.

<sup>11</sup> Visit the CTE webpage to view the full report: <https://www.k12northstar.org/cms/lib/AK01901510/Centricity/Domain/1089/FNSBSD%20CTE%20Needs%20Assessment%20Report%20v6-012418-FINAL.pdf>



Photo by Todd Paris/FNSB School District





Credit: Fairbanks North Star Borough

## WORKFORCE DEVELOPMENT FOR MILITARY SPOUSES

### Military Spouse Demographics

According to a 2015 report from the Defense Manpower Data Center (DMDC), based on a statistically-valid survey of active duty spouses, approximately 89 percent of active duty spouses are women and 11 percent are men; the average age of an active duty spouse is 32.<sup>12</sup>

Forty-seven percent of all spouses have some college or a vocational diploma; an additional 28 percent have a four-year degree and 14 percent

have a graduate or professional degree. Out of all active duty Air Force spouses who are employed, the survey found that 59 percent work within the area of their education or training.

<sup>12</sup> Defense Manpower Data Center (DMDC): Results from 2015 Survey of Active Duty Spouses & 2013-2014 Status of Forces Surveys of Active Duty Members. July 2016 Summary. Available here: [http://download.militaryonesource.mil/12038/MOS/Surveys/MSO-VSO\\_Briefing\\_ADSS-SOFS-A\\_2016.pptx](http://download.militaryonesource.mil/12038/MOS/Surveys/MSO-VSO_Briefing_ADSS-SOFS-A_2016.pptx)





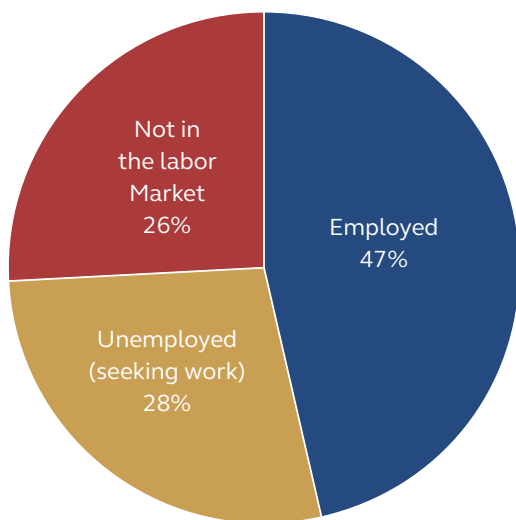
## Military Spouse Employment

Blue Star Families conducts an annual survey of active duty military members and their families to understand the challenges and needs of American military households, called the Military Family Lifestyle Survey. In 2017, the survey found that approximately 75 percent of military spouses are in the labor force. Of those in the labor force, 47 percent are employed and 28 percent are unemployed but seeking work/in transition. Between 2016 and 2017, the total number employed stayed relatively flat, going from 48 percent to 47 percent. However, the number seeking work increased by seven percent (from 21 percent to 28 percent) and those not in the labor market decreased by five percent (from 31 percent to 26 percent), indicating more military spouses are trying to enter the workforce.

Of working military spouses, 55 percent report they are underemployed, meaning they may be overqualified, underpaid, or underutilized in their current position. More than half (51 percent) of all employed military spouses who responded to the survey earn less than \$20,000 per year. The 2015 DMDC survey shows 34 percent of employed military spouses work part time (less than 35 hours per week).

Lack of available, affordable child care is one of the biggest barriers to spouse employment. Blue Star Family Survey results indicate 67 percent of military respondents are not able to obtain the child care they need. According to the 2015 DMDC survey of active duty spouses, the primary reason they are not in the labor force is to care for children. Other reasons include the high costs of child care, attending school or training, preparing for a move, or unemployment due to a disability. The DMDC survey found that on average, unemployed spouses had been looking for work for about five months. For additional details on child care

**FIGURE 23: EMPLOYMENT STATUS OF MILITARY SPOUSES**



Source: Blue Star Families Survey 2017

“ The logistics of living at Eielson and having a spouse commute to Fairbanks are so stressful that our spouses just take a time-out while here. ”

-EAFB focus group participant

programs, needs, gaps and recommendations, see the Education and Early Childhood Development focus area.

## Licensing Challenges

The 2015 DMDC survey found 79 percent of active duty spouses have experienced a Permanent Change of Station (PCS) move during their partner’s active duty career. Of these spouses, 14 percent acquired a new professional license or credential after their last move. For those acquiring a new professional license or credential, half of all respondents completed the process in less than four months. The other half took four months or more. Of those that took four months or more, 20 percent took four to seven months; eight percent took seven to ten months; and, 22 percent reported the licensing process took more than 10 months. Results from the Blue

Star Family survey referenced above show similar challenges: 63 percent of military spouses say they have experienced licensing challenges due to a geographic relocation.

To ease the relocation transition for military spouses who are employed in commonly licensed occupations, the Department of Defense (DoD) proposed three best practice guidelines for states to consider, outlined in Figure 24.<sup>13</sup>

<sup>13</sup> U.S. Department of the Treasury and the U.S. Department of Defense: “Supporting our Military Families: Best Practices for Streamlining Occupational Licensing Across State Lines.” February 2012. Available here: [http://archive.defense.gov/home/pdf/Occupational\\_Licensing\\_and\\_Military\\_Spouses\\_Report\\_vFINAL.PDF](http://archive.defense.gov/home/pdf/Occupational_Licensing_and_Military_Spouses_Report_vFINAL.PDF)

<sup>14</sup> University of Minnesota: “Military Spouse Licensure Portability Examination.” November 2017. Available here: <https://reachmilitaryfamilies.umn.edu/research/document/13865>

<sup>14</sup> University of Minnesota: “Military Spouse Licensure Portability Examination.” November 2017. Available here: <https://reachmilitaryfamilies.umn.edu/research/document/13865>

Recommendation	Legislation Passed in Alaska <sup>14</sup>	Implementation in Alaska <sup>15</sup>
<p><b>1. Facilitate licensure by endorsement.</b></p> <p><i>Licensure by endorsement refers to occupational boards not requiring an examination for military spouses to transfer their licenses. Spouses are eligible for licensure by endorsement if they currently possess a license from a previous jurisdiction with requirements, similar to the board’s requirements in the current jurisdiction.</i></p>	No	No
<p><b>2. Offer temporary or provisional licensing.</b></p> <p><i>Guidelines on temporary or provisional licensure are to grant spouses permission to practice in the current jurisdiction while they submit supplemental application materials and/or meet additional requirements.</i></p>	Yes	Somewhat (see narrative for details)
<p><b>3. Expedite the application process for military spouses.</b></p> <p><i>Expedited application processes allow prioritization of spouses’ applications so they may begin employment as soon as possible, after they submit completed applications.</i></p>	Yes	Somewhat (see narrative for details)



In November 2017, five years after the initial DoD recommendations were released, the University of Minnesota published a nationwide study titled “Military Spouse Licensure Portability Examination,” which examined state-level policies to see if, how and where these guidelines are implemented and their effectiveness. The study focused on six common occupational boards: Cosmetology, Dental Hygiene, Massage Therapy, Mental Health Counseling, Occupational Therapy, and Real Estate Commission.

In Alaska, professional licensing is overseen by the Alaska Department of Commerce, Community and Economic Development. According to the study, Alaska has adopted two of the three policy recommendations via House Bill 28 , passed by the Alaska Legislature in 2011. HB 28 states that boards may issue military spouses temporary licenses, valid for 180 days, with an optional extension period. In addition, the bill requires boards to expedite the application procedure for military spouses. To qualify, spouses must live with an active duty service member, be stationed in Alaska, and hold a current license or certificate in another jurisdiction with requirements equivalent to Alaska’s occupational board requirements.

However, while the enabling legislation exists, the University of Minnesota study found that aside from staff at the Dentistry and Occupational Therapy boards, other Alaska board staff were

unaware of the legislation and were therefore not expediting licenses or making accommodations for provisional licenses. In addition, except for the Massage Therapy and Occupational Therapy boards, the study found no process for spouses to transfer their occupational licenses.

Conversations with local workforce development stakeholders revealed there are fewer licensing barriers in trades fields, which were not considered by the University of Minnesota. Trade unions can often help with transitions; e.g., many unions allow members to transfer certifications from other states.

Removing licensing barriers for military spouses remains an ongoing priority for the U.S. military. In February 2018, the Secretaries of the Army, Air Force and Navy shared a joint memo at the National Governor’s Association titled “Consideration of Schools and Reciprocity of Professional Licensure for Military Families in Future Basing or Mission Alternatives.” The memo emphasizes the need to help ease transitions for military families highlights the importance of school quality/ease of school transitions for military families with children, and of professional licensing requirements for military spouses. In the memo, officials indicate they will take these criteria into consideration when selecting future troop locations.



## ESTIMATED GAPS – WHAT ARE THE GAPS BETWEEN NEEDS AND EXISTING PROGRAMS AND SERVICES?

### Need for More Technical and Vocational Experience

Compared to other states, Alaskans are less likely to have a postsecondary degree and less likely to complete a degree program. The 65% by 2025 effort seeks to increase the number of Alaska residents achieving all levels of postsecondary education, including bachelor's degrees, associate's degrees and certifications. To help meet industry needs and align worker skills with career objectives, more training and certification options are needed for those not needing and/or seeking a four, or even two-year degree. Many of the jobs that will be created through the F-35 Beddown, such as construction jobs, will likely require technical and trade experience versus associate or bachelor degrees.

In interviews and small group discussions, local workforce development experts emphasize the need for earlier introduction to employability and workforce development for Alaska youth. This could mean access to technical training and vocational education programs early in a young person's educational experience, potentially as early as elementary school. Students should also have better exposure to and information about the unique career opportunities and workforce needs in their communities.



### Better Connection between the Unemployed and Available Jobs

The FNSB has been losing jobs over the past five years as construction, state government and other sectors shrink and workforce-age residents migrate out of the FNSB. However, according to workforce development specialists in the region, many unfilled jobs remain in the FNSB. To meet this gap, people who are unemployed or underemployed must have access to, and knowledge of the appropriate training opportunities, and the skills and interest to fill the unmet need. In addition, vacant positions must offer sufficient pay to attract workers.



## Military Spouses Face Barriers to Employment

Military spouse unemployment and underemployment can have a negative impact on the financial security and wellbeing of military households, including lower retention rates and less willingness to continue in military service. According to national survey results, local interviews and EAFB focus groups, military spouses face several challenges to finding and retaining employment. Military spouses who work in a licensed occupational field are not always able to transfer licenses from other states. Alaska policies intended to accelerate the process have not been

fully implemented, creating delays and barriers for those who want to begin work quickly. In addition, the geographic isolation of EAFB discourages some military spouses who would like to work, but are uncomfortable and/or unwilling to make the drive to Fairbanks (approximately 25 miles from EAFB) or North Pole (approximately 12 miles from EAFB). These spouses often choose not to work, or opt to take positions on-base. Finally, military families with children sometimes struggle to find affordable child care options, thereby limiting the ability of the spouse to seek employment outside the home.



*Credit: Fairbanks North Star Borough*



# WORKFORCE DEVELOPMENT STRATEGIES – WHAT ARE OUR RECOMMENDED SOLUTIONS FOR ANTICIPATED GAPS?

## Connecting Military Spouses with Local Employment

WFD1. Remove barriers for military spouses to obtain occupational licenses.

- a. Consider expanding on House Bill 28 (2011) legislation so occupational boards can allow licensure by endorsement for military spouses seeking licensure in Alaska who already possess a license from another state with requirements that meet or exceed Alaska standards.
- b. Work with the Alaska Department of Commerce, Community and Economic Development to better implement the requirements of House Bill 28 (2011) so military spouses can access an expedited application process for occupational licensing and receive temporary licenses when needed. Proposed House Bill 262 of the 2017-2018 Legislative Session seeks to improve reporting and implementation. For updates on the bill, visit [http://www.akleg.gov/basis/Bill/Detail/30?Root=HB%20262#tab6\\_4](http://www.akleg.gov/basis/Bill/Detail/30?Root=HB%20262#tab6_4).
- c. Encourage military spouses relocating to EAFB to initiate the certification/licensure process prior to arrival.



WFD2. Coordinate with the Airman and Family Readiness Center (A&FRC) to supplement existing information sharing with Air Force families before they arrive at EAFB.

- a. The A&FRC receives a list of incoming members 90 days prior to their PCS move to EAFB, and contacts them with an extensive list of information ranging from how to get across the border to local employment statistics and job information. This is an opportunity to collaborate and supplement the outreach with additional information on local workforce development, employment and training resources in the FNSB community.

WFD3. Encourage FNSB-located Job Centers, workforce development program representatives and large employers to participate in military family welcoming programs.

Examples include:

- a. The bi-monthly information fair at the Spouse Welcome, when spouses get together to discuss tips on transitioning and living in the FNSB.
- b. The quarterly Heart Link program for spouses who are new to the Air Force.

WFD4. Prior to PCS, conduct debrief/departure interviews or focus groups with military families regarding experience with FNSB employment and workforce development.

Through these conversations, learn about military families' experiences in the FNSB with employment and workforce development, including most useful tools, barriers they experienced and recommendations to improve the process and resources for incoming families.







WFD5. Expand access to affordable child care services for military households.

### **Training the FNSB Workforce to Meet Industry Needs**

WFD6. Host local training and employment events for residents and incoming military families to learn about education, training and employment opportunities available in FNSB.

- a. Participants/sponsors could include the Alaska Department of Labor, local unions, the job center, the small business development center, service organizations, employers, industry organizations and education-training providers.

WFD7. Conduct targeted recruitment efforts to encourage businesses to relocate to the FNSB area.

Focus recruitment on businesses that offer an unmet service/retail gap and could benefit from the current employment pool, including military spouses.

This should be embedded as a strategy in the FNSB Comprehensive Economic Development Strategy and other community-wide planning efforts.



WFD8. Support implementation of Alaska's five workforce development plans, including the Maritime Workforce Plan, the Teacher Education Plan, the Oil & Gas Workforce Plan, the Mining Workforce Plan and the Health Workforce Plan.

Copies of these plans are available at: <http://www.alaska.edu/research/wp/plans/>. An April 2016 report, prepared by the McDowell Group for the Alaska Process Industry Careers Consortium, offers a helpful summary of the shared priorities and identified industry skills needed across the five state workforce development plans: <http://apicc.org/wp-content/uploads/2016/07/McDowell-Cross-Industry-Workforce-Final-Formatted-4.28.16.pdf>.

## Preparing Future Workers

WFD9. Continue to strengthen and expand existing secondary and postsecondary vocational and technical education programs.

Build future generations of workers who can meet increased demand for needed jobs, including military, technical and construction jobs generated by F-35 beddown activities.

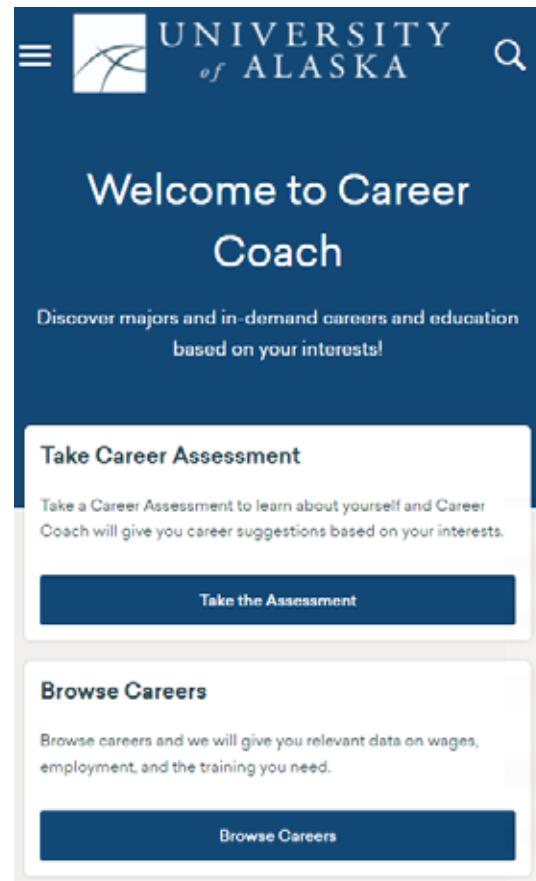
Relevant programs and efforts include:

- a. Alaska CAN! Initiative
- b. FNSB School District's Career and Technical Education programs
- c. University of Alaska Fairbanks programs, including the Community and Technical College (CTC)

This could also feature guest lecture presentations or working with teachers to develop curriculum to help young people learn about the types of employment opportunities available in the community, including jobs that support the region's military installations.

WFD10. Expand and market the use of University of Alaska's Career Coach, as developed by Emsi.

The Career Coach tool maps and guides users to various academic pathways through an online assessment, followed by recommended fields and ultimately live job postings. The tool also has the potential to provide labor market analytics based on user responses.





# Health and Social Services



## KEY TAKEAWAYS

- Military and community health care providers are cooperating and engaging in strategic planning to meet the medical services needs of the increased EAFB population.
- The FNSB has adequate capacity to meet primary care, most specialty care, hospital and surgical needs of the increased population.
- Otolaryngology (Ear, Nose, Throat) is the only specialty with limited capacity and could be further reduced by providers being transferred from Basset Army Community Hospital and community providers retiring or leaving the community.
- Access to behavioral health services for service members and their families is not available at EAFB; limited services are available through the TRICARE network, currently managed by Health Net Federal Services, and through agencies in the surrounding community. Priority gaps include pediatric services for children with developmental disabilities or other behavioral health needs, and supportive services for families.



Credit: Foundation Health Partners



This chapter provides an assessment of the availability, existing capacities and effectiveness of the local and regional health care and social services on EAFB, Ft. Wainwright, and within the FNSB health and social services community. This assessment identifies projected increased demand for services expected from F-35 personnel and their families and gaps in meeting increased demand. The chapter ends with recommended strategies for meeting increased demand while improving and increasing services for existing residents. This chapter reviews:

- Hospital and medical facilities
- Physicians, by specialty
- Special needs and disabilities
- Dental
- Mental health
- Public health facilities
- Social service agencies, organizations and networks.

For additional information about the services available on EAFB, visit the Eielson clinic website: <http://www.airforcemedicine.af.mil/MTF/Eielson/>

## INVENTORY OF DEMAND AND ANALYSIS OF EXISTING CONDITIONS

### Health Snapshot of FNSB Residents

The 2017 County Health Rankings and Roadmaps ranks all regions within states based on health outcomes such as length and quality of life. The FNSB is ranked 3rd out of 20 regions in Alaska for health outcomes and 5th for health factors. Specific data for the FNSB are outlined below.

- 16 percent of adult FNSB residents smoke, lower than the statewide rate of 19 percent. This number has decreased from the 2012 rate of 21 percent.
- 28 percent of Fairbanks residents are obese, almost identical to the statewide rate of 29 percent. This number has remained unchanged since 2012.
- 23 percent of residents report excessive drinking, similar to the statewide average of 22 percent. This number has increased from the 2012 rate of 21 percent.
- 17 percent of residents do not have health insurance, slightly lower than the statewide rate of 19 percent. This number has decreased from the 2012 rate of 21 percent.

### Priority Health Concerns

The FNSB formed the Healthy Fairbanks project team in 2014 to assess, survey and report on the perceived health of the region. The project consisted of community forums and an online survey of FNSB residents. The Healthy Fairbanks 2020 final report was published in January 2015



and provided information on the health status and priorities for the region. The Healthy Fairbanks 2020 Project Team surveyed over 1,300 Fairbanks North Star Borough residents and hosted 13 community forums to gather input on the top health concerns over the next five years. Most surveys were completed online (82%) while the rest were completed during the community forums (18%).

Top community health concerns identified by Healthy Fairbanks 2020:

- Drug and alcohol abuse
- Mental health
- Domestic violence/sexual assault
- Overweight, lack of physical activity

Top personal health concerns identified by Healthy Fairbanks 2020:

- Overweight, Lack of Physical Activity
- Environmental Hazards
- None
- Diabetes (ranked 12th out of 17)

Borough survey responders reported that Alcohol Abuse was the top health behavior that needs to be addressed by the community. Drug Abuse, Access to Mental Health Care, Violent Behavior, and Being Overweight were also identified as the top behaviors that need to be addressed in the Fairbanks North Star Borough.



*Credit: Foundation Health Partners*

## Availability of Health and Social Services and Providers

In 2016, an average of 5,365 people were employed each month in the Health Care and Social Assistance Industry, up from 5,205 in 2015.<sup>1</sup> The Health Resources and Services Administration (HRSA) offers the following guidance for the target number of health providers per population served:<sup>2</sup>

- One primary care physician for every 1,200 to 1,500 people;
- One dentist and one dental hygienist for every 1,000 patients; and,
- One mental health provider for every 200 to 300 patients.

Per the 2017 County Health Rankings, which is based on the National Provider Identification Database, there are 77 primary care physicians in the FNSB. This equates to a ratio of 1,290 residents per physician, which is slightly higher than the statewide average rate of 1,157 residents per physician, and within the HRSA recommended range. Notably, Anchorage’s rate is significantly lower at 965 residents per physician. The FNSB’s numbers have improved since 2012, when the

rate was one physician for every 1,468 residents. There are 512 mental health providers, which is a ratio of 195 residents per provider, also within the recommended range. There are also 124 dentists in the FNSB, which equates to 803 residents per dentist, exceeding HRSA’s recommended ratio. Full comparison details for providers is available in Figure 1.

Note: There may be some variation in the number of dentists within the FNSB. The Alaska 2015-2016 Primary Care Needs Assessment, which counted the number of licensed health care providers with current licenses and Alaska addresses based on Alaska Department of Commerce, Community and Economic Development (DCCED) professional licensing data at that time, there were fewer dentists in the FNSB than identified in the County Health Rankings data. Specifically, the assessment found 0.82 licensed dentists per 1,000 population for FNSB, and 0.78 dentists per 1,000 population in Alaska. These numbers are lower than HRSA’s recommendation of one dentist and one dental hygienist for every 1,000 patients. These lower figures are supported by an August 2018 search of the professional licensing database, finding there are 76 Alaska licensed dentists in FNSB, or approximately .77 dentists per 1,000 patients. Per the Country Health Rankings website: “The County Health Rankings measure of dentists could be used to track progress in communities. However, we encourage data triangulation by finding additional local measures of dental access in your community,

<sup>1</sup> Alaska Department of Labor and Workforce Development, Research and Analysis Section. Based on data from the Quarterly Census of Employment and Wages, Annual Review 2017.

<sup>2</sup> Health Resources and Services Administration, National Center for Health Workforce Analysis.

**FIGURE 1: NUMBER OF PHYSICIANS, DENTISTS AND MENTAL HEALTH CARE PROVIDERS IN FNSB**

	PRIMARY CARE PHYSICIANS	NUMBER OF RESIDENTS PER PROVIDER	DENTISTS	NUMBER OF RESIDENTS PER PROVIDER	MENTAL HEALTH PROVIDERS	NUMBER OF RESIDENTS PER PROVIDER
FNSB	77	1,290	124	803	512	195
Anchorage	312	965	344	868	906	330
Alaska	637	1,157	688	1,073	2,493	296

Source: 2017 County Health Rankings

such as the number of individuals with a dental visit in the past year, or the number of emergency department visits for dental care”. Although health and social service leaders from Eielson Air Force Base and Fort Wainwright did not identify dentistry as a service gap, assuming active duty personnel and family needs are met by on base/post providers, the potential shortage at the broader community-level is a topic to further clarify and explore with dental and other health providers in the FNSB.

## EXISTING CAPACITY AND ANTICIPATED GAPS

### Overview

The population of EAFB is expected to double as a result of the F-35 Beddown but the demographic characteristics of the population will not significantly change. Birth rates are expected to increase at the same rate as the overall population increases. Demand for specialty care will increase at a similar rate without creating demand for new specialties not currently available.<sup>3</sup> Most Air Force families stationed at Eielson are served by Bassett

<sup>3</sup> Interview with K. Lee Hardcastle, EAFB, December 2017.

<sup>4</sup> U.S. Air Force F-35 Operational Beddown Environmental Impact Statement (EIS), February 2016.

Army Community Hospital on Ft. Wainwright, which has the capacity to support about 13,000 individuals. EAFB households represent about one-third of Bassett’s total patient population, however, Bassett is operated by the U.S. Army so it will not necessarily increase its capacity to meet increased demand from EAFB personnel and their families. Estimates indicate the demand for obstetrics and pediatrics will increase by about 30 percent due to the F-35 beddown.

### Primary Care and Dental Services

The 354 Medical Group oversees outpatient primary care for all eligible Air Force beneficiaries on and around EAFB. The primary care clinic provides outpatient clinical services, physical therapy, pharmacy, laboratory, x-ray and immunization services.<sup>4</sup> The 354 Medical Group has a dental clinic on-base that provides general dental care for active duty military members.

In North Pole, health care services are limited, but the following are available: a family physician, prescription laboratory, pharmacy, chiropractic clinic, optometrist, physical therapy office, and four dentists. For other health services, residents must travel to Fairbanks.

During a telephone-based survey of 507 North Pole residents in spring 2017, Eielson and Salcha area, respondents graded their access to medical services on a scale of A to F (see Figure 2). The middle option, grade C, received the most responses with 27 percent; in addition, more respondents gave access to medical services a negative grade (42 percent selected D or F) than a positive grade (27 percent selected A or B). In addition, 74 percent of survey respondents said they would like to see more medical providers in the North Pole area.

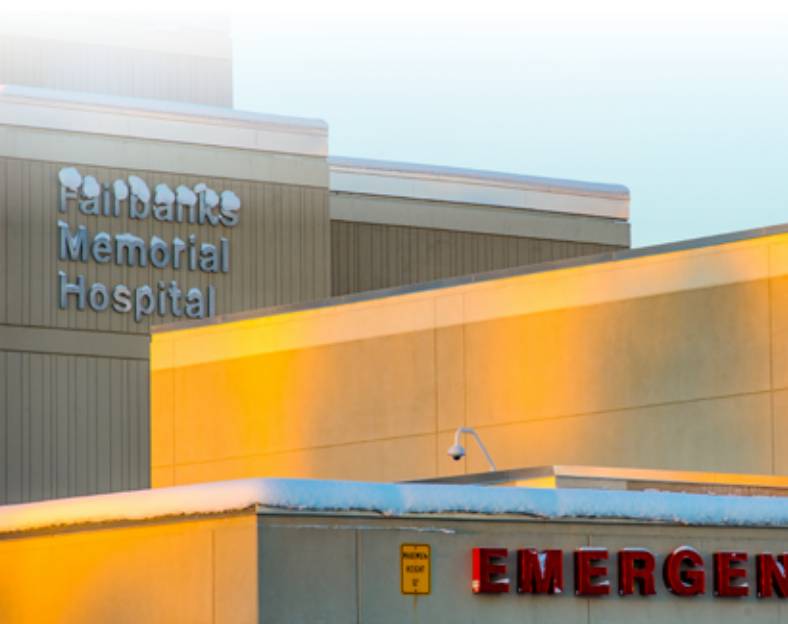
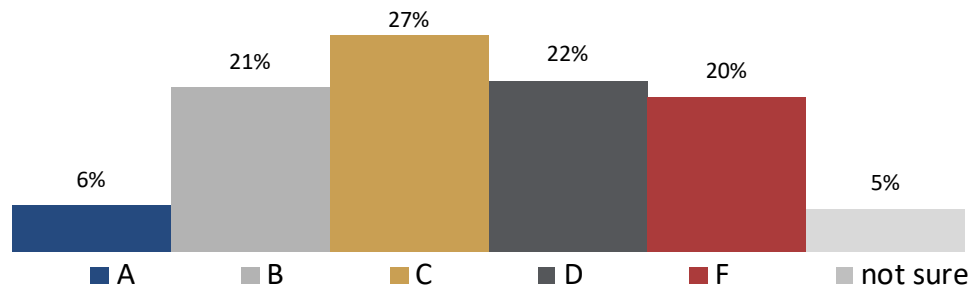


FIGURE 2: CITY OF NORTH POLE RETAIL NEEDS SURVEY: RESPONSE TO THE QUESTION, “WHAT GRADE WOULD YOU GIVE THE NORTH POLE AREA FOR ACCESS TO MEDICAL SERVICES?”



During the development of the City of North Pole Comprehensive Strategic Plan in 2015, North Pole residents also shared feedback on availability and access to health care services in the area. Residents expressed that a local clinic and more providers are needed to adequately meet the needs of area residents and to provide services to EAFB families. If personnel are married, both receive a BAH to use for the cost of housing. Similar to singles, if a married couple receives more BAH than their rent, they keep any of the extra BAH to use at their discretion.

## Hospital and Medical Facilities

The hospital and medical facilities serving EAFB and the region include:

- Bassett Army Community Hospital, a small, 24-bed general medical and surgical hospital on Ft. Wainwright.<sup>5</sup> This hospital provides specialty and inpatient care for EAFB members. The following services are available: substance abuse programs, behavioral health, Exceptional Family Member Program for families with special needs, emergency medicine, maternal newborn unit (MNU), nutrition care, optometry, preventive medicine, pathology, primary care, radiology, social work services, surgery, women’s health clinic. Bassett

is also home to the Fairbanks VA Community Based Outpatient Clinic as part of a Veteran’s Affairs /Department of Defense inter-agency sharing agreement. The outpatient clinic has 18 staff and offers a health care program to veterans including health promotion, primary care, mental health care, women’s health care, orthopedics, audiology, and case management. It is important to note, neither the EAFB clinic or Bassett Army Community Hospital behavioral health providers see military dependents.

- Fairbanks Memorial Hospital, the primary health care facility in the Fairbanks North Star Borough, has 152 beds.
- Denali Center, a short-and-long term facility next to the Fairbanks Memorial Hospital, has a 90-bed capacity.
- Tanana Valley Clinic, a multi-specialty practice, has 15 specialties represented with over 60 providers. The 1st Care Clinic offers after-hours and urgent care services seven days a week.

<sup>5</sup> U.S. News: Best Hospitals. Accessed August 8, 2017 from <http://health.usnews.com/best-hospitals/area/ak/bassett-army-community-hospital-6940066>.



- Chief Andrew Isaac Health Center, which provides comprehensive outpatient services to Indian Health Service beneficiaries in Interior Alaska, is operated by the Tanana Chiefs Conference, the Alaska Native Regional Health Corporation serving Interior Alaska.
- Interior Community Health Center, located in Fairbanks, provides primary health care including medical, dental, integrated behavioral health, preventive and educational services for people in Alaska's Interior. The health center is a certified Patient-Centered Medical Home and provides services to all public and private insured and offers a sliding fee scale.

FNSB residents benefit from a locally owned and operated integrated health system. In January 2017, Foundation Health Partners, a wholly owned subsidiary of the Fairbanks Hospital Foundation, took over administration of the Fairbanks Memorial Hospital, the Tanana Valley Clinic and the Denali Center, which are all owned by the Fairbanks Hospital Foundation. Foundation Health Partners is governed by a 15-person Board of Directors composed of local providers and residents.

Bassett Army Community Hospital and Fairbanks Memorial Hospital have maintained an agreement to provide mutual assistance and to allow for cross-credentialing of providers. This agreement allows providers stationed at Bassett to follow patients when they are admitted to Fairbanks Memorial. Foundation Health Partners administrators and military planners have worked together to develop a strategic plan for identifying priorities to meet medical service needs.

As identified above, primary care and dental care services are available at EAFB and in the nearby community of North Pole. Planning is underway to increase services to meet the needs of the increased population in the EAFB clinic. However, access

to urgent care and emergency medical services remains lacking. Bassett Community Hospital is located 27 miles from EAFB and referrals for care to Bassett are infrequent and limited to emergencies. Stakeholder interviewees shared that EAFB medical staff refer Airmen and dependents to Anchorage or out-of-state military medical facilities for all elective procedures, and that referrals to facilities in Anchorage and Lower 48 medical facilities are more common than to services in Fairbanks, resulting in a high travel budget for medical transfers. Local providers are interested in exploring the feasibility of an urgent care or other clinic in North Pole, given the increasing civilian population in the 99705 area and the projected increase in population at EAFB.

Bassett Community Hospital does not provide trauma services. These patients are transferred to Fairbanks Memorial Hospital. Foundation Health recently made significant investments to modernize the surgical suite at Fairbanks Memorial Hospital. The hospital is part of the TRICARE network and accepts Veterans Affairs (VA) benefits.



Credit: Foundation Health Partners

## Medical Specialty Care

Military and civilian health planners are working together to assess potential gaps in specialty care that may be exacerbated by the increased population at EAFB. Because specialty providers are not available at EAFB, referrals are made to Bassett Community Hospital, the local TRICARE network, or to providers outside of the community, as described above. Bassett has the following specialties available:

- Audiology / Speech Pathology
- Chiropractics
- Clinical Psychology
- Dermatology
- Dietetics
- Emergency Services
- Family Advocacy
- Family Health
- Family Medicine
- Health Promotion
- Immunizations
- Internal Medicine
- Mental Health
- OB/GYN
- Obstetrics and Newborn Services
- Occupational Health
- Occupational Therapy
- Optometry
- Orthopedics
- Otolaryngology (ENT)
- Pediatrics
- Physical Therapy
- Population Health (wellness)
- Psychiatry
- Psychology
- Social Work
- Substance Abuse
- Surgery

Otolaryngology (Ear, Nose, Throat) is one specialty with limited capacity that may be further reduced by providers being transferred from BACH and community providers retiring or leaving the community. The current ENT group in Fairbanks accepts TRICARE and VA benefits and is very welcoming to service members. With potential staffing changes to this group, however, there is some uncertainty about the availability of this specialty for both the local community and for service members. The TRICARE West

Region is now operated by Health Net Federal Services, which will be identifying ENT resources to participate in the network. Neither community nor military efforts have succeeded in recruiting a new ENT provider to the area. A 2014 national survey conducted by the Association of American Medical Colleges found that there is one active Otolaryngology specialist physician for every 33,919 people in the United States<sup>6</sup>, making it one of the more difficult specialties to recruit to a remote area. Orthopedics is another specialty where the number of specialists in the region may not be adequate to meet the needs of the expanded EAFB population. One orthopedic surgeon is currently located at Ft. Wainwright and seven are located in Fairbanks, however, not all are included in the TRICARE network. Adequate access to physical therapy is available in the region through the TRICARE network; and this service is available at the EAFB clinic for many diagnoses.

<sup>6</sup> Association of American Medical Colleges 2014 Physician Specialty Data Book. <https://www.aamc.org/download/473260/data/2014physicianspecialtydatabook.pdf> Accessed February 2018.

**“ Specialty care is a challenge. My wife has to go to Wasilla every 6 months to see an endocrinologist.”**

**“The largest expense is when people have to go to Anchorage or Seattle because a specialist is not available in the FNSB. Patient travel is more than an expense issue – it’s also a quality of life issue.”**

*-Eielson focus group participants*

Credit: Foundation Health Partners



## Special Needs and Disabilities

The Department of Defense provides the Exceptional Family Member Program (EFMP) to identify service members and their families with special needs that might require specialty medical care or other specialty services. Special needs may include potentially life-threatening conditions or chronic medical or physical conditions that may require follow-up with primary care more than once per year, or specialty care; current or chronic mental health conditions; asthma or other respiratory chronic conditions; some diagnoses of attention deficit disorder or attention deficit hyperactivity disorder; and other chronic health conditions.<sup>7</sup>

Some gaps in the availability of specialty services for EAFB households could pose a challenge for incoming EAFB households in the EFMP program, including developmental pediatrics and pediatric speech therapy. In general, pediatric sub-specialties are not available through military facilities or community providers in adequate supply to meet the projected demand. When service needs of potential service members and their families cannot be met, it may mean that service member cannot be assigned to the location.

<sup>7</sup> DoD Instruction 1315.19, The Exceptional Family Member Program (EFMP). <http://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodi/131519p.pdf> Accessed January 2018.



## Mental and Behavioral Health Services

Behavioral health services are limited throughout the region with a shortage of both providers and facilities at all levels of behavioral health care. As is the case for much of Alaska, inpatient mental health services operate at capacity and are often not adequate to meet the needs of the existing population. Similarly, outpatient services are not available at EAFB but are available through the TRICARE network in Fairbanks. Eielson households who participated in a series of focus groups, as well as providers affiliated with Foundation Health Partners, agreed that mental and behavioral health services are not adequately available in the community.

The priority gap is for behavioral health services for children, including outpatient psychiatric care, to assess and manage prescription medications to address behavioral health issues. Some of these services are provided through telehealth, but not in adequate supply. Outpatient mental health services are provided by clinical psychologists but these providers cannot prescribe nor manage medications.

In January 2015, the FNSB published a report from its Healthy Fairbanks 2020 Community Health Needs Assessment. One of the key findings was an “overwhelming consensus” that the FNSB’s greatest health challenges were drug and alcohol abuse, mental health, and domestic violence/sexual assault.<sup>8</sup> Some of the barriers to addressing these health issues were identified as the lack of funding for services, insufficient number of providers and lack of available services.<sup>9</sup>

A recent State of Alaska inventory of substance use disorder residential treatment facilities, updated weekly, shows that Fairbanks Native Association offers 10 beds for residential substance use

disorder treatment at the Ralph Perdue Center in Fairbanks. Currently, there is a 40-day wait for the next available bed with 11 people on the waitlist. A separate 12-bed facility for women and children is also operated by Fairbanks Native Association, currently with one bed available and two people on the waitlist.<sup>10</sup>

Fairbanks Memorial Hospital operates a 20-bed inpatient mental health unit for evaluation and treatment of acute psychiatric disorders with four intensive care beds and 16 acute beds.

Outpatient behavioral health services are provided by a range of public and private providers, both tribal and non-tribal, in the Fairbanks area.

In the Greater North Pole area, the area projected to be most impacted by the F-35 Beddown, there is at least one forensic psychology and psychotherapy practice with a clinical psychologist and licensed professional counselor on staff.

<sup>8</sup> <https://fairbankshospitalfoundation.com/wp-content/uploads/Healthy-Fairbanks-2020-Final-Report-FINAL.pdf>

<sup>9</sup> Ibid

<sup>10</sup> <http://bedcount.dhss.alaska.gov/BedCount/statewide.aspx?ProgramType=SRT>



Credit: Foundation Health Partners





Credit: Foundation Health Partners

## Public Health Facilities

The Fairbanks Public Health Center serves the FNSB and surrounding main Fairbanks communities as well as itinerant nursing in other communities, including Eielson. Services include Family Planning/Pregnancy Testing, Immunizations (Immunization schedule), School Screenings, Sexually Transmitted Infection (STI)/Human Immunodeficiency Virus (HIV) screening, Tuberculosis (TB) screening and treatment, Well Child Exams, Infectious Disease Investigation, Health Education, Community Assessments, and Emergency Preparedness. The public health clinic at Eielson also provides immunizations.

<sup>11</sup> <https://www.eielsonforcesupport.com/index.php/family/afrc> accessed April 2018

## Social Service Agencies, Organizations and Networks

EAFB families can access family support services through the Airman & Family Readiness Center. This center is chartered as a primary prevention agency and functions to ensure required resources are available to support active duty and their families. The center designs, develops, and conducts family programs according to base and community requirements and capabilities. Services are available for active duty members and their families, DoD civilians and retirees. The center provides the following services:

- Air Force Aid Loan Assistance
- Job Search Skills
- Childcare Assistance
- Volunteer Opportunities
- Resume Reviews
- Personalized Debt Reduction Plans
- Transition Assistance
- Relocation Information
- Military Family Life Counselors<sup>11</sup>

The EAFB Force Support Squadron provides an online directory of family supports, educational opportunities, recreation and dining options, and special events for military personnel and their families at <https://www.eielsonforcesupport.com/>.

The FNSB has a range of not-for-profit and Tribal community-serving organizations providing social services to meet the community's needs. Some of the region's most significant providers and collaborative efforts to address the health and social needs of the region are:

- Fairbanks Native Association was founded in 1967 as a civil rights organization to address discrimination against Alaska Native people.

Today, its mission is to “promote spirituality, cultural identity, self-reliance, physical and mental health, by improving the quality of life of our community through professional quality services.”<sup>12</sup> Fairbanks Native Association provides the following services to both Alaska Native/ American Indian and non-Native individuals and families: behavioral health detoxification and treatment; Head Start and other educational enrichment; community services including food, clothing and supports for other basic needs, elder services, and a cancer support program.

- The Resource Center Parents and Children (RCPC) was formed in 1973 by a small group of concerned Fairbanks citizens who met as the Fairbanks Child Protection Task Force (FCPTF) to discuss the problems of child abuse and neglect in the Fairbanks community. Their mission is to prevent child abuse and neglect by strengthening the family structure, helping parents with parenting skills, and providing a safe place for parents to share and deal with parenting issues. The Resource Center for Parents and Children offers an array of family support services for all families, including those involved with Alaska’s Office of Children’s Services; Women, Infants and Children (WIC) nutrition support program; and, a child advocacy center for victims of sexual abuse.
- Tanana Chiefs Conference (TCC) region covers an area of 235,000 square miles in Interior Alaska, equal to about 37% of the entire state. There are six sub regions within TCC: Lower Yukon, Upper Kuskokwim, Upper Tanana, Yukon Flats, Yukon Koyukuk, and Yukon Tanana. Within these sub regions

are 39 villages and the FNSB. TCC provides services across the region. In addition to the medical, dental, and pharmacy services provided at Chief Andrew Isaac Health Center, TCC offers an array of behavioral health, community prevention, environmental health, home care for elders, child care, infant learning, educational supports, energy assistance, family supports, and community development assistance.

- United Way of Tanana Valley is a local funding agency and support organization for area non-profit organizations in the FNSB.
- The Interior Alaska Center for Non-Violent Living addresses domestic violence and sexual assault in the Fairbanks area and Interior Alaska with an array of prevention, community education, advocacy and support services; shelter and supportive housing for victims of domestic violence; family support services including supervised visitation and custody exchange; a community batterers intervention program; and, a 24-hour Careline for suicide prevention.
- The Fairbanks Wellness Coalition is a group of individuals and organizations whose purpose is to improve the health and wellbeing of FNSB residents. The coalition has two current priorities to address wellness in the Fairbanks



<sup>12</sup> <https://www.fairbanksnative.org/about-fna/profile/> accessed February 2018

region: suicide prevention and opioid misuse prevention. The members of the coalition include the Alaska Careline, Boys & Girls Club of Fairbanks, CAP: Community Action Planning, The Door – Fairbanks Youth Advocates, Fairbanks Housing & Homeless Coalition, Fairbanks Native Association, Fairbanks Prevention Alliance, FNSBSD, Fairbanks Opioid Workgroup, Ft. Wainwright, Fairbanks Re-entry Coalition, Interior Alaska Center for Non-Violent Living, Public Relations Society of America, Tanana Chiefs Conference, United Way of the Tanana Valley, and the University of Alaska Fairbanks.

A comprehensive listing of health and social services organizations operating in the FNSB organized by sector with web addresses for further information, is included in the Health and Social Services Appendix.

While there is not a comprehensive needs assessment available for the FNSB to identify gaps in services relevant to military personnel and their families, one area of potential need is support for families to prevent issues that can result from the unique stresses inherent in military life. Specific family stressors include isolation from extended families and involuntary relocations, long work hours and lengthy absences from home for temporary assignments, peacekeeping missions, and combat deployments.<sup>13</sup> Military families also benefit from unique resources, values, and strengths that promote and increase resilience and that protect them from lasting effects of stress. Most military families are accustomed to handling change and uncertainty with strength and dignity. Other protective factors associated with the military include steady jobs and income, stable housing, education and advanced training, and a high proportion of two-parent families.

The military itself provides resources including counseling, support for home-based parents, and peer mentoring, all of which can help prevent child maltreatment and support family recovery and resilience.<sup>14</sup>

National studies indicate that while historically the rate of child maltreatment in military families has been about half the rate reported in the civilian population, since 2003, the rates of child maltreatment and family violence in military families have outpaced the rates reported for non-military families. This increase coincides with the post-9/11 rise in overseas military operations and deployments and the return of service members with physical and behavioral health issues. Both child maltreatment and domestic violence are more common among service members who have returned from deployments involving combat. Service members who experience combat are at increased risk of traumatic brain injury (TBI), mental health disorders, and substance abuse disorders. Approximately 20 percent of troops who have returned from Iraq or Afghanistan met the diagnostic criteria for PTSD or depression, and 20 percent have met criteria for probable TBI during deployment.<sup>15</sup>

<sup>13</sup> Research Brief: Child Maltreatment Within Military Families. Deborah A. Gibbs, MSPH, Sandra L. Martin, PhD, Monique Clinton-Sherrod, PhD, Jennifer L. Hardison Walters, MSW, and Ruby E. Johnson, MS. May 2011. <https://www.rti.org/sites/default/files/resources/rb-0002-1105-gibbs.pdf> Accessed April 2018.

<sup>14</sup> Child Maltreatment in Military Families: A Fact Sheet for Providers, The National Child Traumatic Stress Network, 2015. Accessed at <https://www.nctsn.org/resources/child-maltreatment-military-families-fact-sheet-providers>.

To address these specific challenges and to build upon the strength and resilience of military families, the following services may experience increased demand as the population at EAFB increases:

- The Family Advocacy Program (FAP), a congressionally mandated DoD program designed to prevent and respond to reports of child abuse/neglect and domestic abuse in military families<sup>16</sup>
- Behavioral health programs that provide treatment for mental health and substance use disorder
- Family support groups, parenting classes, and family-friendly recreational opportunities
- Childcare, both center-based and in-home care

Coordination will be required to access these services between clinical and support service providers at EAFB.

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<sup>15</sup> Ibid.

<sup>16</sup> Department of Defense Family Advocacy Program (FAP) Overview. [http://responsesystemspanel.whs.mil/Public/docs/meetings/Sub\\_Committee/20140226\\_VS/Materials\\_Presenter/01\\_FamilyAdvocacyProgram\\_Overview\\_20140226.pdf](http://responsesystemspanel.whs.mil/Public/docs/meetings/Sub_Committee/20140226_VS/Materials_Presenter/01_FamilyAdvocacyProgram_Overview_20140226.pdf). Accessed April 2018.



*Credit: Foundation Health Partners*



## HEALTH AND SOCIAL SERVICES STRATEGIES – WHAT ARE OUR RECOMMENDED SOLUTIONS FOR MEETING ANTICIPATED GAPS?

Discussions with military medical providers and planners, local health care providers, and a review of published data on service availability in the region identified the following strategies to consider as part of the Eielson AFB Regional Growth Plan. The provision of on-post medical services is likely to have the most immediate impacts from the increase in service population associated with the F-35 Beddown. However, other issues may be slower to materialize as the increase in population is absorbed into the health and social services delivery system serving the region. Some of the issues identified in this chapter, such as the limited availability of behavioral health and pediatric subspecialty care, are pre-existing systemic issues within the regional and statewide system and will require a more holistic and long-term approach to address.

**HSS1: Maintain joint planning and cooperation among military and civilian health planners and health and social service providers serving the region. Consider conducting a joint assessment of health needs and resources on a regular basis.**

Addressing increased regional demand for health and social services created by population growth at EAFB will require close and continuous cooperation between military and civilian planners and healthcare providers. Current joint planning efforts are developing a strategic plan to guide development of services. However, this is an internal document and not yet a formal process that will be updated regularly and publicly available. This joint planning should be maintained and formalized to assess capacity, identify gaps, and implement solutions on an ongoing basis, to meet the health and social services needs of the region's population.

To support this joint planning, accurate data is needed to gauge capacity and identify gaps in care. While various entities conduct this type of assessment in a variety of ways, bringing resources together to conduct joint assessments of capacity and gap identification may be more efficient and provide more comprehensive results. Conducting this assessment on a regular basis would also provide an ongoing measure of the extent to which health and social services needs are being met.

## HSS2: Address known gaps in medical specialty care and behavioral health services.

The increased regional demand for health and social services created by population growth at EAFB will result in more referrals for health and social services to civilian health and social service providers who offer services not available at EAFB or Bassett Community Hospital. The supply of some of these services is already projected to not meet the increased demand; specifically, in the Otolaryngology (Ear, Nose, Throat) medical specialty, and potentially in orthopedics, if the increased demand cannot be met by increased utilization of physical therapy services. Behavioral health services were also identified as an area where increased capacity is and will be needed. Specifically, in the areas of behavioral health services for children, including outpatient psychiatric care, to assess and manage prescription medications for behavioral health issues. As described above, these services are not adequately available in most Alaska communities. Future evaluation of the regional health and social services system should focus on the adequacy of practitioners related to these specialties.

## HSS3: Ensure adequate availability of family support services to build on the strengths of military families and mitigate risks.

As described above, military families possess unique strengths and face unique risks due to their roles as soldiers and family members of military personnel. The increased population at EAFB will increase the population of young families in the region and may increase demand for services to strengthen and support families with young children. To ensure adequate availability of services necessary to both prevent and address family issues such as domestic abuse and child maltreatment, a comprehensive needs assessment should be conducted and evaluated on a regular basis. This should include an assessment of the strengths and risks of families at EAFB, and the services provided directly by the military, and those available to serve military families in the community.

As indicated by the needs assessment, develop referral pathways between military and civilian providers and ensure resource directories and the EAFB Airman & Family Readiness Center has up-to-date information available about community



*Credit: Foundation Health Partners*

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## Public Safety



## KEY TAKEAWAYS

- As a second class borough, the Fairbanks North Star Borough (FNSB) has the legal authority to provide a suite of emergency operations services as mandated in Alaska Statute, Title 29: Municipal Government, and as specifically acquired by election or ordinance. These powers include: animal control, fireworks control, emergency medical services (EMS), emergency management, fire protection, and emergency communication services.
- Overall, with existing mutual aid agreements in place, and a potential expansion of those agreements, existing fire protection and EMS resources are adequate to meet increased demand related to the incoming F-35 population. The 911 infrastructure is also adequate to support additional population.
- In the Greater North Pole Area, where most F-35 families are anticipated to live, there may be a need for additional public safety staff, and an evaluation of the location of fire stations and apparatus. This need will be determined by the location of new housing.
- The Alaska Land Mobile Radio (ALMR), a shared and primary radio system for all local, state and federal public safety entities, is challenged by uncertain state funding and poor coverage in some areas of the borough, including those most likely impacted by historical and projected growth (Greater North Pole, Moose Creek and Salcha). FirstNet, a nationwide broadband network for first responders, would supplement and replace ALMR, but the cost and capabilities are uncertain.
- The current process to update the 2015 FNSB Emergency Management Plan is an opportunity to better coordinate across municipalities toward a shared and tested set of borough-wide emergency management priorities.
- The Borough's Animal Control/Shelter has adequate capacity to address F-35 related needs. However, the facility is dated and in need of major upgrades or total replacement to effectively and efficiently address current and projected need. Additionally, the facility was never designed to care for and shelter exotic birds, reptiles and other animals, which comprise an increasing number of animals surrendered to the facility.



During a series of focus groups with active duty personnel and their families in October of 2017, participants shared a spectrum of comments related to the importance of and their perception of public safety in the FNSB. Some participants compared the Fairbanks area to Boston where crime rates are “much worse”. Others had read about and/or experienced crime in the FNSB area, while other families noted they felt safe in the FNSB. Most families identify safety as a factor in selecting where to live, where to send their children to school, and which childcare to select. Safety is integral to a high quality of life for military families.

**When choosing a place to live, what do you look for? What are the most important characteristics? What is your preferred location?**

- “Safety.”
- “Have heard there is a lot of crime in the FNSB.”
- “The internet says crime is really bad.”

**What factors influenced your decision on where to send your child(ren) to school?**

- “Crime rates in areas surrounding schools is also a factor.”

**What are your main concerns related to public safety?**

- “This is probably the safest place to live.”
- “Public safety wise, this is a good place.”
- “I’ve heard people will take your plug-in cord if you leave it out, but that’s the worst.”
- “I’m concerned about the distance if I live off-base. If something bad happens, how far away is the fire department and the emergency personnel?”
- “The areas, including the homes and businesses, near child care facilities in the community look sketchy. You hear stories about needles. It’s not that I don’t think the police are doing their job; they are too spread out.”
- “There are only a handful of public safety officers who are assigned to Salcha.”
- “Living on base is safer and my stuff doesn’t wander off.”
- “Crime in Boston and other cities is much worse.”

A necessary starting point, for existing and/or future residents, is the basic understanding of the Borough's public safety, or emergency operations powers. As a second class borough, the FNSB has the legal authority to provide a suite of emergency operations services as mandated in Alaska Statute, Title 29: Municipal Government, and as specifically acquired by election or ordinance. The Borough's Emergency Operations Department oversees these functions, including: animal control, fireworks control, emergency medical services (EMS), emergency management, fire protection, and emergency communication services. As outlined in the Borough's most recently approved budget for fiscal year (FY) 2017-2018 <sup>1</sup>, these powers include a combination of areawide, non-areawide and service area powers. By definition:

- Areawide powers are exercised throughout the borough. Specific functions include:
  - Animal Control (and additional powers to prohibit cruelty to animals) – conferred areawide power by ordinance (1965; 1996).
  - Emergency Communication Services (911) – acquired by ordinance (1993).
  - Emergency Management – acquired non-areawide power (1983).
- Non-areawide powers are exercised in the area of the borough outside the cities of Fairbanks and North Pole. Specific functions include:
  - Fireworks Control – conferred non-areawide by ordinance (1969).
  - Emergency Medical Services – acquired non-areawide power (1983).
- Service area powers are exercised in specific areas upon petition and adoption by vote of the

residents of the specific service area. Specific functions include:

- Fire Protection – acquired by election, powers of some service areas (1981).

The focus area includes the broad umbrella of “public safety”. Existing conditions, potential needs and gaps, and recommended solutions are outlined for each of the functions identified above, including those functions administered by the cities of Fairbanks and North Pole, and the State of Alaska (which includes the University of Alaska Fairbanks). Many of the potential needs and gaps identified in this focus area are longstanding public safety issues in the Borough, and have been identified in other Borough reports, including but not limited to:

- FNSB Assembly Discussion about Fire and Emergency Medical Services: Information Packet (August 2015)
- FNSB Comprehensive Emergency Management Plan (January 2015)
- FNSB Comprehensive Review of Emergency Medical Services: Final Report (August 2011)

Summarizing and strategizing solutions to these historical and often complex public safety issues through the RGP process, better positions the



<sup>1</sup> <http://fnsb.us/Documents/ApprovedBudget.pdf>

Borough and its partners to improve existing levels of service, a benefit to both existing and future residents. The perspective of the public safety leaders in the FNSB is equally important. For this focus area, the Regional Growth Plan team conducted interviews with leadership at the FNSB Emergency Operations Department, Fairbanks Fire and Police and Fire Departments, City of North Pole Fire and Police Departments, Salcha Fire and Rescue, and the Alaska State Troopers.

## EXISTING CONDITIONS, POTENTIAL NEEDS AND GAPS

### Fire Protection and Emergency Medical Services

#### Existing Conditions

To summarize Borough fire protection and EMS powers and contractor roles:

*“The Borough has non-areawide emergency medical services and ambulance powers. Non-areawide means that the Borough, through its contractors, can perform this function in any area in the borough, outside of the cities. It can assist within the cities pursuant to a mutual aid agreement...Each EMS contractor must make the decision, based on its available staffing, resources, and funding, as to what means it will use to access a known patient in a known location... Within the fire service areas, the Borough exercises its fire protection powers. The fire departments can perform fire protection duties outside of fire service areas pursuant to a mutual aid agreement, or if otherwise authorized by law. If fire service area assets are used to support an EMS function, the fire service area must be compensated for that use.”*

- Excerpt from September 10, 2010 letter written to fire department chiefs by Brad A. Paulson, FNSB Emergency Services Administrator (illustrating the complexity of fire protection and EMS infrastructure and administration in the FNSB)



Fire service is provided in areas of the borough where residents have elected to tax themselves for the specific purpose of procuring fire protection services<sup>2</sup>. Wildland fire service is provided by the State of Alaska. However, the State of Alaska may also provide limited service outside of fire service areas, as resources are available. Their mission in those instances is to hold the fire to the structure. Fire departments can also respond to areas outside of their service areas or agreements if lives are threatened (e.g., entrapment).

As shown in Figure 1, there are nine fire service areas in the FNSB. Five of the nine fire service areas are established through Borough election and include the Chena Goldstream, Ester, North Star, Steese and University fire service areas. Other service areas include geographies and populations covered by the City of Fairbanks, City of North Pole and the military installations of Eielson Air Force Base and Ft. Wainwright.

The Borough's five fire service areas are funded through a percentage of FNSB property tax. Each fire service area is served by a non-profit fire department (or "Inc."), funded through a combination of contract funds with the Borough (i.e., property tax funds) for labor and operations, and unique funding mechanisms as implemented by individual fire departments (e.g., profits from pull tab operations, percentage of transactions through Amazon). Unique to this model is Salcha Fire and Rescue, a volunteer department established in 1992, and the University Fire Department. Unlike the departments described above, Salcha Fire and Rescue has no defined service area and covers those areas outside of the North Star Fire Service Area, south of Eielson Farm Road. Salcha Fire and Rescue is funded primarily through one-off subscriptions with residents for fire protection services, but like other departments serving designated areas, they receive EMS funding from the Borough. The Borough

contracts with the State of Alaska for the University Fire Department.

Each fire department, or "Inc.", has a fire chief and board of directors. Fire department leadership coordinates with fire service area commissioners, each of whom is appointed by the Borough mayor for a three-year term. In most cases, fire department equipment is owned and provided by FNSB. There are some exceptions such as new apparatus recently purchased by North Star Volunteer Fire Department using funds raised separate from Borough funding, or the Salcha Fire and Rescue that has acquired apparatus through donations from the Borough and legislative grants.

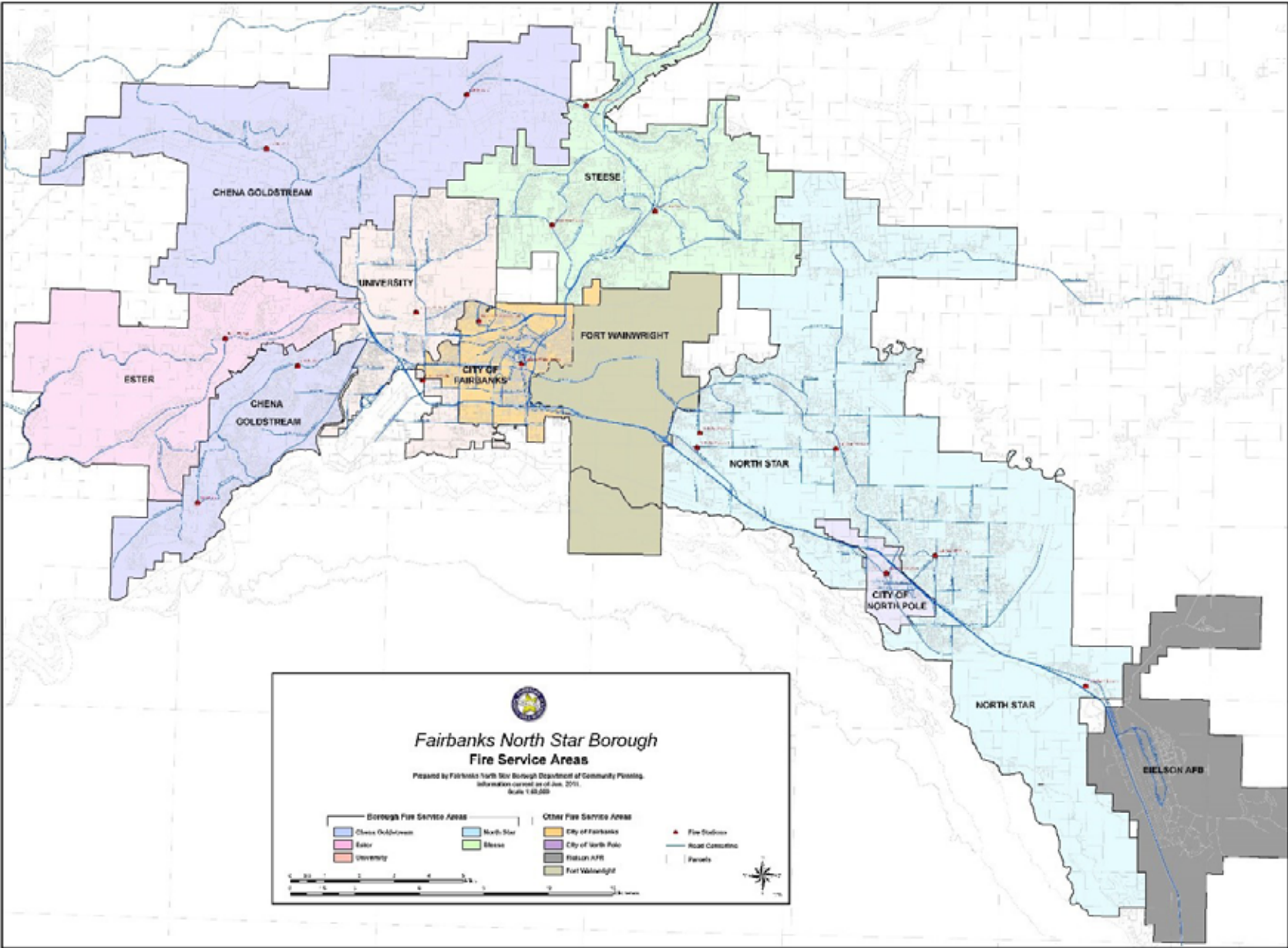
Under mutual aid agreements (further described below) between fire departments, fire services from both Ft. Wainwright and Eielson respond to calls for assistance in FNSB communities. In recent years, as other fire services have experienced reductions in available staff, mutual aid from both military fire services have become more important for fires and emergency medical assistance responses.<sup>3</sup>

<sup>2</sup> Salcha Fire is not tax payer supported for operations, but does receive surplus equipment that was originally purchased by FNSB tax payers.

<sup>3</sup> Communication with David Gibbs, Director of the FNSB Department of Emergency Operations, 10/31/2017



FIGURE 1: FNSB FIRE SERVICE AREAS



The Borough also provides non-areawide emergency medical services (EMS) in all areas outside the cities of Fairbanks, North Pole, Ft. Wainwright and EAFB. The Inc.s outlined above, and Salcha Fire and Rescue, have independent contracts with FNSB Emergency Operations to provide EMS. As detailed in a 2015 FNSB Memorandum on legally available options for fire services: “the EMS areas are generally larger than fire service areas because EMS is a non-areawide service (all borough areas except cities). Also, while EMS is available to all residents on the road system, some FNSB residents live outside of the fire service areas.” To summarize, the EMS area is the entire non-areawide area, so all EMS contracted services will respond to the entire area. Their primary response areas are designated for initial dispatch, based upon location. In that way, there are no

"larger" EMS areas, only one non-areawide EMS area.

Like the fire service areas described above, the Borough contracts with local fire and rescue departments to deliver EMS. However, the bulk of fire department activity is EMS-related. That said, per a 2015 Borough Memorandum from the then Assistant Borough Attorney, “...fire service area funds cannot be diverted and expended on EMS obligations. If fire service area equipment or resources are expended in support of the Borough’s EMS services, EMS funds must reimburse the fire service.” Each department has paid staff to crew ambulances, but many staff play a dual role, with the skills to crew ambulances and fire apparatus. As such, fire department chiefs have two core leadership roles, or “wear two hats”, one for fire, one for EMS.

While they are called volunteer services, all departments have a dedicated paid staff to provide service on a 24-hour basis. Departments operate in a semi-autonomous manner and are participants in the FNSB Emergency Operations Department automatic and mutual aid agreements for fire protection and EMS services. Automatic aid is assistance that is dispatched automatically by a contractual agreement between two fire departments, communities or fire districts. Mutual aid is assistance that is dispatched, upon request, by the responding fire department. Usually it is requested upon arrival at the scene. Mutual aid in the FNSB is defined by signed contractual agreements. Specifically, fire department chiefs have developed detailed GIS-driven response plans that are implemented by dispatchers. All area response agencies have signed a "mutual aid" agreement to send requested resources within their capabilities upon request by another agency. There is no cost to the receiving agency for this assistance.

An additional factor differentiating fire departments (service providers) are those that operate transport ambulances and those that provide first responder services (see list below). First responders have less medical training and administer care until ambulances arrive and can transport individuals to hospital.

Operate transport ambulances:

- University Fire Department
- Steese Area Volunteer Fire Department
- Chena Goldstream Fire and Rescue
- Salcha Fire and Rescue

Provide first response services:

- Northstar Volunteer Fire Department
- Ester Volunteer Fire Department

Response to wildland fires is the responsibility of the Alaska Department of Natural Resources (ADNR), Division of Forestry (DOF), with assistance from FNSB fire services as needed. More specifically, "at-risk communities", including the FNSB, are covered by the Borough's Community Wildfire Protection Plan<sup>4</sup>. The FNSB is in an area where lightning strikes and other ignition sources frequently cause summer wildland fires. These fires can grow quickly, creating hazards to property and health. It is not uncommon for these fires to cause unhealthy air quality in the borough's inhabited areas. With climate change accounting for the increasingly drier weather in the Interior, longer summers and the warmer temperatures recorded in the last 20 years, there is an expected increase in frequency, intensity, growth and overall seasons for wildland fires in the FNSB.

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<sup>4</sup> Community Wildfire Protection Plan Phase I, 2006 and Phase II 2009, ADNR Division of Forestry, Fairbanks Area Office. A third phase of the plan is still needed for completion of the project.



## Potential Needs and Gaps

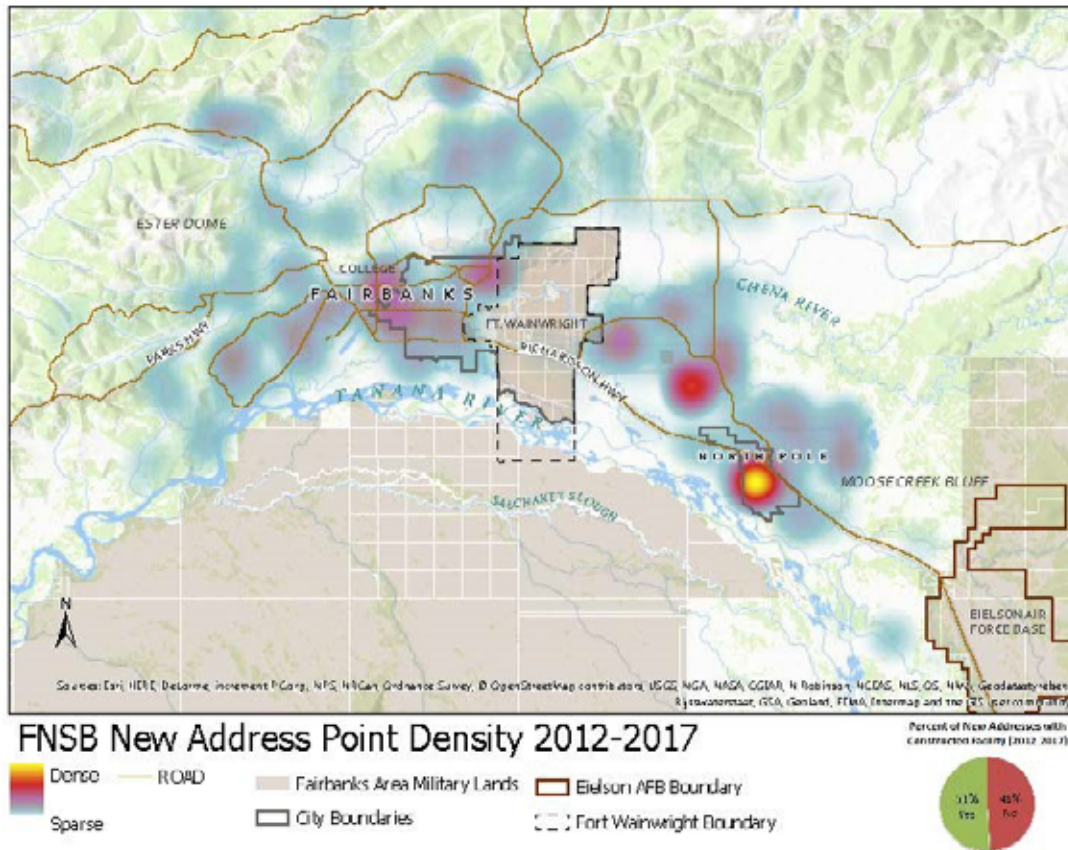
Issues impacting current levels of service that could be exacerbated by additional population and housing in the FNSB, especially in the Greater North Pole area, include:

- While the service from area to area is essentially the same, the various fire and rescue organizations have different staffing compositions and numbers which can affect levels of service.
- Geographic boundaries do not align with fire and EMS service areas. Efforts have been made to align EMS contracts around fire service area contracts, but that has not always led to the most efficient EMS service. Because of service agreement limitations, ambulances and apparatus are not always in optimal locations for the most effective and efficient service delivery. From the 2011 Comprehensive Review of FNSB Emergency Medical Services:
 

“The locations of EMS response facilities in relation to geographic and demographic needs of the EMS system are generally effective and in the right places. However, some of the potential boundaries between EMS corporation response areas unnecessarily complicate response practices, such as not sending the closest EMS response unit regardless of whose territory it is in.”
- The current organizational structure, independence and potential lack of coordination between individual fire departments serving Borough fire service areas can sometimes result in duplication of services and an overall lack of coherency and efficiency in service delivery. This can lead to potentially longer response times and a reduction in level of service.
- As independent organizations comprised of volunteers, fire departments within the FNSB are often vying for the same limited pool of potential volunteers. Related, there is no succession planning to prepare for the departure of older volunteers near retirement.
  - As demographics are changing, recruiting and retaining fire department volunteers is becoming more challenging. The tradition of volunteering for the long-term, in some cases decades, is becoming very rare. Older, more seasoned volunteers are being replaced by younger volunteers, many of whom desire to volunteer for a short period, potentially through the duration of an educational program at the University of Alaska Fairbanks, or as they are transitioning to a full-time paid position in a related or different field, in Fairbanks or elsewhere. In some instances, this is for significantly more pay, but most departing staff are moving to a similar position with a defined benefit retirement plan. In response, at least three volunteer fire/EMS departments offer housing, scholarships and/or college tuition as part of the service stipend.
  - Given the shift described above, FNSB fire departments are subsequently left with a “staff extreme”, with younger entry level volunteers, and older volunteers who are nearing retirement. There is no middle management (from where future leadership usually comes) to bridge the gap as young recruits move to other opportunities and older volunteers retire.

- The best illustration of this “hollowing out” of public safety staff are the staffing numbers received from the City of North Pole Fire Department. Eighty percent of the department’s current leadership is eligible for immediate retirement. With few experienced staff staying for more than four years, the ability to replace retiring staff is a significant challenge and may begin to impact the department’s ability to respond to fire and EMS calls effectively and efficiently. The likely addition of most of the F35 personnel and families to the North Pole community will further compromise responsiveness.
- Addressing is one of the best and most accurate indicators of where new development is and will be occurring in the borough. As known (see Figure 2), the Greater North Pole area has and continues to experience the most rapid growth. As such, public safety providers serving those areas are and will continue to be most impacted by historical and F-35-related growth.

FIGURE 2: FNSB NEW ADDRESS POINT DENSITY



Source: FNSB Emergency Operations Department

## 911 Network

### Existing Conditions

The Borough provides all equipment for the areawide 911 system in the FNSB, including the areawide network and all call processing and handling of equipment. The Borough also provides addressing services, a critical Borough function. The Emergency Operations Department employs two full-time GIS technicians who are committed to updating addresses and consistently developing accurate maps for dispatch centers toward more effective and efficient emergency response.

There are two public safety dispatch or “answering points” for the 911 system. The primary contact is contracted to and operated by the Fairbanks Emergency Communications Center (FECC), a department of the City of Fairbanks. The secondary answering point is the Alaska State Troopers (AST) dispatch; FECC dispatchers immediately transfer calls to AST dispatch when the call location is known. All users, including fire and EMS agencies, police agencies and the Borough contribute to the dispatch contract, as implemented by FECC.

### Potential Needs and Gaps

As noted above, FECC handles all public safety calls within FNSB, but also for the Delta Junction area, and the entire Denali Borough. The FECC area of service is the largest dispatch service in Interior Alaska. The FECC is authorized 20.5 FTEs, a third of which is currently vacant. City staff indicate difficulty in recruitment and retention of FECC staff for a variety of reasons, including those already identified for fire protection and EMS departments. Additionally, even at full capacity, new recruits/trainees require time and experience before they are able operate without direct supervision. With the addition of 3,300 new residents to the borough, the need for additional dispatch staff is anticipated, starting with filling existing vacancies. Not filling vacant positions will overtax existing staff, potentially resulting in additional vacancies, compounding current recruitment and retention challenges.

Some disparity exists between what different public safety entities contribute to the FECC contract, and what they receive. For example, the City of North Pole has very few calls within city limits, but do respond to calls within the North Star service area per fire and EMS aid agreements. They provide more assistance than they receive, but are not compensated for that “overage”.

## Communications

### Existing Conditions; Potential Needs and Gaps

The Alaska Land Mobile Radio (ALMR), a shared and primary radio system for all local, state and federal public safety entities, is challenged by uncertain state funding and poor coverage in some areas of the borough, including those most likely impacted by historical and projected growth (Greater North Pole, Moose Creek and Salcha).

FirstNet, a nationwide broadband network for first responders, would supplement and replace ALMR, but the cost and capabilities are uncertain.

## Law Enforcement

### Existing Conditions

Generally, three primary organizations provide law enforcement in the borough: the Fairbanks Police Department, City of North Pole Police Department and the Alaska State Troopers. Other agencies that provide service to specific populations and geographies include: Alaska Department of Transportation & Public Facilities Fairbanks International Airport Police and Fire Department, University of Alaska Fairbanks Police Department, and the EAFB Security Police and Ft. Wainwright Military Police. A brief description of primary organization capacity follows.

- **City of North Pole Police Department** provides law enforcement services within North Pole city limits. Per their FY17 budget, there are 13 sworn officers dedicated to the North Pole Police Department.
- **The “D” Detachment of the Alaska State Troopers** serves the Fairbanks area. “D” Detachment has 25 sworn officers assigned to the Fairbanks North Star Borough that primarily respond to calls outside the cities of

Fairbanks and North Pole, although they have the capability to respond to cities when called for assistance. “D” Detachment has other units, such as investigations (six staff), three command level officers, troopers who patrol outside of the FNSB area, and wildlife troopers. Of the 25 funded positions, AST Captain Ron Wall anticipates four vacancies. Vacant positions consistently fluctuate with transfers and new recruits. Regarding capacity, Captain Wall noted the national standard of one trooper per 1,000 people, and that AST is well below that in the FNSB. He does not anticipate a significant increase to his workload, aside from occasional traffic violations or domestic violence calls.

- **Fairbanks Police Department** officers patrol the area within Fairbanks city limits. For FY 2017, the City of Fairbanks approved 46 sworn officer positions, the same number as approved for 2016.<sup>5</sup> In one-on-one interviews with police leadership, staff indicate a cooperative and helpful relationship with authorities from both Ft. Wainwright and Eielson to mitigate and address any issues in local areas or establishments most frequented by military personnel.<sup>6</sup>

<sup>5</sup> <http://www.fairbanksalaska.us/wp-content/uploads/2010/08/2017-City-Capital-Budget.pdf>

<sup>6</sup> Interview with Fairbanks City Police leadership on 10/17/2017



## Potential Needs and Gaps

- **Recruitment and Retention** – Similar to concerns of fire protection and EMS leadership, senior law enforcement officials in the FNSB report challenges with recruiting and retaining new officers. Specific barriers include:
  - Most senior staff interviewed view the current Tier 4 retirement offered to new hires by the SOA’s Public Employee Retirement System (PERS) as a poor incentive to help retain staff.
  - The City of Fairbanks has experienced significant recruiting and retention challenges, as the City’s insurance package is a deterrent and unattractive for potential recruits.
  - Recruitment for the Alaska State Troopers has continued to be a challenge. There are several openings, but no applicants. Additionally, there is the reality of a decreased State of Alaska budget for additional positions.
- **Training Costs** – For Alaska State Troopers, it costs approximately \$190,000 per trooper for basic training. Other public safety organizations have similar startup training costs. These high training costs, coupled with unsuccessful retention of new recruits, has a long-term impact on organizational capacity, including resource allocation at the local and state level in public agency recruitment efforts.
- **Capacity and Ability to Serve Additional Population**
  - The City of North Pole Police Department staff indicate they are handling their current case load with the existing staffing, noting that larceny crimes were on the rise. An increase in the population related to the F-35 Beddown would likely mean

increased calls for accident assistance on the Richardson Highway, adding to North Pole Police workload.

- The 25 “D” Detachment Alaska State Troopers have regional responsibilities that sometimes take them outside FNSB boundaries, reducing available sworn staff to respond to calls in the borough.



*Credit: University of Alaska Fairbanks – Community and Technical College*

## Emergency Management

### Existing Conditions

The Borough provides non-areawide emergency management services through the FNSB Emergency Management Office. The Emergency Management Office is charged with coordination and integration of all activities necessary to build, sustain and improve Borough government and resident capabilities to prepare for, respond to, recover from or mitigate against disasters. They maintain and implement the 2015 FNSB Emergency Management Plan.<sup>7</sup> The 2015 Plan does not include the cities of Fairbanks or North Pole, nor the military installations, all of which have their own plans.<sup>8</sup>

FNSB emergency events within the last ten years have included:

- Localized surface flooding - 2008 (declared a disaster by President George W. Bush), 2014, 2016
- Groundwater flooding - 2014, 2015, 2016
- Fire - 2009, 2011, 2013
- Windstorms with widespread power outages - 2013 (declared a disaster by President Barack Obama), 2015, 2016

Longstanding threats and potential civil emergencies in the borough include:

- Earthquake potential of up to 7.0M, could result in widespread damage to critical infrastructure and housing. Several areas are prone to liquefaction and there are many poorly constructed commercial and residential facilities in the area.
- Flooding, even with the Chena Flood Control Project, remains a consistent threat to borough residents and properties.

- Winter high wind events (Chinook Winds) associated with a rapid temperature increase and rain falling on frozen surfaces appear to be becoming more frequent. These events create areawide power outages due to falling trees and precarious driving and pedestrian travel conditions.<sup>9</sup>

### Potential Needs and Gaps

Currently, there is a fractured approach to emergency management. Each municipality has an independent plan, and has received related emergency management training. However, there is a lack of formal coordination between entities. Although staff have received training, a unified approach for implementation is missing. Many key emergency management functions are the responsibility of the State of Alaska departments. Several main roads are the sole responsibility of the Department of Transportation and Public Facilities. The Department of Health and Human Services has the Public Health Powers for the borough, except for the military bases. With multiple jurisdictions involved, there is a significant need to formalize how communities coordinate and implement emergency plans, including how best to prioritize and allocate resources, including personnel, during a disaster.

<sup>7</sup> Fairbanks North Star Borough Emergency Management web site (<http://www.co.fairbanks.ak.us/eo/Pages/EM.aspx>) accessed 7/5/2017

<sup>8</sup> Communication with David Gibbs, Director of FNSB Emergency Operations, 12/21/2017

<sup>9</sup> Communication with David Gibbs, Director of FNSB Emergency Operations, 10/31/2017

## Fire Marshal

### Existing Conditions

There is only one State of Alaska Deputy Fire Marshal dedicated to the northern region of the state. The Deputy Fire Marshal has statewide enforcement (fire investigation, building inspection), engineering (building plan review), and education (fire accreditation, standards and training) duties that include the FNSB. Some deferred jurisdictions within the borough, like the City of Fairbanks, and the University of Alaska Fairbanks, perform their own fire investigations and fire code enforcement, except the university when a fatality is involved.

Building inspections for fire code compliance are generally handled for all buildings where high occupancies are expected such as auditoriums, churches, schools, etc. Building plan review for commercial and residential buildings (with four units or more) are handled by the State Fire Marshal's Anchorage office. The expected turnaround time for standard building reviews is two weeks or more. Plans submitted for review during the winter months generally allows builders to start construction immediately upon arrival of summer, according to the Deputy State Fire Marshal.<sup>10</sup>

### Potential Needs and Gaps

With only one fire marshal serving the northern region, there is not enough capacity to inspect the high volume of new construction (an average of 248 units per year in FNSB over the past five years – see housing focus area for more details), let alone the large number of older, poorly constructed and fire-prone homes in the FNSB. Approximately 40-45 percent of the current housing stock was identified as “poor quality” through the Borough assessor “condition based on effective date” and “condition

based on quality grade” tools. Additionally, older, and even some newly constructed residential and commercial facilities, have poorly designed and maintained driveways and road access that prevent public safety service delivery.

The biggest issues are lack of borough-wide building and fire codes. Through the FNSB Community Planning Department, the Borough could enforce those codes and could seek deferred authority to enforce regulations adopted by the State Fire Marshal. See the Planning and Zoning focus area for more detail on challenges related to the lack of a borough-wide building codes, and a potential strategy to address that challenge.

## Animal Control

### Existing Conditions

The primary mission of FNSB Animal Control is public safety oriented – rabies control and animal bite prevention. To achieve that mission, Animal Control provides animal shelter and care, and enforces Borough animal-related ordinances with 17 full-time staff and multiple part-time and other employees.



<sup>10</sup> Communication with Kyle Carrington, Deputy Fire Marshal, 11/1/2017

**Shelter/Care** – Core duties include:

- Caring for domestic animals at the shelter, providing a clean, safe environment.
- Housing for impounded animals and those waiting for adoption or being held in quarantine or protective custody. Via its success in advertising and securing homes for sheltered animals through social media, the shelter has not had to euthanize any healthy dogs or cats due to space constraints since 2010.
- Offering rabies clinics at cost.

**Enforcement** – The enforcement group, comprised of five officers, conducts the following core activities:

- Responds to complaints of loose, aggressive, barking, sick or injured animals.
- Patrols for stray animals and investigates neglect or cruelty.

Borough Animal Control does not respond to wildlife issues; this is the purview of the Alaska Department of Fish & Game (ADF&G).

**Potential Needs and Gaps**

- The FNSB has not had any significant problems with domesticated animals. However, with the incoming F-35 population, there may

be an increased demand for services, due to lack of animal control services on Eielson and Ft. Wainwright. Additionally, there may be a need for increased facility size if more animals are brought in by military families rotating out of Alaska. Many times, a new destination will not allow domestic pets without a prolonged quarantine period, so many military families bring animals into the shelter for local adoption.

- Replacement of the current Animal Control Facility, an older and difficult-to-maintain building, has been identified by the Borough as an immediate future need. The Borough has developed a cost estimate for a new facility. However, funding is questionable given the Borough's current fiscal challenges. Additionally, the facility was never designed to care for and shelter exotic birds, reptiles and other animals, which comprise an increasing number of animals surrendered to the facility. If this trend continues, an upgraded or new facility should address this need.



*Credit: Fairbanks North Star Borough*



## PUBLIC SAFETY STRATEGIES – WHAT ARE OUR RECOMMENDED SOLUTIONS FOR MEETING ANTICIPATED GAPS?

### Fire Protection and Emergency Medical Services

PS1. Form a mayoral task force to evaluate how the Borough forms, staffs and offers incentives to the volunteer fire and rescue departments.

The task force should determine how to continue the viability of the volunteer fire services in a unified manner and recommend solutions for volunteer recruitment and retention. The viability of the current volunteer network should be evaluated with capacity to provide fire protection and EMS services for a population of 110,000 by 2030 (see Growth Projections focus area for detailed population projections). Specific strategies for task force consideration are outlined below.

PS2. Conduct a detailed analysis of need, location of fire stations and ambulances, and identify optimal positioning.

PS3. Consolidate local fire and rescue departments and/or consolidate administrative functions:

- a. Combine service agreements to allow for more effective and efficient resource allocations. For example, for the North Pole area, it would be advantageous to residents, and to volunteer fire and EMS providers, to place ambulances from the City of North Pole fleet in North Star Volunteer Fire Department stations closer to residences and areas of potential need.
- b. Reduce the cost of equipment and materials, through cooperative purchase agreements.
- c. Jointly develop volunteer recruitment packages and coordinate recruitment of new volunteers.
  - i. Incentivize volunteers. For example, today FNSB offers up to \$10,000 in property tax exemptions for both fire and EMS volunteers. Together, fire departments could make this system more robust to include a “compensation paid on call” arrangement, or some form of stipend for participating as a volunteer.

A direct excerpt from a 2015 Borough Memorandum on “Fire Service/Legally Available Options” summarizes this strategy as:

*“Option 1: Consolidated management of fire and EMS (in hour or contractor) within existing geographic boundaries. This option would retain existing geographical service area boundaries while consolidating all existing contracts for fire and EMS into one or more larger management areas.”*

PS4. Combine fire and EMS service areas into one large service area.

Keep geographical sub-regions, but contract with fewer organizations for delivery of services.

A direct excerpt from a 2015 Borough Memorandum on “Fire Service/Legally Available Options” summarizes this strategy as:

*“Option 2: Consolidation with elimination of existing fire service area geographical boundaries and possible expansion of existing boundaries short of a non-areawide power with in-house or contracted management.”*

PS5. Establish more sustainable funding for existing and/or consolidated fire departments

## 911

PS6. Fill vacant dispatch positions and add a .5 FTE to adequately address call volume related to the incoming F-35 population

## Law Enforcement

PS7. Consider joint recruitment practices aimed at developing attractive incentive packages and identifying quality recruits for the region.

PS8. The State of Alaska should explore and implement new methods of retaining Alaska State Troopers.

“ The expansion of mutual aid agreements to solve jurisdictional challenges should be considered. Operational decision that focus on protecting and saving lives should supplant decisions to keep EMS responders within jurisdiction boundaries. In its basic form; the closest qualified EMS unit is dispatched to the incident. ”

- 2011 Comprehensive Review of  
FNSB EMS



Photo by Agnew::Beck

PS9. Explore new methods of compensation for public safety employees to increase recruitment and retention.

## Emergency Management

PS10. Develop and actively test a more coordinated and unified disaster management plan.

- a. Creation of an areawide multi-jurisdictional incident management team.
- b. Plan for high wind and freezing rain events, and other hazards not currently included in the Borough's 2015 Plan, or City of Fairbanks, North Pole, or military installation plans.
- c. Resource prioritization - The plan should identify a set of criteria for distributing supplies across the borough in a time of crisis.
- d. Financial considerations - The plan should answer these questions:
  - Who will pay for disaster-related resources and services? What about residents outside of the cities?
  - In some instances, there will be a lag between when the crisis happens and when financial resources are available to address the issues. How will available funds be applied? Post-disaster, what criteria will be used to strategically apply financial resources?

## Fire Marshal

PS11. Fire inspectors should have a role in subdivision approvals to address quality of commercial, industrial and residential construction.

PS12. Request deferred fire marshal authority to employ an inspector within each fire department.

- a. Employ an inspector within each fire department ("Inc."), potentially mitigating current and future issues with quality of construction and access to properties.

*See Planning and Zoning focus area for a related strategy to develop and implement borough-wide building and construction standard.*

## Animal Control

PS13. Develop a master memorandum of agreement with Fort Wainwright and Eielson Air Force Base to provide animal control services.

PS14. Construct a new animal shelter.

PS15. Update the Borough's 2015 Emergency Management Plan to include actions for shelter and care of domesticated animals during major borough-wide emergency events







Quality of Life

## KEY TAKEAWAYS

- Quality of life is a broad topic that includes the characteristics and features in a community that contribute to the overall well-being and satisfaction of its residents. This chapter focuses on dining, entertainment, retail, and indoor and outdoor recreation opportunities available to active duty EAFB members and their families; it also relates to and references many of the other chapters in the RGP.
- Active duty personnel and their families want to feel they are a part of their surrounding civilian community. Unfortunately, due to frequent location changes, achieving community connection and integration is an ongoing challenge across all military bases. FNSB is a military-friendly community, as reflected in its high concentration of military veterans. However, there is still greater opportunity for expanding connections between local businesses, organizations and EAFB families.
- EAFB has many activities and resources available on-base for EAFB personnel and their families. The 354th Force Support Squadron oversees most of these programs through the Morale, Welfare and Recreation (MWR) program. Current facilities and programs have sufficient capacity to absorb the increase in personnel associated with the F-35 Beddown, and should be able to meet the increase in demand by adding staff and extending facility hours accordingly.
- Military families enjoy the extensive outdoor recreation opportunities that are unique to Interior Alaska, include: hiking, hunting, fishing, boating/rafting, gold panning, camping, visiting the hot springs and viewing the northern lights (aurora).
- The City of Fairbanks is the second largest city in Alaska after Anchorage, and offers many retail, dining and indoor recreation needs. However, the area within a 20-minute drive radius of EAFB, including the nearby City of North Pole, has limited retail, dining and indoor recreation options. Both civilian residents and military families have indicated support for an increase in the availability of retail, restaurants and other commercial developments in the North Pole area.
- Access to health and social services is a critical component of quality of life. Limited health care is available in the immediate vicinity of EAFB. Active duty personnel and their families must travel to Ft. Wainwright or Fairbanks for many types of care, and some specialties, require travel to Anchorage or Seattle. There are gaps in access to behavioral health care, supportive services for families and Otolaryngology (Ear, Nose, Throat) care. Non-military residents in the area have expressed interest in expanding local options for health care, including the need for primary care providers in the North Pole area. For more information on the Health and Social Service resources and needs, see the Health and Social Services Appendix.



The F-35 Beddown will bring additional active duty members and their families to Eielson Air Force Base (EAFB) from locations all over the country, and most will be unfamiliar with the Interior Alaska region, the highly variable climate and the surrounding community. These new Air Force personnel and their families will seek quality neighborhoods, good schools, recreation opportunities and other services – many of the same characteristics that civilian residents desire. Improving the quality of life in the Fairbanks North Star Borough (FNSB) for incoming military families will also improve the quality of life for existing residents.

Most EAFB active duty members are stationed in FNSB for a limited duration, typically two or three years. However, all active duty members eventually retire from service, and many choose to live somewhere they have been stationed during their career. By creating a positive experience and a sense of community for active duty EAFB military members and their families, the FNSB can maintain its strong heritage as a military-friendly community and continue to attract and retain military veterans.

On-base Morale, Welfare and Recreation (MWR) programs and services are an essential part of military installations. These offerings help enhance morale, support military households through transitions and deployments, and support family and individual wellness for active duty families.

Blue Star Families and the Defense Manpower Data Center conduct an annual survey of active duty military members and their families to understand the challenges and needs of American military households, called the Military Family Lifestyle Survey. According to the 2017 survey report, integration with the surrounding civilian community is a critical part of a military family's experience. However, civilian community

integration remains low for many military families due to isolation and frequent moves (see related statistics in Figure 1). Creating strong outreach programs and building community ties help military families adjust to their new location, integrate into the community and increase their quality of life.

The objective of this chapter is to examine the quality of life factors that contribute to a military family's experience during their time in FNSB, including those that make them feel welcome, and the challenges they experience. The term "quality of life" can encompass a broad range of services and characteristics. Every individual has a different set of priorities and preferences that contribute to their choice of where to live and their views on the positive and negative aspects of their experiences. This chapter focuses specifically on recreation, entertainment and commercial activities. However, quality of life is influenced by and relates to almost all other categories in this plan, including education, child care, public safety, health care, workforce development, transportation and land use planning.

#### FIGURE 1: CIVILIAN COMMUNITY INTEGRATION: FINDINGS FROM NATIONAL BLUE STAR SURVEY

**53% want greater opportunities to meet people, make friends, or expand professional networks in their civilian community**

**51% feel they don't belong in their local civilian community**

**31% have not had an in-depth conversation with a civilian in their community in the past month**





## SUMMARY OF EXISTING SERVICES, FACILITIES AND ACTIVITIES

### Dining, Retail and Services

#### On-Base: What's Available at EAFB

EAFB offers a range of dining options for its active duty members and families. The primary dining facility, Two Seasons, serves breakfast, lunch, dinner and midnight meals throughout the week. EAFB is also home to the Yukon Club, which contains the Bonfire Grill and Restaurant and a sports bar. There is also a snack bar inside the bowling center and a coffee shop and coffee/bagel stand on EAFB. Food trucks sometimes visit the base, increasing the variety of food offered. These facilities will often extend their hours periodically throughout the year to accommodate an increase in on-base population during major exercises such as RED FLAG.<sup>1</sup> EAFB also has a commissary with food items available for purchase, including fresh meat, a bakery and produce, although EAFB focus group participants indicate the commissary hours are limited and the selection is small compared with other commissaries on larger installations.

For retail, The Eielson Shopping Center includes a range of clothing, personal care items, housewares, electronics, books, toys and souvenirs. The Shopping Center also includes a food court, barber, salon, alterations, floral and optical shop, along with a fuel station outside.

<sup>1</sup> RED FLAG is a series of Pacific Air Force field training exercises, which bring together U.S. and international partners to simulate real combat experiences. EAFB hosts several RED FLAG exercises each year. For more information, visit <http://www.eielson.af.mil/Info/RED-FLAG-Alaska/>

“ The Commissary here is small; I’ve never seen anything like that in any location. ”

“ As it is, we rely on Amazon Prime. ”

“ We just have the necessities to survive. ”

-EAFB focus group participant

“ There is a small shopping center here, but no one wants to walk around with the same shirt, so most people do their clothes shopping in Fairbanks. ”

-Member of the 354th Support Squadron



Photo by TSgt Shawn Nickel, EAFB Public Affairs

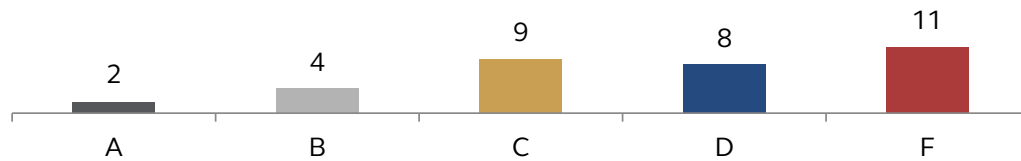


## Off-Base: What's Available in the Area

Overall, EAFB focus group participants expressed dissatisfaction with access to retail and shopping in the area, with 19 out of 34 (56 percent) giving it a grade D or F (Figure 2). The City of North Pole has a small commercial center, with a mall and grocery store in the center of town and a

variety of franchise restaurants nearby. However, many civilian residents in North Pole, EAFB and surrounding areas must travel to the larger City of Fairbanks for major purchases, activities, services and food.

FIGURE 2: EAFB FOCUS GROUP PARTICIPANTS - RESPONSE TO THE QUESTION, "GRADE YOUR LEVEL OF SATISFACTION WITH ACCESS TO RETAIL AND SHOPPING."



The City of North Pole conducted a telephone-based retail needs and opportunities survey in spring 2017. The survey collected feedback from 507 residents living in the City of North Pole and surrounding areas, including zip codes 99705 (434 respondents), 99702/Eielson Air Force Base (45 respondents) and 99714/Salcha (28 respondents). The survey focused on current shopping behaviors and desired retail services. A majority of area residents (75 percent) reported a high quality of life in the North Pole area (see Figure 2). However, respondents gave poor scores for "local shopping and retail," "low tax rates and cost of living," and "access to medical services."

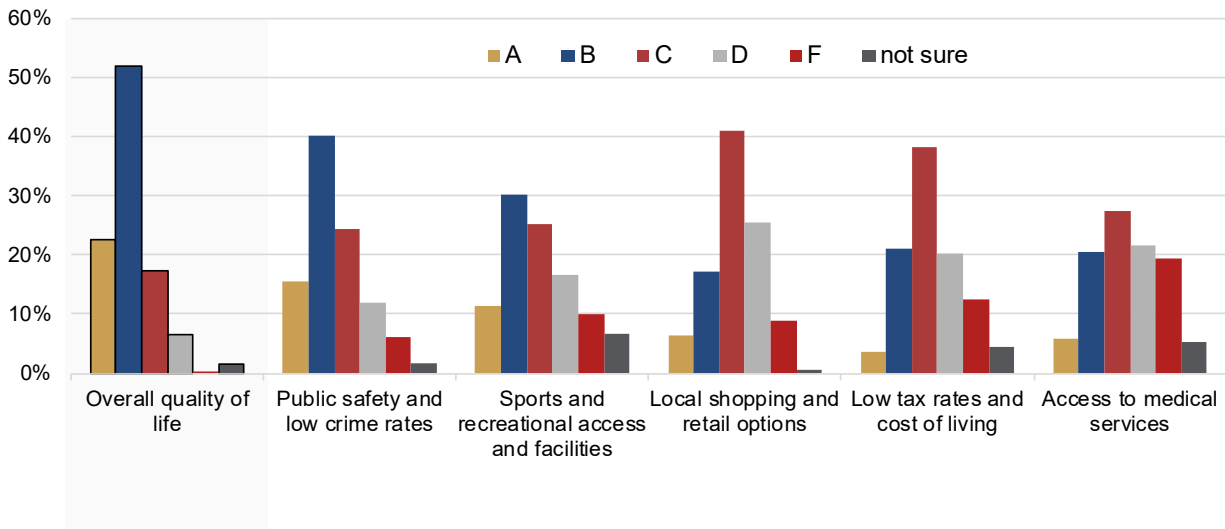
“ There is more shopping and activities for kids in Fairbanks but we did not want to live there because of the commute. North Pole was a good half-way point and has a great library.”

“In greater Fairbanks we need a Target. And chain restaurants. And some place to buy clothes!”

“ We want a Fred Meyer in North Pole.”

-EAFB focus group participant

**FIGURE 3: EAFB FOCUS GROUP PARTICIPANTS - RESPONSE TO THE QUESTION, “GRADE YOUR LEVEL OF SATISFACTION WITH ACCESS TO RETAIL AND SHOPPING.”**

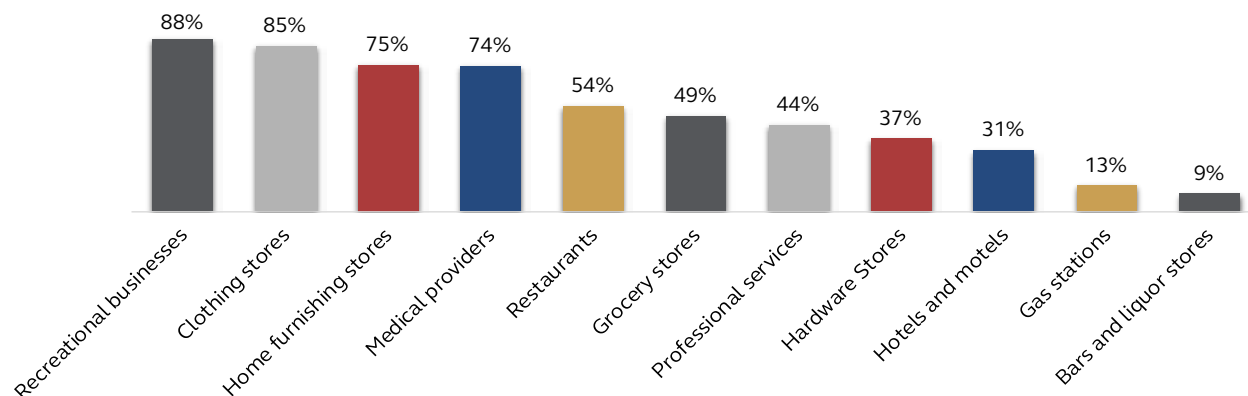


In follow-up questions, survey respondents indicated they want more options for local services and shopping. The distribution of desired businesses and services is shown in Figure 3. Specifically, residents indicated a desire for more recreational businesses (88 percent), clothing stores (85 percent), home furnishing stores (75 percent) and medical providers (74 percent) in the area, as depicted in Figure 4.<sup>2</sup> When asked their

top choice for a new business in North Pole, most frequent responses were Fred Meyer (130 times), Walmart (37), Target (35), Arby’s (19), Costco (16) and Sam’s Club (11).

<sup>2</sup> City of North Pole Comprehensive Strategic Plan Implementation: Retail Needs and Opportunities Summary. Conducted Spring 2017 by Alaska Survey Research.

**FIGURE 4: CITY OF NORTH POLE RETAIL NEEDS AND OPPORTUNITIES SURVEY, 2017: TOP CHOICES FOR NEW BUSINESSES AND SERVICES**



The survey also asked respondents about trip frequency to North Pole and to Fairbanks. More than half of survey respondents (57 percent) made six or more trips to downtown North Pole in the last 30 days, with an average of 12.8 visits per month. Three-quarters of respondents (75 percent) made six or more trips to Fairbanks, with an average of 15.7 visits per month.

Unsurprisingly, those who live close to North Pole travel slightly more to North Pole than Fairbanks. Those who live near EAFB also travel more to North Pole than to Fairbanks, and respondents with children make more frequent trips to both areas.

When asked about why they choose to shop in North Pole versus Fairbanks, residents provided a range of reasons, summarized in Figure 5.

Residents choose to shop in North Pole for convenience and to save time when looking for items that are available in town. However, for specific purchases and extended shopping trips, residents typically opt to travel to Fairbanks. Those who are in Fairbanks, especially those working there, are more likely to do their shopping in Fairbanks. Survey respondents also indicated the four percent North Pole sales tax sometimes discourages them from shopping locally. Fairbanks has a greater variety of goods and services available, including bulk purchasing options. While the Sam’s Club in Fairbanks closed in early 2018, Costco has announced preliminary plans to move into the warehouse space, a much-celebrated announcement.

**FIGURE 5: CITY OF NORTH POLE RETAIL NEEDS AND OPPORTUNITIES SURVEY, 2017: TOP CHOICES FOR NEW BUSINESSES AND SERVICES**

Why residents choose to shop in the North Pole area	Why area residents choose to shop in the Fairbanks area
<ul style="list-style-type: none"> <li>• It’s convenient, close, on the way</li> <li>• Prefer to buy local</li> <li>• Desired items are available</li> <li>• To eat at restaurants and get groceries</li> <li>• Closer, safer, less driving than Fairbanks</li> <li>• Cheaper or similar costs to Fairbanks</li> <li>• People are friendly and familiar</li> <li>• Easier for urgent purchases</li> <li>• It’s convenient for when you only need a few items</li> </ul>	<ul style="list-style-type: none"> <li>• It’s cheaper</li> <li>• Wider variety of stores and products</li> <li>• Bigger and better stores, bulk options</li> <li>• Convenient, closer, quicker</li> <li>• There for work/ in Fairbanks anyway</li> <li>• Doctor is located there</li> <li>• More likely to have what I need</li> <li>• No sales tax</li> <li>• One-stop shopping</li> </ul>

There are fewer retail, food and shopping options outside of the metropolitan areas of Fairbanks and North Pole, although there are a small number of businesses in the Moose Creek and Salcha areas. The Alaska Department of Commerce, Community and Economic Development's Alaska Community Database lists 98 active business licenses in Salcha and three in Moose Creek, including a mix of lodging, arts and crafts, cleaning services, plowing services, farms, construction businesses, animal boarding and tax, legal and bookkeeping services. There is also a seasonal farmer's market in Salcha, and a lodge and general store in Moose Creek. According to resident feedback during an August 2017 project meeting in the Salcha area, Salcha business owners are seeing a decline in the sale of goods and services, citing the statewide recession and an aging population. Salcha residents also indicated a strong desire for a laundromat in the community.



## Indoor Recreation and Cultural Activities

### On-Base: What's Available at EAFB

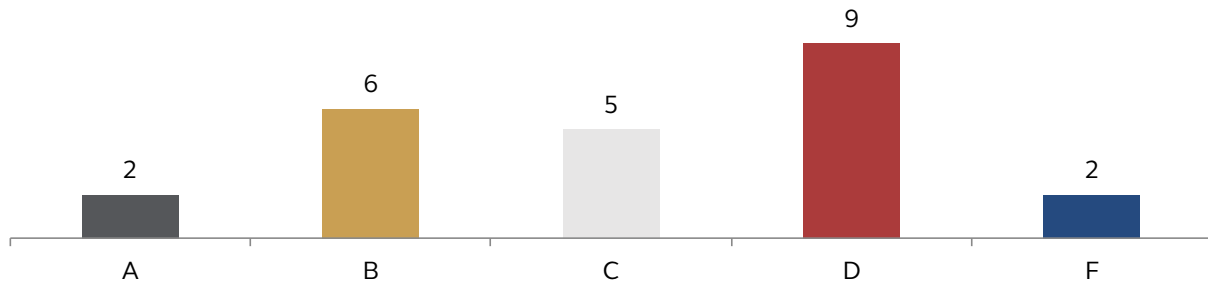
EAFB has a suite of recreation, dining and supportive activities available for military personnel and their families, overseen by the 354th Force Support Squadron. Indoor activities include a movie theater, 12-lane bowling center, an arts and crafts facility, a sports center, an auto skills center, an indoor pool and more. The Eielson City Center contains a library, music room and community center with a conference room, 1,800 square foot jungle gym and fitness equipment. Many of the programs are funded through self-generated revenues; for example, movies at the theater are free with costs offset by selling concessions. The squadron adjusts staffing and operating hours for activities depending on demand; if a facility is slow, they can reduce the number of operating hours to keep costs down; if demand goes up, they can add additional staff and expand hours. Due in part to this flexibility, staff are not concerned with the capacity of the squadron's recreation, retail and dining facilities to withstand the increase in users resulting from the F-35 Beddown.

While there are many activities available on-base, many EAFB focus group participants were dissatisfied with access to indoor recreation; 11 of 24 participants gave it a grade of D or F (Figure 6). Based on follow-up discussions, one of the primary reasons for this score is the lack of indoor recreation options near EAFB.

“ The indoor community center on-base is really good. ”  
-EAFB focus group participant



**FIGURE 6: EAFB FOCUS GROUP PARTICIPANTS - RESPONSE TO THE QUESTION, “GRADE YOUR LEVEL OF SATISFACTION WITH ACCESS TO INDOOR RECREATION”**

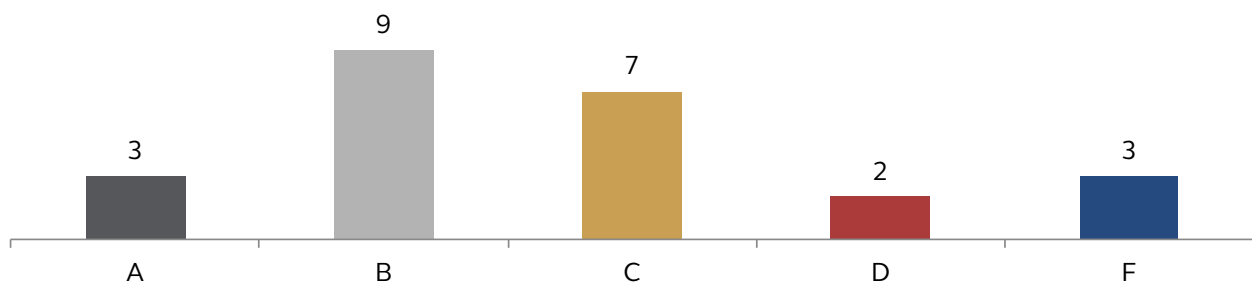


**Off-Base: What’s Available in the Area**

The areas surrounding EAFB have limited commercial development and indoor recreation opportunities; most are in the City of North Pole, including a library. There are many churches and religious groups in the area serving a broad range of denominations. During the Eielson focus groups, participants were asked to grade their

satisfaction with access to cultural activities and resources. They gave this category higher marks than the indoor recreation category; the grade receiving the most votes was B, and only 5 of 24 participants gave the category a grade D or F (Figure 7).

**FIGURE 7: EAFB FOCUS GROUP PARTICIPANTS - RESPONSE TO THE QUESTION, “GRADE YOUR LEVEL OF SATISFACTION WITH ACCESS TO CULTURAL ACTIVITIES AND RESOURCES”**



For a more extensive selection of activities, EAFB personnel and their families can travel north for approximately half an hour to reach the City of Fairbanks and surrounding area. Fairbanks has many of the amenities associated with a medium-sized city, including museums, theaters, shopping, gyms, galleries, parks and more. Newer additions to the year-round local attraction inventory are the 30,000 square foot Fountainhead Antique Auto Museum at Wedgewood Resort, the 38,720 square foot Morris Thompson Cultural and Visitors Center, the newly-configured and expanded Gold Dredge 8, the remodeled Chena Hot Springs Resort and Ice Hotel, the Fairbanks Community Museum, and the Fairbanks Children's Museum. During the City of North Pole's Comprehensive Strategic Planning process, a survey was conducted of area residents, with over 200 responses received. Overall residents indicated higher levels of satisfaction for "parks, trails and recreational opportunities" than youth activities or museums, art and culture (Figure 8). When asked in more detail, respondents indicated a desire for more entertainment options such as a movie theater and bowling alley, and more activities for children and young adults.

“ The Fairbanks Children’s Museum is great, and so is the University museum. They have exhibits for the whole family. I wish they would bring back the dinosaurs! ”

-EAFB focus group participant

“ There needs to be more things for the youth in this community. They should not have to hang out at Safeway or food plaza. ”

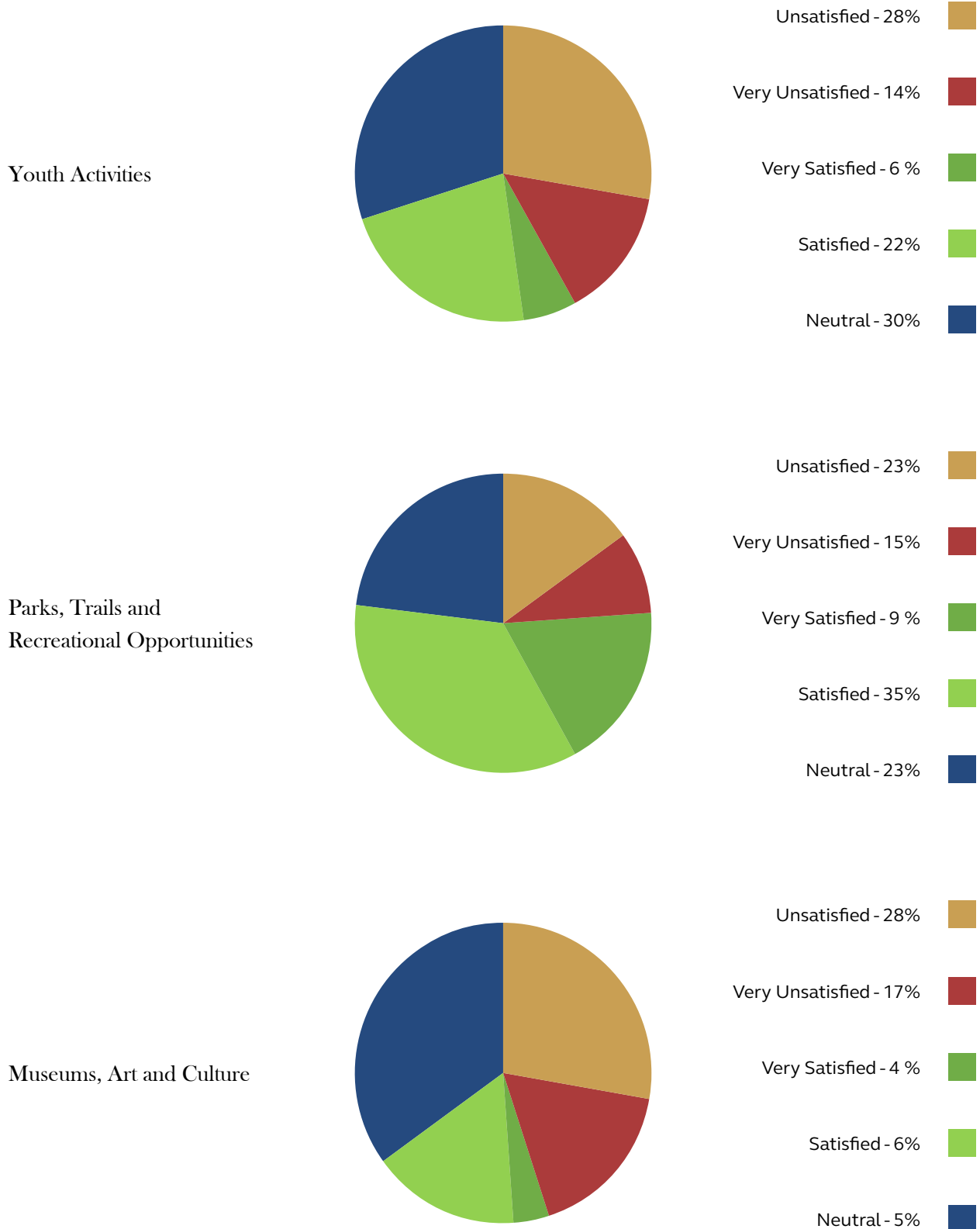
I grew up here and really like the area. I just wish there was a few more things to do in North Pole.

-North Pole Strategic Plan Survey Respondent, 2015



Photo by FNSB Public Libraries

**FIGURE 8: CITY OF NORTH POLE COMPREHENSIVE STRATEGIC PLAN 2015 SURVEY RESULTS TO THE QUESTION, “HOW SATISFIED ARE YOU WITH THE AVAILABILITY OF THE FOLLOWING PROGRAMS OR SERVICES?”**



The following table provides an overview of the types of indoor recreation opportunities available on and around EAFB.

**FIGURE 9: AVAILABILITY OF INDOOR RECREATION ACTIVITIES**

Activity Type	On-Base	Off-Base (within approximate 20-minute drive radius)
Bowling	Yes: Baker Field House	Yes: multiple gyms and fitness studios in the area
Galleries and Art	Yes: Arts and Crafts Center (classes, materials, custom framing and resale store)	Yes: various small studios, gift stores and businesses in the North Pole and Salcha area
Library	Yes: Eielson Library	Yes: Noel Wien Public Library
Movie Theater	Yes: Ernie Walker Theater	No
Religious Services	Yes: chapel (supports range of denominations)	Yes: approximately 30 serving many denominations
Swimming Pool	Yes: in the Fitness & Sports Center	Yes: North Pole Middle School

Military families frequently change locations and must build new connections after each relocation. For many military families, the local public library is one of their first stops. Military personnel and their families need to rapidly learn about their new location, schools, shopping, resources and culture. Public libraries can help new residents connect to this information and to the community. FNSB's public libraries, consisting of two branches (including one in North Pole) and a bookmobile, offer research assistance, local information, educational opportunities, online access, meeting rooms, printing, research and activities. Newly arrived military personnel and their families can find low-cost entertainment for all ages, including books, movies, music, magazines and programs. This unfettered access to information is an extremely valuable resource for members of the military community.



*Credit: Fairbanks North Star Borough*



## Outdoor Recreation

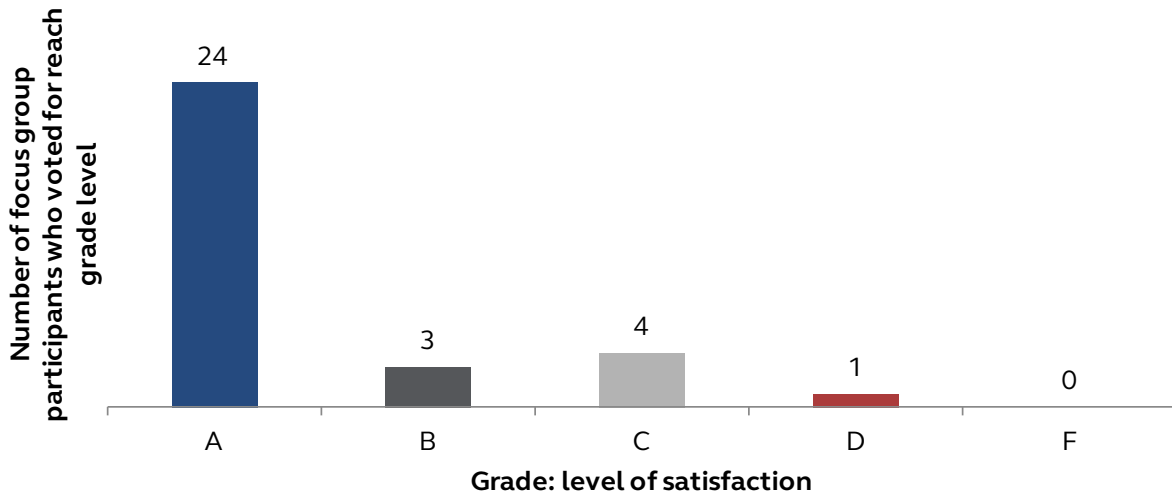
### On-Base: What’s Available at EAFB

Eielson families have access to many on-base recreation opportunities. Outdoor facilities include athletic fields, trails, campgrounds, lakes, cabins, a skate park, an outdoor track, ski area, a sledding hill and a skeet and trap area. There are also indoor athletic facilities and equipment rentals. These programs are managed through the Morale, Welfare and Recreation (MWR) program by the

354th Force Support Squadron. The squadron also operates and manages two off-base recreational sites at Birch Lake and in Valdez.

Overall, EAFB focus group participants are very satisfied with access to outdoor recreation; 24 of 32 gave access to outdoor recreation a grade A, by far the highest-scoring category during the focus group meetings (Figure 10).

**FIGURE 10: EAFB FOCUS GROUP PARTICIPANTS - RESPONSE TO THE QUESTION, “GRADE YOUR LEVEL OF SATISFACTION WITH ACCESS TO OUTDOOR RECREATION”**



“ The hunting and fishing opportunities are awesome! ”  
 -EAFB focus group participant



## Off-Base: What's Available in the Area

In addition to on-base amenities, EAFB personnel and their families have access to excellent recreation opportunities in the surrounding area. Based on North American Industry Classification System (NAICS) codes, there are 12.3 Recreation and Fitness Facilities per 100,000 residents in the FNSB, compared with 12 statewide, and 10.5 in the U.S.<sup>3</sup> This number has increased over the past five years, from 9.2 in 2010, indicating there are an increasing number of recreation and fitness facilities for FNSB residents. The City of North Pole, the nearest incorporated community to EAFB, is home to multiple parks and trails, including a dog park, nature trail, skateboard and BMX park, fitness trail and playgrounds. A map of parks and recreation facilities is available at [www.northpolealaska.com/parksites](http://www.northpolealaska.com/parksites).

The FNSB has approximately 76 miles of shared-use paths and 50 miles of roads with sidewalks. Downtown Fairbanks is considered more walkable than other parts of the Borough due to its higher density, sidewalks, short block lengths and short traffic signal cycles. Outlying areas of the FNSB have fewer opportunities and dedicated space for bicyclists and pedestrians. According to crash data, over ten percent of all fatal and severe injury crashes in the Fairbanks metropolitan area involve bicyclists and pedestrians.<sup>4</sup>

The area around EAFB has significant amounts of land under federal and state control, many of which are available for recreation, hunting, subsistence harvesting and other public uses. For example, the popular state-owned Chena Lakes Recreation Area lies North of EAFB, with camping, volleyball courts, trails, swimming, boating access, fishing and groomed winter ski trails.

Figure 11 summarizes the availability of outdoor recreation activities on-base and within a 20-minute drive radius off-base. This list is not comprehensive; many of the recreation areas listed in the table have additional unique features such as picnic pavilions, horse shoe courts and boat rentals. Beyond the 20-minute drive radius there are other recreation opportunities frequented by Air Force families, including Birch Lake, Chena Hot Springs, Denali National Park, Chena River State Recreation Area, and the White Mountain Recreation Area.

“ The camping opportunities here are awesome. You can pull off the road and camp for a week. ”

-EAFB focus group participant

<sup>3</sup> US Census Bureau, County Business Patterns. Additional data analysis by CARES. 2015. Accessed from Community Commons.

<sup>4</sup> FMATS Non-Motorized Transportation Plan, 2012.



FIGURE 11: AVAILABILITY OF OUTDOOR RECREATION ACTIVITIES

Activity Type	On-Base	Off-Base (within approximate 20-minute drive radius)
Boating	Yes: Bear Lake	Yes: Salcha River State Recreation Site, Harding Lake State Recreation Area, Tanana Valley State Forest, Chena Lake Recreation Area
Camping	Yes: Bear Lake	Yes: Salcha River State Recreation Site, Harding Lake State Recreational Area, Tanana Valley State Forest, Chena Lake Recreation Area
Fishing	Yes: Bear Lake	Yes: Salcha River State Recreation Site, Harding Lake State Recreational Area (summer and winter), Tanana Valley State Forest, Chena Lake Recreation Area
Golf	No, but the community center has two golf simulators	No
Hiking	Yes: Bear Lake	Yes: Harding Lake State Recreational Area, Tanana Valley State Forest, Chena Lake Recreation Area
Hunting	No, but there is a skeet and trap range	Yes: Tanana Valley State Forest, Chena Lake Recreation Area
Cross-Country Skiing	Yes: Iceman Falls (also includes small downhill ski hill and sled hill)	Yes: Harding Lake State Recreational Area, Tanana Valley State Forest, Chena Lake Recreation Area
Snowmachining	Yes; members can schedule snowmachine tours through the outdoor recreation program	Yes: Salcha River State Recreation Site, Harding Lake State Recreational Area, Tanana Valley State Forest, Chena Lake Recreation Area



Credit: Agnew:Beck



## Events and Activities

### On-Base: What's Available at EAFB

EAFB has a steady rotation of events and activities available on-base. There are theme nights at the bowling alley, organized hikes and activities through the outdoor recreation program, fireworks shows, life skills classes featuring topics such as home-buying, interviewing and investing, family-friendly activities at the arts and crafts center. The 354th Force Support Squadron publishes The Talon magazine six times per year, and RED FLAG magazine annually during RED FLAG training. These magazines include calendars with current events, schedules and a map with hours and locations for various EAFB support facilities. Air Force families can also sign up for text message alerts to receive text notifications with information on topics such as dining, fitness and other categories.

- To view a calendar of upcoming events for EAFB, visit: <https://www.eielsonforcesupport.com/index.php/personnel/magazines/1646-calendar-of-events>
- To view the latest issues of Talon and RED FLAG magazines, visit: <https://www.eielsonforcesupport.com/index.php/personnel/magazines>

The Fort Wainwright Public Affairs Office also produces a weekly newspaper called the Alaska Post, published by the Fairbanks Daily News-Miner. The publication summarizes military-relevant news and highlights upcoming activities on Fort Wainwright. View the latest issues here: <https://www.dvidshub.net/publication/561/alaska-post>.

EAFB used to have a similar weekly newspaper (most recently called the Polar Press) but stopped publishing in 2012.

### Off-Base: What's Available in the Area

FNSB is an active community with activities and events occurring throughout the year. Annual community events include the Yukon Quest Sled Dog Race, the North American Sled Dog Racing Championships, nordic ski races, the Fairbanks Winter Carnival, the World Ice Art Championships; Midnight Sun Festival, Fairbanks Summer Arts Festival, Golden Days Pioneer Celebration, Mush for Kids, World Eskimo Indian Olympics, Midnight Sun Pow Wow, Fairbanks Folk Festival, Tanana Valley Fair, Equinox Marathon, the Festival of Native Arts, and Iron Dog and Midnight Sun baseball games. Fairbanks has a vibrant arts community with events and programs offered through the Fairbanks Council of the Arts, Fairbanks Light Opera Theater, Fairbanks Concert Association, Fairbanks Drama Association, Fairbanks Shakespeare Theater, Fairbanks Community Band, Fairbanks Children's Choir, First Friday Art Events, Festival Fairbanks, and Tanana Chiefs Conference Cultural Programs at the Morris Thompson Cultural and Visitors Center and Fairbanks Children's Museum. The University of Alaska Fairbanks has a concert hall and a theater and offers many cultural activities. North Pole also hosts events, including Christmas in Ice and Patriot's Christmas over the 4th of July.

The Fairbanks Ice Dogs are another example of a successful military-community partnership. The Ice Dogs are a Junior ice hockey team in the North American Hockey League's Midwest Division. The team has a strong fan base and high attendance from military families, who receive a discount to Ice Dog games. The Ice Dogs host a military appreciation night each year, reinforcing the connection between the team and the military installations in the area.



“ Military families desire improved opportunities to meet people, make friends, or expand their professional network within their local civilian communities. ”

-EAFB focus group participant

The Greater Fairbanks Chamber of Commerce has several military specific programs. The Chamber hosts an annual military appreciation banquet in early May for service members, including those serving in the Air Force, Army and Reserve. 2018 will mark the 50th anniversary of the event. The banquet is a way to honor those serving and to demonstrate community support for military families. Military families are hosted by a civilian couple in the community for the event. In addition to the military appreciation banquet, the Chamber oversees “Operation Standing Together,” an annual event that brings together business leaders, local elected officials and military leadership to informally network and strengthen military-business relationships. Given the frequent turnover of military and community leadership and a constantly-evolving business community, the event plays an important role in supporting military-community relations and reinforcing ties. The Chamber also has a Military Affairs Committee, which includes a mix of community and military representatives who promote cooperative relationships between the military and interior Alaska businesses. The Committee meets monthly and offers an opportunity for the business community to get updates on changes and upcoming plans on the military installations.

Explore Fairbanks maintains a community calendar with events. Anyone in the community can submit an event to include. View the calendar here:

<https://www.explorefairbanks.com/events/calendar/>

The Fairbanks Daily News-Miner also maintains a community calendar:

<http://www.newsminer.com/calendar/>

## Other Quality of Life Factors

This section focuses on the availability of and access to recreation, community services and retail. However, there are many other factors that contribute to whether EAFB personnel and their families have a positive or negative experience during their time stationed at EAFB. The following is a brief summary of factors and characteristics featured in other focus areas in this plan but relate to overall quality of life. For recommendations associated with each category, refer to each focus area.

### Education and Early Childhood Development

For military households with school-age children, access to quality schools is a top priority. Ensuring the children of military families have access to high quality education, can integrate smoothly into a local school, access military-specific support services and keep up with curriculum is important for families to feel satisfied with their time in FNSB. Schools are also important social access points for new EAFB families to meet their military and civilian neighbors, make friends and find ways to engage and contribute to their new community.

The availability of affordable, high quality, licensed child care is also an important factor for maintaining a high quality of life. High child care costs or availability of quality child care can discourage or prevent spouses from working and create cost pressures on households.

“ North Pole is an excellent community. It is a great place to raise your kids, with low crime and a rural feel. North Pole offers great services for a small community. North Pole has a lot to offer such as the library, schools, police, emergency services.

-North Pole Strategic Plan Survey Respondent, 2015

## Public Safety

Adequate police, fire and emergency medical service response is important for residents to feel safe and protected. These critical community services are provided through a combination of the FNSB, the City of Fairbanks, the City of North Pole, the State of Alaska and the Air Force.

## Health Care

Physical, emotional and mental health are all key components of an individual's quality of life. Access to quality health care is important for active duty personnel and their families. Fortunately, most primary care and specialty care providers in the FNSB have adequate capacity to serve incoming residents. However, both military and civilian residents do occasionally need to travel outside FNSB for specialty care, which can be disruptive and inconvenient and negatively impact quality of life.

## Housing

Access to quality and affordable housing remains a challenge in many communities, including FNSB. Air Force families seek homes in safe neighborhoods; those with children want to be near good schools. For Air Force families who chose to live off-base, most prefer to be within a 20-minute commute of EAFB. Meeting the housing demands of these incoming residents requires more than just the appropriate number of vacant units, since the vacant housing stock may not meet quality standards, be the appropriate size for families, or be within the 20-minute commute radius. Finding housing is one of the first hurdles a family must overcome when arriving at EAFB, and can ultimately contribute to whether active duty personnel and their families have a positive or negative experience during their time in the FNSB.



Credit: Agnew::Beck

## Transportation

Convenient and connected transportation systems can increase quality of life by reducing travel time, increasing safety and creating effective ways of moving around an area. Conversely, high traffic, long commute times and poorly maintained and/or unsafe roads can negatively impact the quality of life in an area. Some residents may prefer non-motorized transportation options such as walking and biking; these create opportunities for exercise and recreation and can encourage healthier lifestyles.

## Planning and Zoning

Planning and zoning is intended to guide community growth in a way that meets resident needs and reflects community values. It is especially valuable when used in an area experiencing rapid growth, which is the case for EAFB and the surrounding Salcha-Badger Road area. Land use planning helps guide the establishment of new housing, commercial development and transportation connections. It contributes to quality of life by preserving the characteristics residents value and creating livable and safe communities.

## Environmental Health Challenges

The greater North Pole area (99705) has experienced some challenges with environmental quality, discussed in more detail in the Planning and Zoning chapter. While the City of North Pole has piped infrastructure with quality water service, many private residential wells in the area have contamination issues including septic problems, elevated iron levels and chemical contamination from fire retardants and industrial solvent.<sup>5</sup> The industrial solvent sulfolane is a concern in the community.

Sulfolane was discovered in 2009 in drinking water wells near the North Pole Refinery, with an

underground plume that extends beyond the city limits. The City of North Pole is working with the State of Alaska and Flint Hills Resources Alaska to expand its water system to provide clean drinking water to residents impacted by the sulfolane contamination.

Moose Creek, a community to the southeast of North Pole, is also impacted by contaminated groundwater. Homes in the area have tested positive for elevated levels of perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA), man-made chemical compounds with the potential for adverse health effects. PFOS and PFOA were formerly used in firefighting foam at Eielson Air Force Base (EAFB) and at a firefighter training center in South Fairbanks; EAFB also has high concentration levels of the chemical on some areas of the base.

Due to the unique combination of weather conditions, geography and home heating types in the FNSB, the region also faces challenges related to air quality, with high concentrations of particulate matter in the air. Much of FNSB has been designated as a “non-attainment area” for not meeting national air quality standards. The FNSB, State of Alaska and the Environmental Protection Agency are working together to reduce emissions and bring air quality measures to within acceptable limits.

## Workforce Development

Many F-35 active duty personnel who will be stationed at EAFB are married and will be accompanied by their spouses. Due to the transient nature of the military, many military spouses must find a new job after each transfer. Employment not only brings financial gains; it also helps new residents engage in the community and brings fulfillment through meaningful work contributions. Having sufficient employment and training opportunities in place is an important contributor to the overall quality of life for many military personnel and their families.

<sup>5</sup> Source: City of North Pole and the Alaska Department of Environmental Conservation.



## ESTIMATED GAPS – WHAT ARE THE GAPS BETWEEN NEEDS AND EXISTING SERVICES, FACILITIES AND ACTIVITIES?

### Limited Retail and Commercial Activity Near EAFB

EAFB personnel and their families have access to most necessities on-base and in nearby North Pole. However, most must travel to Fairbanks for more specific purchasing needs and to access varied retail, dining and recreation options. Both military households and existing residents in the Greater North Pole area have expressed a desire for more commercial development in the North Pole area. At the same time, the 99705 zip code includes some of the fastest-growing parts of the FNSB. These combined factors indicate a potential opportunity for expanding the number of commercial businesses that serve incoming EAFB personnel, their families and existing residents.

Transportation is another limiting factor to accessing retail, dining and services. Not all EAFB personnel have cars. In addition, many active duty military personnel and their families come from much warmer climates and are unfamiliar with and intimidated by the extreme cold and winter driving conditions in interior Alaska. As a result, the distance between EAFB and the metropolitan centers of North Pole and Fairbanks can be a barrier for families who are not comfortable or able to make the trip for shopping, dining, services and activities. Past efforts to introduce regular Fairbanks-Eielson bus service were not widely utilized, and a route that operated between Fairbanks and Salcha was discontinued in 2017 due to insufficient ridership. These transportation barriers can make it difficult for EAFB personnel and their dependents to participate and engage in the civilian community off-base.

### Room for Improved Community-Military Partnerships

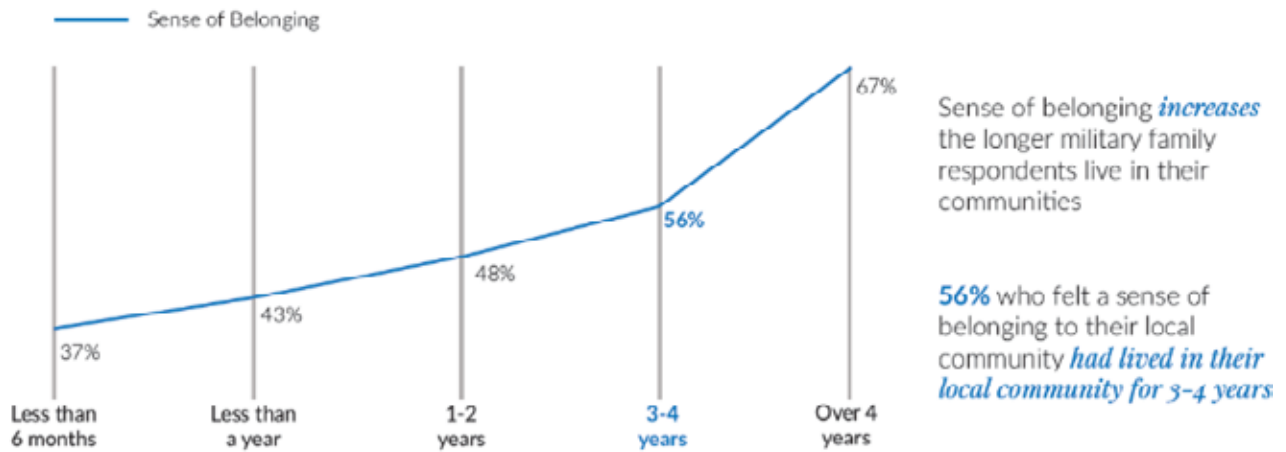
The FNSB is a very military-friendly community. The region has some of the highest rates of veterans in the country, including many former Air Force who have retired in the FNSB and opened businesses. However, there is room for improved communications between the military and local businesses and organizations. One of the challenges of building relationships between the community and the military is frequent turnover, as EAFB military personnel are typically reassigned every two to three years. This makes it challenging for local businesses and organizations who seek to communicate recreation and volunteer opportunities and create lasting partnerships with the Air Force.



Credit: Agnew::Beck



FIGURE 12: BLUE STAR FAMILIES 2017 LIFESTYLE SURVEY: CORRELATION BETWEEN SENSE OF BELONGING AND LENGTH OF TIME RESIDING IN A COMMUNITY



Source: Blue Star Families 2017 Military Family Lifestyle Survey

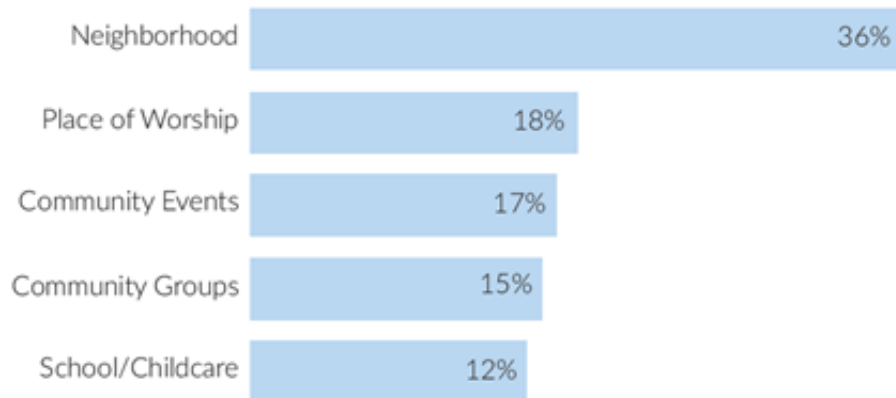
According to the 2017 Blue Star Families’ Military Lifestyles Survey, active duty military personnel and their families desire stronger integration and closer connections with their civilian communities. Frequent station moves can make this a challenge, since a military family must re-establish these connections with each relocation. The longer a family resides in a community, the greater the sense of belonging (Figure 12). Prioritizing outreach to military families, hosting community events, encouraging businesses to hire military spouses can

all help accelerate this transition period for families new to the FNSB.

“ The small-town feel is really important. The outdoor activities are great and our neighbors are super friendly. Our neighbor brought us a quarter of a moose. ”

-EAFB focus group participant

FIGURE 13: BLUE STAR FAMILIES 2017 LIFESTYLE SURVEY: CORRELATION BETWEEN SENSE OF BELONGING AND LENGTH OF TIME RESIDING IN A COMMUNITY



Source: Blue Star Families 2017 Military Family Lifestyle Survey

The Blue Star Families survey identifies five opportunities to increase local community connection, summarized in Figure 13. The number one opportunity is to better connect military families at the neighborhood level, including encouraging individual-level communications and friendships between civilian and military families. Other opportunities include connections through a place of worship, community events, community groups and school/child care.

Another potential gap is a tool to connect military spouses with volunteer engagements. Military spouses often seek ways to get involved and contribute to the community; according to Blue Star Families survey results, 71 percent volunteered in the past year and of those, 78 percent volunteered in the civilian community. However, there is currently no standard place for EAFB dependents to learn about volunteering opportunities. The Fairbanks Chamber of Commerce regularly receives calls from military spouses seeking volunteer opportunities. Alaska 2-1-1, a statewide call center and resource database, includes volunteer opportunities in its database, but the list for the FNSB has only three entries. There is a need for a more comprehensive place to identify and track volunteering opportunities. Addressing this gap would support local non-profits who would benefit from the additional assistance, and could also be utilized by civilian residents who want to increase their volunteer contributions to the community.

## Limited Bicycle and Pedestrian Connectivity in FNSB

EAFB personnel and their families have widespread access to recreation options, both on and off-base. However, there is room to improve the connectivity of bike and pedestrian routes and trails in FNSB. There are a number of intersections and crossings with insufficient infrastructure for bike and pedestrian use, creating unsafe conditions and potentially discouraging residents from non-motorized activities. Many of these sites have been identified in local transportation planning documents, with proposed plans to address connectivity in areas including Homestead Road, NPHS Boulevard and the Old Richardson Highway. The City of North Pole has also received requests for snowmachine trail connections through town, which may be difficult to accommodate given the limited amount of open land within the city boundaries.



## QUALITY OF LIFE STRATEGIES – WHAT ARE OUR RECOMMENDED SOLUTIONS FOR MEETING ANTICIPATED GAPS?

### Strengthen Community-Military Partnerships

**QOL1.** Increase the dissemination of information to EAFB families to increase awareness of and participation in local activities and events.

For example, share community-related events and activities calendar for inclusion in the EAFB Talon magazine. One of the challenges of building relationships between the community and the military is frequent turnover, as EAFB military personnel are typically reassigned every two to three years. This makes it challenging for local businesses and organizations who seek to communicate recreation and volunteer opportunities and create lasting partnerships with the Air Force.

**QOL2.** Increase distribution of Explore Fairbanks' list of businesses and partners who offer military discounts.

**QOL3.** Create a list of volunteer opportunities in the FNSB for military spouses and civilian residents.

This could be shared via a newsletter, a website or some other method such as working with Alaska 2-1-1 to expand their list of FNSB-based volunteering opportunities.

**QOL 4.** Improve education and outreach about the availability of existing facilities and outdoor recreation options.

**QOL5.** Consider providing bus transportation options from EAFB to North Pole and Fairbanks during large events and festivals to increase military engagement in community activities.

See also Transportation Recommendation T4.

**QOL6.** Develop guided programs to introduce newcomers to Alaska's unique outdoor recreational opportunities.

**QOL7.** Investigate options for developing a community center in the Greater North Pole area.

The center would provide space for residents and families to gather and recreate indoors.

“ Those military family respondents who engaged with civilians in their local, off-installation communities at least once a week in the following six settings - work, fitness centers, parks and recreation programs, religious facilities, community parks, and educational facilities - reported the highest levels of belonging... Simply going to the local fitness center or community park every week will not increase a military family’s sense of belonging to the local civilian community; rather, it is the frequent, sustained, and meaningful engagement with civilians that was associated with increased belonging. ”

-Blue Star Families 2017 Survey Summary

**QOL8.** Establish a military-community liaison to coordinate the sharing of information with EAFB personnel.

This liaison could share information, coordinate off-base orientations, connect local and regional organizations and businesses with relevant military contacts and maintain a list of contact information for key positions in the EAFB Public Affairs office, Airman and Family Readiness Center and other relevant EAFB departments.

### **Expand Retail and Commercial Activities near EAFB**

**QOL9.** Continue progress on commercial re-district rezoning efforts in the City of North Pole.

**QOL10.** Consider policies that will attract businesses to the City of North Pole.

Start by developing (and then continuously updating) a database of potential commercial real estate opportunities in the Greater North Pole area.

**QOL11.** Continue to support the wholesale retailer Costco's entry into the FNSB market.



## Expand Bicycle and Pedestrian Connectivity in FNSB

QOL12. Support implementation efforts to increase bike and pedestrian safety in high-use areas already identified in previous transportation planning efforts.

Example efforts include the Fairbanks Metropolitan Area Transportation System (FMATS) 2012 Non-Motorized Transportation Plan and Safe Routes to School plans for North Pole area schools.

QOL13. Continue to work with landowners and developers to establish designated recreation areas, including creating and preserving access to trails and recreation from residential areas.



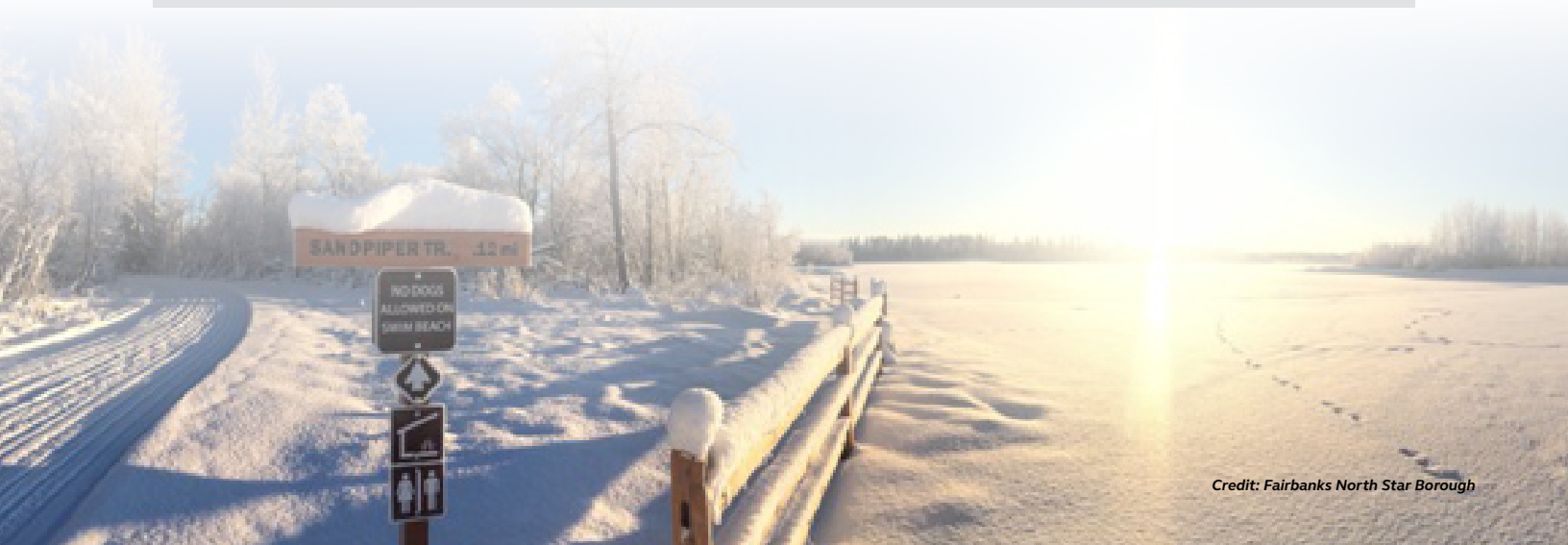
*Credit: Agnew::Beck*



## Fiscal Impacts

## KEY TAKEAWAYS

- The incoming F-35 population will increase the number of residents and students served by local government entities including Fairbanks North Star Borough, the City of Fairbanks, the City of North Pole and the FNSB School District (FNSBSD).
- Increased population and more K-12 students will lead to both greater education revenues and greater expenditures.
- With F-35 Beddown, revenues and expenditures for the FNSB, City of North Pole and City of Fairbanks will increase proportionately, with one important exception:
  - FNSB population growth rates for school age children will far exceed growth rates for adult residents (the number of residents paying property tax, thereby contributing to Borough education funds). Youth population growth, coupled with stagnant State of Alaska funding, could lead to funding challenges for the FNSBSD.
  - Under the baseline, FNSB revenues are forecast to exceed expenditures from 2017 to 2024. In 2025 through 2030, expenditures are expected to exceed forecast revenues.
- State of Alaska (SOA) expenditures in the FNSB are forecast to exceed anticipated revenues generated in the FNSB with and without the F-35 Beddown. The additional population in the FNSB with the F-35 Beddown is forecast to increase the gap between revenues and expenditures further. Specifically, the SOA is a major funder of education, infrastructure, and public safety in the region. Without new revenue streams, the F-35 Beddown would place additional pressures on the SOA budget.
- Providing high quality on-base housing options for incoming F-35 dependents could help relieve fiscal pressure on FNSB/FNSBSD as a result of greater Federal Impact Aid (FIA) for students living on base. FIA is estimated to be approximately \$7,625 per student living on-base, compared to only \$80 per student with a direct connection to EAFB living off-base.
- Encourage incoming F-35 families to enroll school-age children in the on-base schools to utilize the excess capacity in on-base schools.
- FNSB and FNSBSD should conduct further demographic analysis to confirm projected student populations and develop incremental funding strategies to adequately fund increased student populations.



This focus area summarizes projected fiscal impacts of the F-35 Beddown to local government entities in the FNSB, City of North Pole and City of Fairbanks from 2018 to 2030.

This focus area includes:

- Historic and projected future populations, 2017 to 2030, with and without the F-35 Beddown.
- Past and future property and consumptions taxes, organized by government entity: the City of North Pole; City of Fairbanks; the FNSB; and the SOA.
- Projected government expenditures for schools, public safety, general government services, public works, and other general fund expenditures.
- Tax revenues and government spending for affected governments.

The approach implemented to assess fiscal impacts assumes that revenues and expenditures per capita in local governments are relatively stable. Thus, if the population of the FNSB increases in the future by five percent, then in general, taxes and fees are also assumed to increase by five percent, as are government expenditures.

There are important exceptions to the methodology described above. For example, bed taxes do not necessarily increase with population and instead are generally much more sensitive to trends in tourism; a different methodology is used to forecast bed tax revenue. Similarly, most revenues coming to the SOA are not linked to population, and instead are generated through taxes and royalties related to resource extraction industries (e.g., oil and gas, fisheries, etc.), or from investment returns to the Permanent Fund.

Given the primary assumption that fiscal impacts are directly linked to changes in population, the

key to calculating and understanding fiscal impacts of the F-35 Beddown are forecasted changes in population for specific locations within the FNSB.

Finally, this assessment is intended to provide an overview of the F-35 Beddown fiscal impacts to FNSB and surrounding areas. It does not provide an exhaustive financial analysis of how every dollar is categorized for each of the affected government entities. A more detailed overview of source data and methodological approach can be found in Fiscal Impacts Appendix.

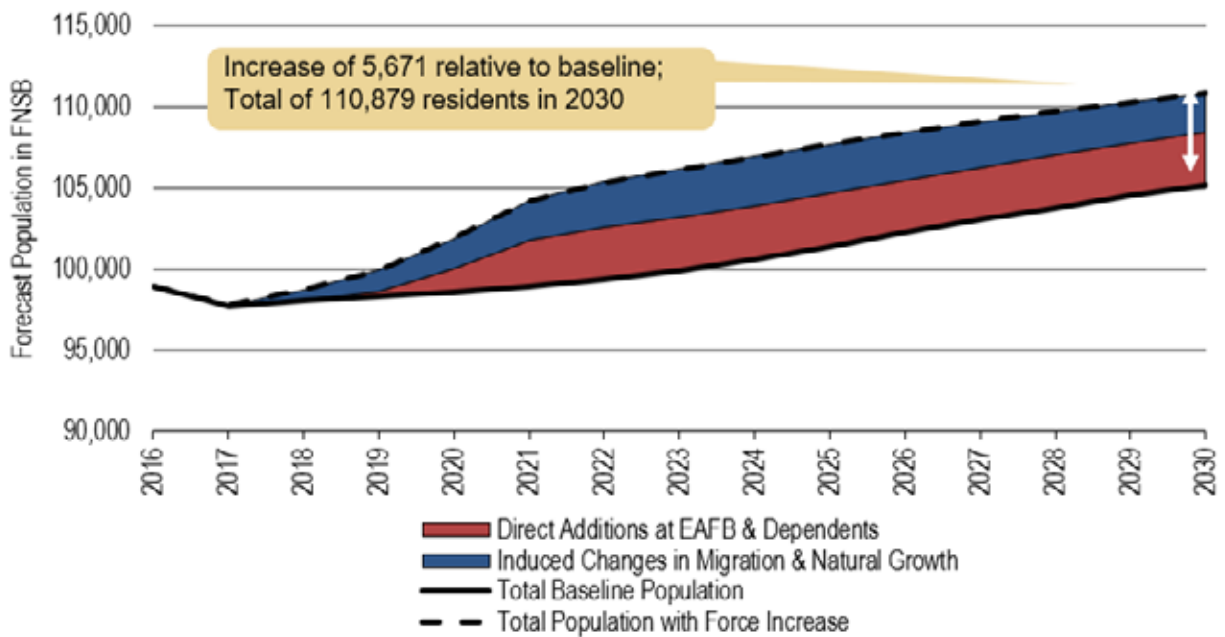


# HISTORIC AND FORECAST POPULATION UNDER THE BASELINE AND THE F-35 BEDDOWN

The Alaska REMI Model was used to forecast the future FNSB population, out to 2030, with and without the F-35 Beddown. However, the model does not breakout the population estimates for specific cities and communities within the FNSB, which was necessary for the fiscal impact assessment. As such, more detailed forecasts by city and place are developed in this section.

Figure 1 shows baseline and F-35 Beddown population forecasts for FNSB. By 2022, an additional 3,256 people, comprised of direct F-35 project personnel and their dependents, are forecast to have moved into the FNSB. The overall change in forecast population with F-35 Beddown is at its highest in 2024 with an increase 6,318 relative to the forecast baseline population. By 2030, the difference between the baseline and F-35 Beddown forecasts moderates down to an increase of 5,671.

FIGURE 1: **BASELINE AND F-35 BEDDOWN PROJECTIONS OF FNSB POPULATION, 2016 – 2030**



Source: Developed by NEI using the Alaska REMI Model.

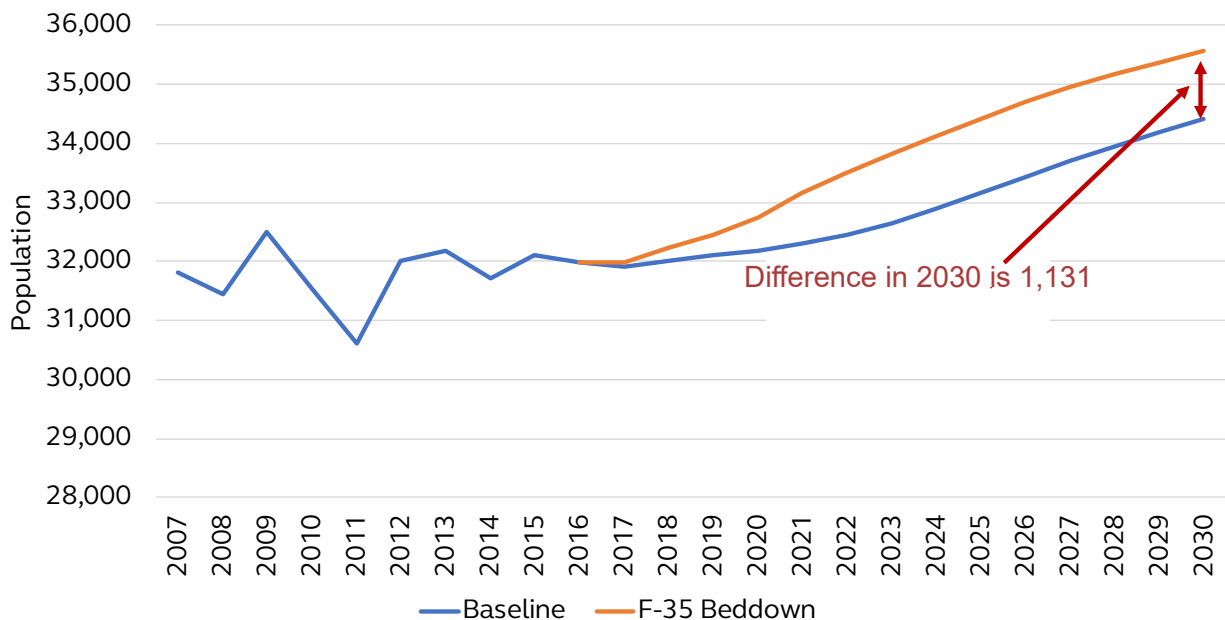
Figures 2 and 3 show historical trends and population projections for the City of Fairbanks and the City of North Pole. The projections are based on Alaska Department of Labor and Workforce Development (ADOLWD 2018a, 2018b) combined with Alaska REMI Model forecasts for the Borough. Baseline forecasts (without F-35 Beddown) for North Pole and Fairbanks assume these cities comprise percentages of total Borough population as identified in 2017 (the most current data).

As described in the housing focus area, under F-35 Beddown, 184 single airmen and 50 households with dependents will live on base at Eielson AFB; remaining personnel, including approximately 641 households with dependents and 225 singles will

live off base. Of the EAFB personnel that live off base, 85 percent are assumed to live in North Pole, Moose Creek, or Badger Road (i.e., within the 99705 ZIP code area); 11 percent are expected to live within the City of Fairbanks; and the remaining four percent are expected to live in or around Salcha.

As shown in Figure 2, population under the baseline in the City of Fairbanks increases by 2,515 from 2017 to 2030, an increase of 7.9 percent. With the F-35 Beddown, population in 2030 increases by 1,131 (3.3 percent) relative to the baseline. Of the increase, 318 are directly affiliated with F-35 Beddown, while the remaining 813 are part of induced population.

**FIGURE 2: BASELINE AND F-35 BEDDOWN POPULATION PROJECTIONS FOR THE CITY OF FAIRBANKS, 2016 – 2030**

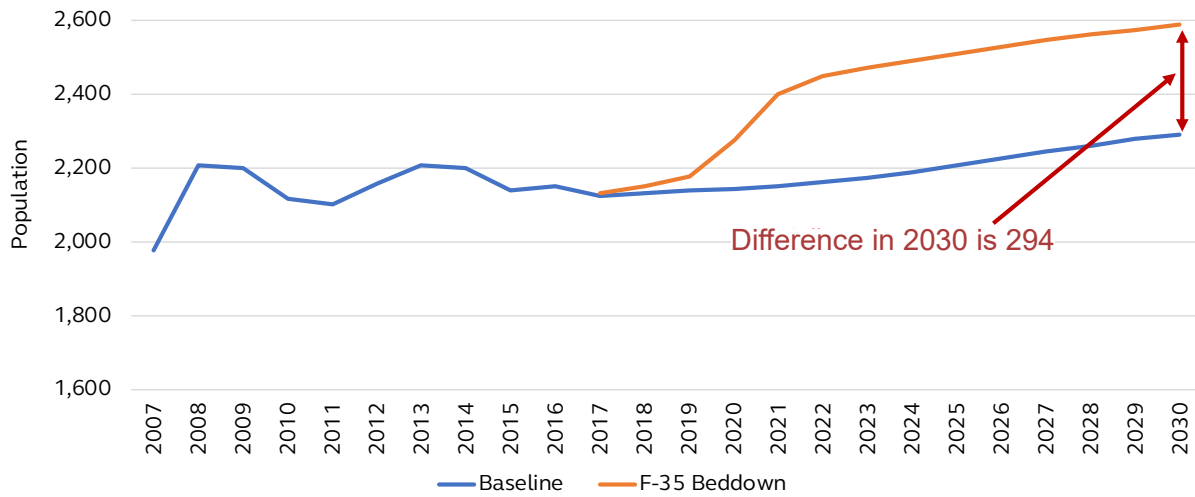


Source: Developed by NEI using the Alaska REMI Model.

As shown in Figure 3, population under the baseline in the City of North Pole increases by 167 in 2030 relative to the 2017 population (7.9

percent). With the F-35 Beddown, an additional 294 persons are forecast for North Pole by 2030, (240 of whom are directly affiliated with EAFB).

**FIGURE 3: BASELINE AND F-35 BEDDOWN POPULATION PROJECTIONS FOR THE CITY OF NORTH POLE, 2016 - 2030**

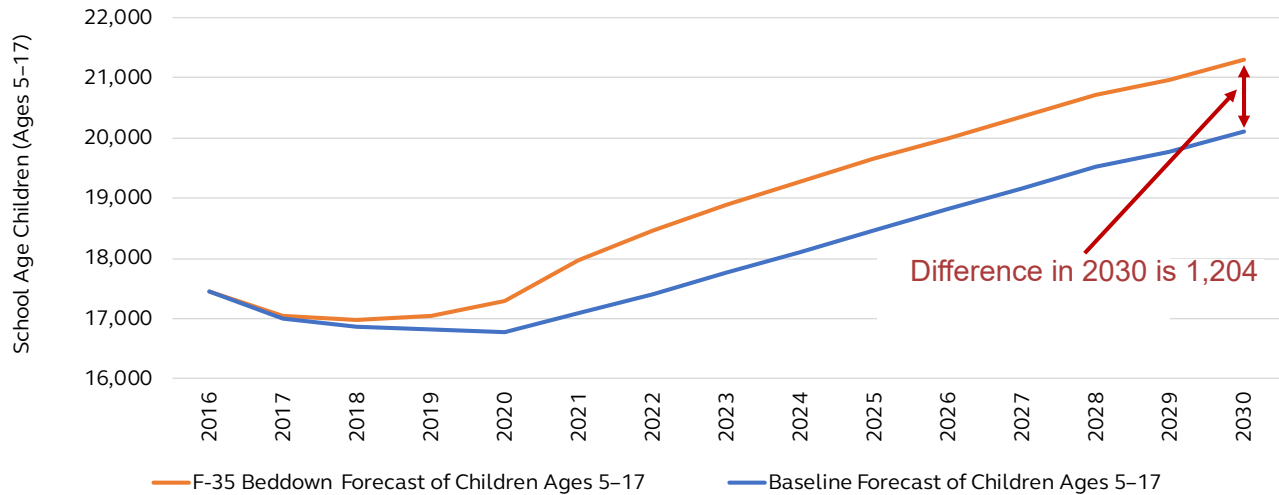


Source: Developed by NEI using the Alaska REMI Model

Baseline and F-35 Beddown forecasts for school-age children (ages 5–17) are shown in Figure 4. The baseline forecast trends downward through 2020, and then begins a steady climb through the remainder of the forecast period. The baseline’s downward trend and the inflection in 2020 is a reflection of the demographics in the FNSB, discussed in more detail in Figure 5.

The F-35 Beddown forecast of school-age children begins to increase relative to the baseline in 2018 and reflects the increase in military personnel beginning in 2020. The increase in school-age children is highest in 2024 at 1,236, then declines to 1,204 by 2030.

**FIGURE 4: BASELINE AND F-35 BEDDOWN FORECASTS FOR SCHOOL AGE CHILDREN (AGES 5 TO 17), 2016 – 2030**



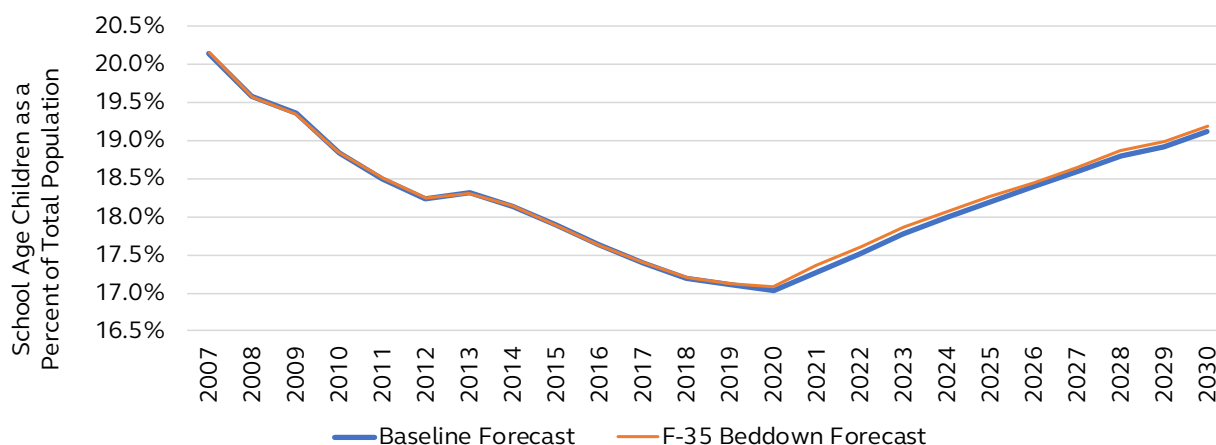
Source: Developed by NEI using the Alaska REMI Model.



Figure 5 shows the long-term trend in school-age children as a percent of total population in the FNSB. The baseline and F-35 Beddown projections are virtually identical, as the Alaska REMI Model relies on a single demographic profile of population by age for the FNSB. Most important to note – after a long downward trend, the relative size of the school age population shifts dramatically, beginning in 2020. This shift appears to be the result of a decreasing number of “Baby Boomers” (ages 54 to 72), who typically no longer have school-aged children, and an increasing number of “Millennials” (ages 22 to 37), or younger generations that have had or will have children that eventually attend school.

There are fiscal implications of this demographic shift – when the relative size of the school-age population is declining, there are proportionally more adults (and tax payers) among whom the cost of education can be spread. Conversely, when the relative size of the school-age population is increasing, there are proportionally fewer adults among whom the cost of education can be spread. For the FNSB, the latter shift, increasing proportion of school-aged children, occurs in both baseline and F-35 Beddown projections. This shift could potentially lead to future school funding issues.

**FIGURE 5: SCHOOL AGE CHILDREN (AGES 5–17) AS A PERCENT OF TOTAL POPULATION, 2007–2030**



Source: Developed by NEI using the Alaska REMI Model.

## LOCAL GOVERNMENT REVENUES

Primary sources of local government revenue come from property and consumption taxes on sales, hotel rooms (bed tax), tobacco, and alcohol. The Eielson Regional Growth Management team reviewed historical tax receipts for each of the tax types and the projected changes in tax collections for each government entity resulting from the F-35 Beddown. Also included – a separate subsection that projects the incremental increases in SOA revenue that can be expected with the F-35 Beddown. While the primary focus of this fiscal impacts assessment is on taxes, taxes are not the only source of revenue for local governments – user fees and other charges for services, along with grants and intergovernmental transfers will be important contributors to government funding.

### Property Taxes under the Baseline and with the F-35 Beddown by Government

With the F-35 Beddown, additional real property will be developed and taxed. Potential changes to the FNSB property tax revenues from 2017 to 2030, with and without the F-35 Beddown, are calculated using historical property tax receipts, after excluding oil and gas property tax receipts that do not increase with population. In this case, the per capita calculations use only the last three years (2014–2016). Per capita calculations include all forms of property such as residential, commercial, industrial, farm, and vacant land.<sup>1</sup>

<sup>1</sup> Oil and gas property revenues are removed prior to per capita calculations, and then added back into the projections as a fixed value using the most recent estimate available from the Alaska Taxable Database (ADCCED, 2018b). This methodology avoids the unrealistic assumption that population affects tax receipts from TAPS.

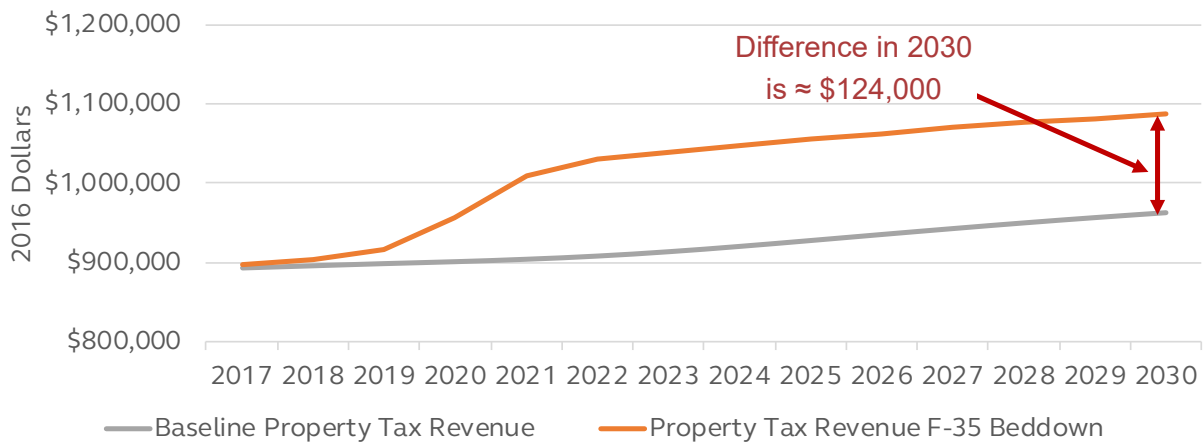


### City of North Pole

Figure 6 shows the estimated property tax impacts in North Pole from 2017 to 2030. Baseline estimates show the City of North Pole would receive just over \$963,000 in property taxes by 2030 without F-35 Beddown impacts. With the increase in housing units associated with F-35 military personnel and their dependents, combined with other property development such

as commercial and industrial, property taxes in the City of North Pole are expected to rise over the baseline by nearly \$130,000 annually by 2024. By 2030, annual property taxes are expected to increase from a baseline estimate of \$963,000, to \$1.09 million, or 13 percent.

**FIGURE 6: CITY OF NORTH POLE PROJECTED BASELINE AND F-35 BEDDOWN: PROPERTY TAX RECEIPTS**



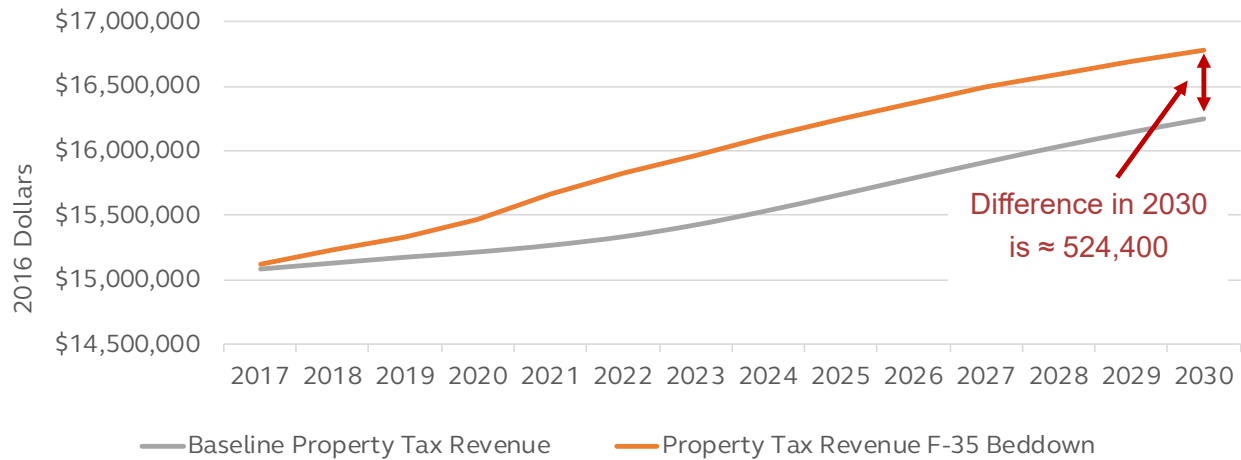
Source: Northern Economics using data from CAFRs  
 Note: Includes oil and gas property values.

### City of Fairbanks

Figure 7 shows the estimated property tax impacts in the City of Fairbanks from 2017 to 2030. Baseline estimates show the City of Fairbanks would receive roughly \$16.2 million in property taxes by 2030 without F-35 Beddown impacts. With the increase in housing units associated with military personnel and their dependents,

combined with other property development such as commercial and industrial, property taxes in the City of Fairbanks are expected to rise over the baseline by \$625,000 by 2024 because of the F-35 Beddown. By 2030, annual property taxes are expected to increase from a baseline estimate of \$16.2 million, to \$16.8 million, or 3.2 percent.

**FIGURE 7: CITY OF FAIRBANKS PROJECTED BASELINE AND F-35 BEDDOWN: PROPERTY TAX RECEIPTS**



Source: Northern Economics using data from CAFRs  
 Note: Includes oil and gas property values.



### Fairbanks North Star Borough

Figure 8 shows estimated property tax impacts in the FNSB from 2017 to 2030, not including the City of North Pole or the City of Fairbanks. Baseline estimates indicate the FNSB would receive roughly \$102.4 million in property taxes by 2030.

Per the housing focus area, a total of 974 F-35-related housing units associated with military personnel and their dependents will be created or filled in the FNSB, the City of North Pole, or the City of Fairbanks, all of which will pay some portion of their property taxes to the Borough.<sup>2</sup>

Combined with other property development, property tax revenue in the FNSB is expected to rise by over \$5.5 million annually over the baseline by 2024 because of the F-35 Beddown. By 2030, annual property tax revenue is expected to increase from a baseline estimate of \$102.4 million to \$107.4 million, or 4.8 percent.

<sup>2</sup> See housing focus area for details. Assumptions based on City of Fairbanks and City of North Pole calculations.

**FIGURE 8: FAIRBANKS NORTH STAR BOROUGH PROJECTED BASELINE AND F-35 BEDDOWN: PROPERTY TAX RECEIPTS**



Source: Northern Economics using data from CAFRs  
 Note: Includes oil and gas property values.

## Consumption Taxes

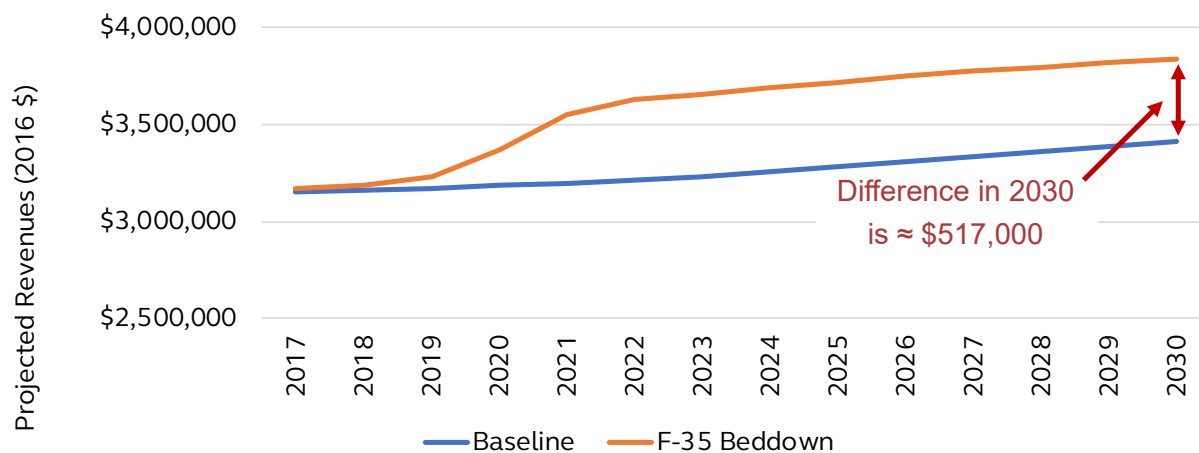
This section summarizes forecasts for future consumption-related taxes along with estimates for user permits, fees and service charges collected by local governments under the baseline and with the F-35 Beddown. The FNSB, the City of Fairbanks, and the City of North Pole all collect taxes on retail purchases of alcohol and tobacco, as well as a tax on hotel/motel room rentals (bed tax). In addition, the City of North Pole has a general sales tax of five percent. The Fiscal Impacts Appendix provides details on taxes by type collected by each government entity. Fees and service charges are also an important source of revenues for many governments. This is particularly true for the City

of Fairbanks which generates more general fund revenue from fees, service charges, fines and forfeitures, than it does in consumption taxes.

### Forecast Consumptions Taxes for the City of North Pole

For the baseline, revenue from consumption taxes and fees are projected to increase modestly from \$3.83 million in 2017 to \$4.14 million by 2030. Under the F-35 Beddown, the City of North Pole can expect an estimated \$4.66 million in total consumption-related tax revenue by 2030, or an increase of \$517,000 above the baseline (Figure 9).

**FIGURE 9: CITY OF NORTH POLE PROJECTED BASELINE AND F-35 BEDDOWN CONSUMPTION TAXES AND FEES**



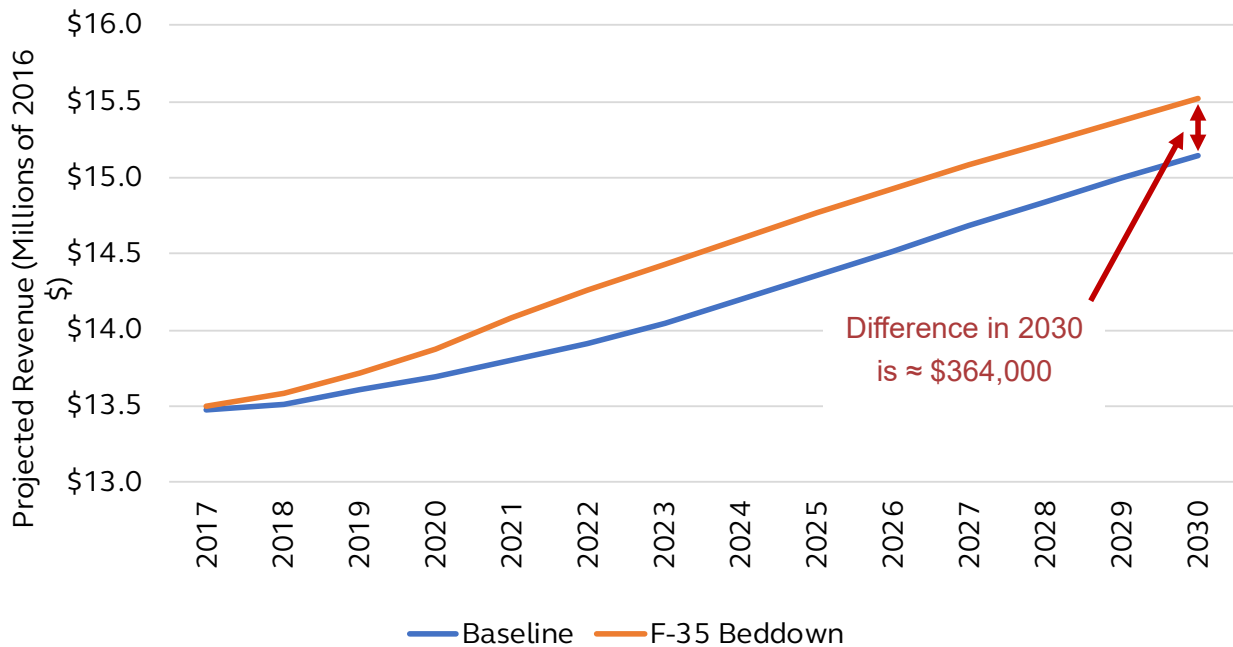
Source: Northern Economics estimates.

## Forecasts of Consumption Taxes and Other Fees and Service Charges for the City of Fairbanks

As seen in Figure 10, baseline consumption-related tax receipts, combined with fees, service charges, fines and forfeitures, in the City of Fairbanks are projected to increase from \$13.5 million in 2017 to \$15.1 million by 2030. Under the F-35 Beddown, the City of Fairbanks can expect an estimated \$15.5 million in total consumption and fee revenue

by 2030, or an increase of \$364,000 above the baseline. F-35 Beddown related consumption tax increases for the City of Fairbanks are likely underestimated. This is because population increases under F-35 Beddown are largely outside city limits, and a disproportionately large share of consumer spending from all FNSB residents will likely occur within city limits.

**FIGURE 10: CITY OF FAIRBANKS PROJECTED BASELINE AND F-35 BEDDOWN CONSUMPTION TAXES AND FEES**



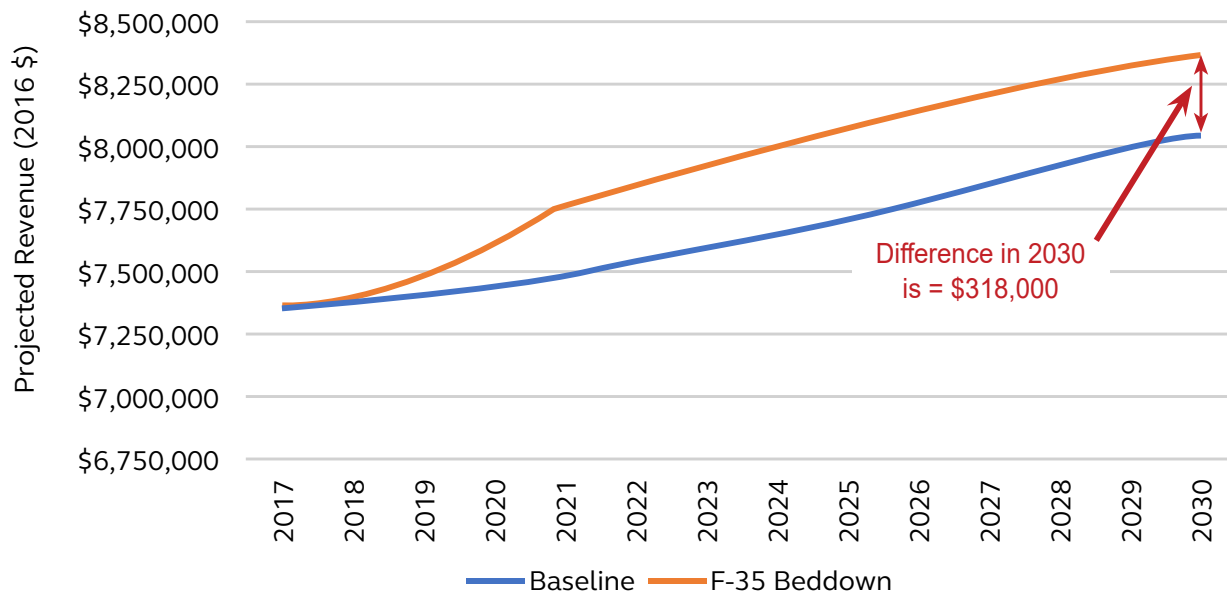
Source: Northern Economics estimates.

### Forecasts of Consumption Taxes and Other Fees and Service Charges for the FNSB

As shown in Figure 11, baseline consumption-related taxes, fees, and service charge receipts in the FNSB (not including City of North Pole or and the City of Fairbanks) are projected to increase from \$7.36 million in 2017 to roughly \$8.06 million by 2030. Like the cities of North Pole and Fairbanks, consumption tax projections for FNSB include the largest and longest standing contributors to the

FNSB tax base – alcohol, bed and tobacco tax. Also included are other miscellaneous user fees and service charges, however revenues generated by new marijuana tax are not estimated due to lack of historical data. Under the F-35 Beddown scenario, the FNSB is forecasted to have an estimated 8.37 million in total fees, service charges and consumption related tax revenue by 2030, or an increase of \$318,000 above the baseline.

**FIGURE 11: FNSB PROJECTED BASELINE AND F-35 BEDDOWN CONSUMPTION-RELATED TAXES AND FEES**



Source: Northern Economics estimates.

### State of Alaska Revenues Generated in the FNSB

Oil and gas taxes, make up the greatest percent of annual state revenues. However, taxes on oil production and leasing do not meaningfully vary with state population. The SOA also collects marginal levels of tax revenue from the general population, mostly through consumption of tobacco, fuel, and alcohol. Other state level per capita revenue comes from vehicle rentals, gaming, utility cooperatives, and tire sales. As detailed in the Fiscal Impacts Appendix, State of Alaska revenues averaged \$240.55 per FNSB resident in 2016.

As shown earlier in Figure 1, by 2030, the FNSB population is expected to rise by 5,671 people. Assuming per capita based revenues and fees remain at \$240.55 per capita, the SOA is expected to receive \$25.3 million in per capita based revenue in 2030 under the baseline. Under F-35 Beddown, the SOA is expected to generate \$26.7 million, an increase in revenues of \$1.36 million.



## EXISTING AND FORECASTED CHANGES IN GOVERNMENT EXPENDITURES

This section summarizes forecasted changes in government spending related to the F-35 Beddown for education and other government spending.

### Education Expenditures (FNSBSD Revenues)

The FNSBSD receives funding from a combination of FNSB, State of Alaska, federal government and other sources. Following, is an overview of FNSBSD revenues, explained through an analysis of how much each source (or entity) expends on education funding that goes to the FNSBSD.

#### Projected Future Education Expenditures by Source

In 2016, FNSB funding per student averaged \$15,019. Approximately 58 percent of that total came from the State of Alaska; 27 percent from the FNSB; eight percent from Federal Impact Aid (FIA), funding provided for federally-connected students; and the remainder came from other sources.<sup>3</sup>

Federal Impact Aid provides financial assistance to local school districts that provide public education to concentrations of students living on federal lands, including military bases. Federal lands are tax exempt; the Borough cannot collect property tax on these lands. Federal Impact Aid is intended to offset the portion of uncollected property tax that would otherwise go toward education funding for military-connected students attending public schools. There are two general categories of FIA:

1. A larger amount that helps offset the lost property tax revenue of on-base families living on tax-exempt federal land, which goes first to the State of Alaska, who then reallocates FIA to the impacted school district. In this scenario, FIA is \$7,626 per military-connected student.
2. A smaller amount for students with one or both parents working on federal lands. This amount is intended to provide some additional revenues that local governments do not generate when a resident works on federal lands. An example of this lost revenue: sales tax may not be paid because on-base federal workers typically have access to Base Exchanges for purchasing food and goods. In this scenario, the FIA is \$80 per military-connected student.

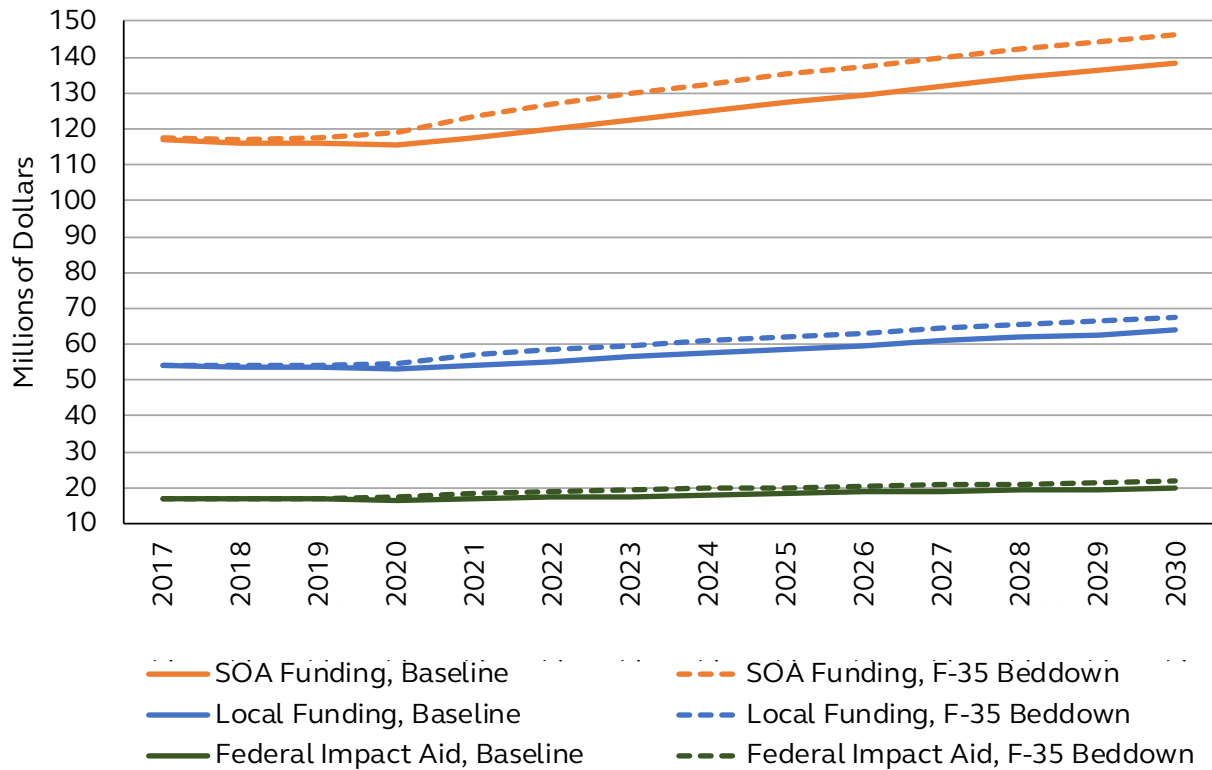
Under the baseline in 2030, the SOA is forecast to contribute \$139.9 million to FNSBSD. With F-35 Beddown, SOA funding is forecast to increase to \$147.5 million, up approximately \$7.6 million. Local funding under the baseline is expected to reach \$65.1 million in 2030 and increase by \$3.1

<sup>3</sup> For more information on Federal Impact Aid in Alaska, including formulas, eligibility and process, visit this webpage to view informational slides from the Alaska Department of Education and Early Development: <https://www.eed.state.ak.us/publications/2015ImpactAidPresentation-2-19-15.pdf>.

million to \$68.3 million with F-35 Beddown.

Federal Impact Aid is forecast to increase by \$2.5 million from \$17.3 million under the baseline to \$19.9 million with F-35 Beddown. In addition to these three major sources, various other sources of funding (not shown in the figure) are also expected to increase with increasing numbers of students. Under the baseline in 2030, these other sources account for \$17.9 million and are expected to increase by \$1.0 million to \$18.9 million.

**FIGURE 12: PROJECTED FNSBSD EXPENDITURE BY MAJOR SOURCES, 2017-2030**



Source: Developed by Northern Economics using data from ADEED (2018).

## Other Government Expenditures

Figure 13 summarizes forecasted general fund expenditures for the City of North Pole, the City of Fairbanks, and the FNSB under the baseline and with the F-35 Beddown. Expenditures include general government, public safety, public works, and other general fund expenditures. The same per capita methodology is used to forecast future general fund expenditures. Because 85 percent of the military personnel and families that live off-base are expected to live in the 99705 zip code areas, expenditures for the City of North Pole increase

more on a percentage basis than expenditures for the City of Fairbanks or the FNSB. Differences from the baseline forecast are highest in 2024, the year with the largest level of induced population increases with F-35 Beddown – induced population increases begin to taper off in 2025. Please see the Fiscal Impacts Appendix for a detailed breakdown of all expenditures by municipality and category.

**FIGURE 13: FORECAST TOTAL GENERAL FUND EXPENDITURES (2016\$), BASELINE AND F-35 BEDDOWN, 2017-2030**

Year	City of North Pole			City of Fairbanks			Fairbanks North Star Borough		
	Baseline	F-35 Beddown	Difference as a Percent of Baseline	Baseline	F-35 Beddown	Difference as a Percent of Baseline	Baseline	F-35 Beddown	Difference as a Percent of Baseline
	(2016\$)			(2016\$)			(2016\$)		
2017	5,276,969	5,285,448	0.2	34,131,861	34,139,581	0.0	44,107,937	44,131,596	0.1
2018	5,293,438	5,342,689	0.9	34,238,387	34,484,437	0.7	44,241,431	44,571,292	0.7
2019	5,309,741	5,434,384	2.3	34,343,834	34,848,396	1.5	44,373,574	45,095,396	1.6
2020	5,324,332	5,690,116	6.9	34,438,209	35,276,220	2.4	44,491,843	45,995,464	3.4
2021	5,342,659	6,005,923	12.4	34,556,752	35,748,426	3.4	44,640,397	47,053,298	5.4
2022	5,366,644	6,118,335	14.0	34,711,886	36,058,094	3.9	44,834,806	47,565,249	6.1
2023	5,399,287	6,161,943	14.1	34,923,026	36,340,154	4.1	45,099,401	47,918,718	6.3
2024	5,439,318	6,205,914	14.1	35,181,952	36,624,560	4.1	45,423,879	48,275,127	6.3
2025	5,483,523	6,248,547	14.0	35,467,869	36,900,318	4.0	45,782,181	48,620,699	6.2
2026	5,528,860	6,288,739	13.7	35,761,116	37,160,278	3.9	46,149,670	48,946,472	6.1
2027	5,573,322	6,325,898	13.5	36,048,700	37,400,625	3.8	46,510,061	49,247,668	5.9
2028	5,616,058	6,360,763	13.3	36,325,115	37,626,140	3.6	46,856,457	49,530,277	5.7
2029	5,655,882	6,393,054	13.0	36,582,706	37,834,999	3.4	47,179,262	49,792,013	5.5
2030	5,692,875	6,423,457	12.8	36,821,975	38,031,645	3.3	47,479,107	50,038,443	5.4

Note: Table does not include FNSB general fund expenditures for schools. Summary of Fiscal Impacts

## COMPARISON OF FORECAST REVENUES TO FORECAST EXPENDITURES

Figure 14 summarizes the estimated fiscal impact, or difference between the baseline and with the F-35 Beddown, for the City of North Pole, the City of Fairbanks, and the FNSB. The analysis focuses on estimates for 2022, the year when most F-35 personnel and their families will have fully moved into the region (see introduction and project

approach for a year-by-year personnel timeline), and 2030, the end of the study period.

FIGURE 14: SUMMARY OF FISCAL IMPACTS BY GOVERNMENT IN 2022 AND 2030

Differences Between F-35 Beddown and the Baseline (2016\$)		
Government	2022	2030
<b>City of North Pole</b>		
<b>Revenues<sup>1</sup></b>	<b>659,322</b>	<b>640,807</b>
Property Tax	127,191	123,619
Consumption Related Tax	436,100	423,854
Fees, Service Charges, Fines & Forfeitures	96,031	93,334
<b>Expenditures</b>	<b>751,691</b>	<b>730,582</b>
<b>City of Fairbanks</b>		
<b>Revenues<sup>1</sup></b>	<b>988,556</b>	<b>888,292</b>
Property Tax	583,639	524,444
Consumption Related Tax	132,218	118,808
Fees, Service Charges, Fines & Forfeitures	272,698	245,040
<b>Expenditures</b>	<b>1,346,208</b>	<b>1,209,669</b>
<b>FNSB</b>		
<b>Revenues<sup>1</sup></b>	<b>5,738,647</b>	<b>5,368,460</b>
Property Tax	5,294,703	4,962,905
Consumption Related Tax	171,246	160,515
Fees, Service Charges, Fines & Forfeitures	168,462	157,905
<b>Expenditures</b>	<b>5,856,203</b>	<b>5,707,832</b>
General Fund	2,730,442	2,559,336
Education <sup>2</sup>	3,125,761	3,148,496

Notes:

<sup>1</sup> Does not include additional grants, state and federal funds, trust and invested fund income, and other miscellaneous income.

<sup>2</sup> Education costs to the Borough, represent revenue to the FNSB School District.



## Summary of Results for the City of North Pole

For the City of North Pole, the difference between quantifiable F-35 Beddown related expenditures and revenues relative to the size of the general fund budget is quite small. While expected revenue increases with F-35 Beddown are less than expected spending increases, the difference over the entire forecast period is just 1.15 percent of total general fund expenditures from 2017-2030 with the F-35 Beddown.

For example, in 2030, the City of North Pole will receive an estimated increase of \$640,807 from F-35 related property taxes, consumption taxes, and various fees, while general fund spending to provide local services is forecast to increase by \$730,582 a difference of \$89,775. Compared to the forecast total general fund expenditures with F-35 Beddown in 2030 of \$6.4 million, the \$89,775 incremental revenue shortfall represents just 1.4 percent of the budget. The RGP team also notes that spending and revenue associated with F-35 population could also vary depending on current infrastructure needs, and spending habits of the new and neighboring populations.

## Summary of Results for the City of Fairbanks

The impacts to the City of Fairbanks are similar to those for the City of North Pole – the difference between quantifiable F-35 Beddown related expenditures and revenues relative to the size of the general fund budget is small – averaging just 1.02 percent of total general fund expenditures from 2017-2030 with the F-35 Beddown. In 2024, the difference between forecasts of increased revenues and increased expenditures is \$499,573 – an amount just 1.36 percent of the forecast for all general fund expenditures. In other words, the F-35 Beddown is forecast to slightly increase the amount of funding required from other sources, such as intergovernmental transfers or draw-downs from the City's permanent fund, in order to balance the annual budget. Also note, because the City of Fairbanks is a hub for much of the consumption in the region, consumption related taxes could increase by a greater percentage than the increase in population.



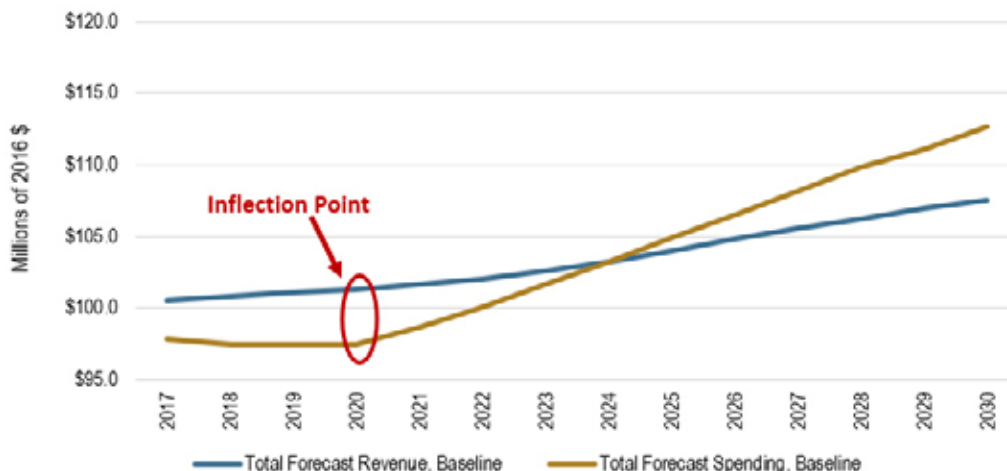
## Summary of Results for the FNSB

The incremental impacts of the F-35 Beddown on the FNSB’s overall budget are forecast to be minimal. Over the entire forecast period from 2017–2030, the weighted average gap between additional revenues and additional expenditures is -0.19 percent relative to total forecast expenditures under F-35 Beddown. In 2030 for example, additional expenditures exceed additional revenues by \$339,372, while the total general fund expenditures with F-35 Beddown in 2030 are forecast at \$118.3 million. The additional difference is 0.29 percent of the total ( $\$339,372 \div \$118,328,370 = 0.29\%$ ).

More importantly, unlike forecast revenues and expenditures for the City of North Pole and the City of Fairbanks, forecast revenues and expenditures for the FNSB do not continue to follow parallel tracks, or have continued increases reflective of the increased population. Under the baseline, revenues are forecast to exceed expenditures from 2017 to 2024, but in 2025 through 2030, general fund expenditures are

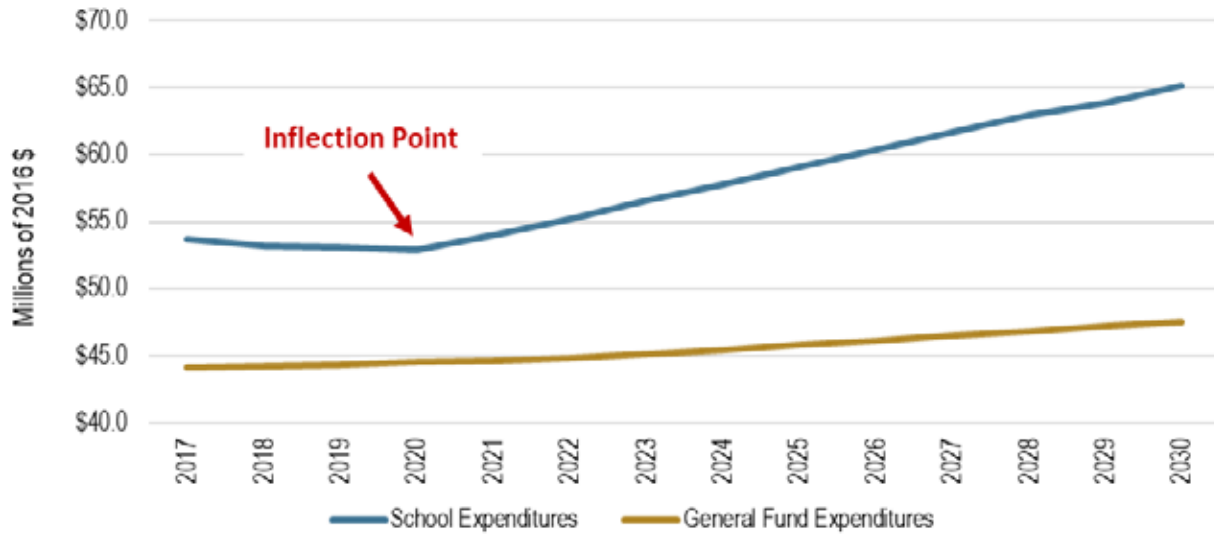
expected to exceed forecast revenues. Similarly, under the F-35 Beddown forecast, revenues are forecast to exceed expenditures from 2017 to 2023, but in 2024 through 2030, expenditures are expected to exceed forecast revenues. Figure 14 demonstrates this issue for the baseline while Figure 15 shows forecast expenditures and revenues with the F-35 Beddown. In both scenarios there is a clearly defined “inflection point” where revenues and expenditures are no longer increasing at parallel rates. The inflection occurs in 2020 under the baseline and in 2021 with the F-35 Beddown. If this inflection point were present only in the F-35 Beddown case it might be attributed to the F-35 Beddown, but since the inflection is also present in the baseline, the root cause of the inflection must be attributed to something occurring in both scenarios, most likely the increase in proportion of school-aged children to total population (see the Education and Early Childhood Development focus area and Federal Impact Aid discussion above for additional details).

**FIGURE 15: FORECAST GENERAL FUND REVENUE AND SPENDING UNDER THE BASELINE FOR THE FNSB**



Source: Developed by Northern Economics using the Alaska REMI Model.

**FIGURE 16: FORECAST GENERAL FUND REVENUE AND SPENDING WITH THE F-35 BEDDOWN FOR THE FNSB**

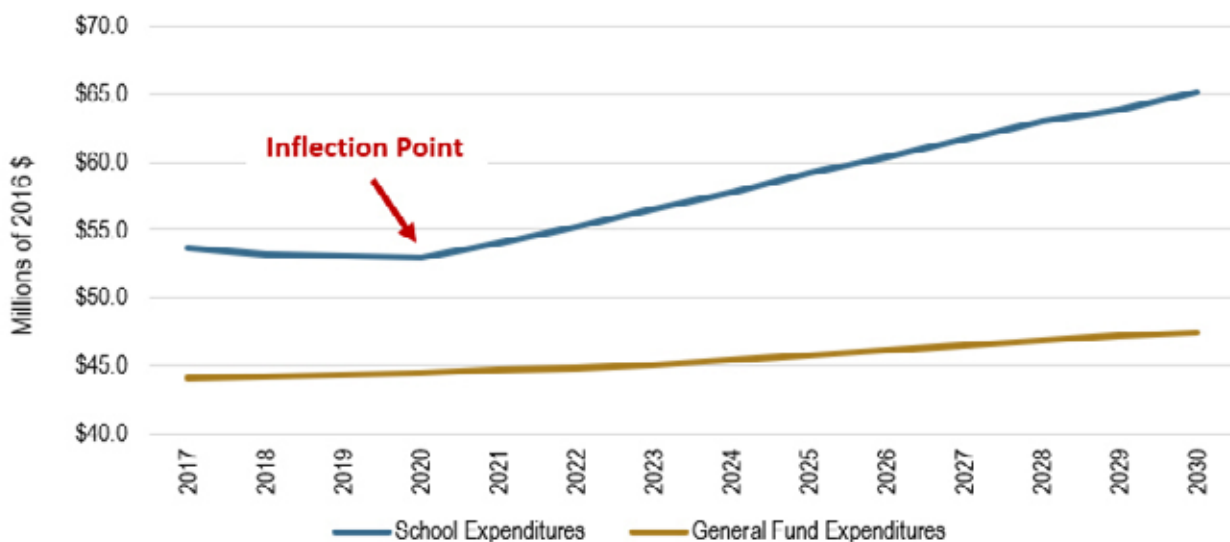


Source: Developed by Northern Economics using the Alaska REMI Model.

Figure 17 shows forecast general fund expenditures under the baseline and pass-through forecast funding for the FNSBSD from the FNSB. The differences can be attributed to school expenditures which are growing faster than other expenditures.

The root cause of this issue is likely linked to demographic forecasts, with the number of school-age children growing faster than forecast numbers of adults, demonstrated in Figure 5.

**FIGURE 17: BASELINE FORECAST OF FNSB SCHOOL AND GENERAL FUND EXPENDITURES**



Source: Developed by Northern Economics using the Alaska REMI Model.

## Summary of Results for the SOA

Figure 18 summarizes the estimated change in annual fiscal position for the SOA within the FNSB resulting from F-35 Beddown between 2022 and 2030.

Overall, revenues generated for the SOA within the FNSB, under both baseline and with the F-35 Beddown, are much lower than forecasted expenditures. On a per capita basis, estimated SOA revenues are just \$240.55 per FNSB resident (see the earlier SOA revenues discussion), while the SOA is forecasted to spend \$176 per person on State Troopers alone. The SOA incurs the largest portion of costs for K-12 education within the FNSB. Under the baseline, the SOA is forecast to provide an average of \$8,683 per student to the FNSBSD. With the F-35 Beddown, the SOA's

average contribution per student declines by an average \$26 per student because of increases in Federal Impact Aid. However, the increase in the overall number of students with the F-35 Beddown increases the SOA's total education contribution by \$7.42 million in 2022 and \$7.62 million in 2030.

Note, estimated expenditures for the SOA only include estimates for spending on State Troopers and education funding. Estimated expenditures do not include additional spending by the Alaska Department of Transportation and Public Facilities for increased road and infrastructure maintenance, potential increases in spending in the university system, increased per capita spending on Medicaid, or on other state-funded social programs.

**FIGURE 18: SUMMARY OF FISCAL IMPACTS TO THE STATE OF ALASKA IN 2022 AND 2030**

Revenue and Cost by Government <sup>1</sup>	Change from Baseline (2016\$)	
	2022	2030
Population Related Revenues	1,455,409	1,364,204
Expenditures <sup>2</sup>	8,040,507	8,847,183

Notes:

<sup>1</sup> Not representative of all accounts, such as fees, fines, penalties, grants, additional state and federal funds, trust and invested fund income, and other miscellaneous income and spending.

<sup>2</sup> Does not estimate AKDOT road construction and maintenance.



## FISCAL IMPACT STRATEGIES – WHAT ARE OUR RECOMMENDED SOLUTIONS FOR MEETING ANTICIPATED GAPS?

FI1. Conduct further demographic analysis to confirm projected student populations and develop incremental funding strategies that will adequately fund increased student populations

FI2. Encourage EAFB families living on-base to enroll their school-aged children in FNSBD schools.

- a. Increase Federal Impact Aid funding by increasing the number of students living on base enrolled in FNSBSD schools.

FI3. Implement and support a comprehensive economic development strategy (CEDS) aimed at diversifying and strengthening the FNSB economy.



Photo by Agnew::Beck

## FISCAL IMPACT REFERENCES

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# Implementation Plan

## PART 3



## NOTES:

- **Red font** = Strategies identified as “immediate” priorities, slated for implementation within the next year, as of August 2018.
- Priorities were selected based on a combination of criteria including: urgency (must happen soon to meet immediate need of the incoming F-35 population); sequencing (an important first step in a series of strategies and actions); capacity (time and resources) of potential leads and key partners to implement in the short-term.
- Key partners, including the Fairbanks North Star Borough, will consistently review, evaluate and update the implementation plan to reflect progress made, but also to adapt the plan to best respond to economic, social and political changes and/or opportunities.

## HOUSING

Strategy	Priority Immediate = within the year; Near = 1-3 years; Medium = 4-9 years Long = 10+ years NOTE: Some strategies are recommended for ongoing implementation	Cost; Comments	Potential Funding Source(s); Comments	Potential Lead(s)
<b>Stakeholder Involvement and Implementation</b>				
H1. Create a housing task force; identify and implement priority housing-related actions.	Immediate – In progress	\$40,000 - \$50,000 (based on national averages for a full-time Housing Specialist/Development Coordinator; Sources: Bureau of Labor Statistics, Glassdoor, Indeed, PayScale)	Partner Entities (including “Leads”), Office of Economic Adjustment	FNSB, City of North Pole, City of Fairbanks, FEDC
<b>Market Response to Housing Need</b>				
H2. Allow the market to absorb available rentals.	Near	TBD	TBD	FNSB
H3. Monitor the market’s response.	Near	TBD – could be tool developed/maintained by the Housing Task Force and/or Partner Entity	Partner Entities	FNSB
H4. Work toward a mix of housing types.	Near/Medium	TBD	TBD	FNSB

Strategy	Priority Immediate = within the year; Near = 1-3 years; Medium = 4-9 years Long = 10+ years NOTE: Some strategies are recommended for ongoing implementation	Cost; Comments	Potential Funding Source(s); Comments	Potential Lead(s)
<b>Financial Incentives</b>				
H5. Develop a targeted tax exemption program.	Near	TBD - to be explored through the Housing Task Force	TBD	FNSB
H6. Create new sources of capital and fully maximize existing opportunities.	Near/Medium	TBD - to be explored through the Housing Task Force	TBD	FNSB, FEDC, IRHA, AHFC, AIDEA, HUD
<b>Housing Supportive Policies</b>				
H7. Utilize military facility zones as appropriate.	Near/Medium	TBD - to be explored through the Housing Task Force	TBD	FNSB, City of North Pole, AIDEA, DMVA
H8. Improve land use planning in 99705.	Near	TBD - to be determined through Salcha-Badger Road Subarea Plan process	Office of Economic Adjustment for Salcha-Badger Subarea Plan effort	FNSB, CITY OF NORTH POLE,

## UTILITIES AND INFRASTRUCTURE

Strategy	Priority Immediate = within the year; Near = 1-3 years; Medium = 4-9 years Long = 10+ years NOTE: Some strategies are recommended for ongoing implementation	Cost; Comments	Potential Funding Source(s); Comments	Potential Lead(s)
UI1. Integrate planning for land use, transportation and utilities.	Immediate/Near - an initial action is development/implementation of the Salcha-Badger Road Subarea Plan	TBD	TBD	FNSB
UI2. Identify and implement funding strategies for expanding water and wastewater service areas and distribution systems.	Immediate/Near - an initial action is development/implementation of the Salcha-Badger Road Subarea Plan and outcomes of Housing Task Force discussions	TBD	TBD	FNSB, City of North Pole
UI3. Work with private cell providers to improve cell phone reception.	Immediate/Near	TBD	TBD	FNSB, City of North Pole, City of Fairbanks, EAFB
UI4. Build from the work of the Alaska Broadband Task Force, Arctic Council and best practices to develop reliable broadband connectivity in the Salcha-Badger Road area.	Immediate	TBD	TBD	FEDC, FNSB
UI5. Use utility and land use planning to support air quality solutions.	Immediate - In progress with FNSB Air Quality Stakeholders Group	TBD	TBD	FNSB

## TRANSPORTATION

Strategy	Priority Immediate = within the year; Near = 1-3 years; Medium = 4-9 years Long = 10+ years NOTE: Some strategies are recommended for ongoing implementation	Cost; Comments	Potential Funding Source(s); Comments	Potential Lead(s)
T1. Use transportation and land use planning to support air quality solutions.	Immediate/Ongoing - in progress as part of FNSB Air Quality Working Group dialogue	TBD	TBD	FNSB, FMATS DEC, ADOT&PF
T2. Continue regional-scale transportation system improvements.	Immediate - in progress with the FMATS 2045 MTP process.	TBD	TBD	FMATS, FNSB
T3. Carry out subarea land use and transportation planning - see Planning and Zoning Strategy PZ1.	Immediate - in progress	\$334,950 (current OEA grant amount)	Office of Economic Adjustment	FNSB
T4. Identify and implement funding strategies for local/regional-based transportation.	Immediate/Near - an initial action is development/implementation of the Salcha-Badger Road Subarea Plan, especially to resolve issues of orphan roads	TBD	TBD	FNSB, FMATS
T5. Advocate and seek funding options for North Pole Railroad Crossing Reduction project and broader scale expansion.	Near	TBD	TBD	FNSB, FMATS, City of North Pole, DOT, ARRC
T6. Address challenges of Road Service Areas (RSAs).	Near	TBD	TBD	FNSB, FMATS
T7. Work to develop transit options between North Pole, Fairbanks and Eielson AFB. See also Quality of Life Recommendation QOL5.	Near	TBD	TBD	FNSB, City of North Pole, City of Fairbanks, EAFB
T8. Update and improve the FNSB Comprehensive Road Plan.	Near/Medium	\$90,000 - \$110,000	TBD	FNSB



## PLANNING AND ZONING

Strategy	Priority Immediate = within the year; Near = 1-3 years; Medium = 4-9 years Long = 10+ years NOTE: Some strategies are recommended for ongoing implementation	Cost; Comments	Potential Funding Source(s); Comments	Potential Lead(s)
PZ1. Use the Salcha-Badger Road Subarea Plan to guide growth and better integrate planning.	Immediate - in progress	\$334,950 (current OEA grant amount)	Office of Economic Adjustment	FNSB
PZ2. Improve standards and processes affecting building quality for residential, commercial and other uses.	Immediate/Near - an initial action is convening the housing task force to identify potential communitywide/shared building standards.	See H1.	See H1.	FNSB
PZ3. Update and improve FNSB land use categories and map.	Immediate/Near - an initial action is development/implementation of the Salcha-Badger Road Subarea Plan	\$50,000 - \$100,000	TBD	FNSB
PZ4. Improve existing FNSB, borough-wide zoning code.	Immediate/Near - an initial action is development/implementation of the Salcha-Badger Road Subarea Plan	Note: Recommend these two strategies happen as part of a multi-phased project.		FNSB
PZ5. Improve planning tools to respond to natural environmental constraints and opportunities.	Near - an initial action is development/implementation of the Salcha-Badger Road Subarea Plan	TBD	TBD	FNSB
PZ6. Develop an active monitoring/evaluation process to assess need and progress on land use goals.	N/M	TBD	TBD	FNSB

## EDUCATION AND EARLY CHILDHOOD DEVELOPMENT

Strategy	Priority Immediate = within the year; Near = 1-3 years; Medium = 4-9 years Long = 10+ years NOTE: Some strategies are recommended for ongoing implementation	Cost; Comments	Potential Funding Source(s); Comments	Potential Lead(s)
<b>Education</b>				
E1. Improve information-sharing between the Air Force and the FNSBSD around arrival and demographics of families with school-aged children.	Immediate	TBD	TBD	FNSBSD, EAFB
E2. Continue to encourage Air Force families to enroll their children in on-base schools, even if living off-base.	Immediate/Near	TBD	TBD	FNSBSD
E3. Explore options for elementary and middle schools that are anticipated to reach maximum capacity, especially in the Greater North Pole and Salcha areas.	Immediate/Near	TBD	TBD	FNSBSD
E4. Support implementation of existing military grants and explore additional funding opportunities.	Immediate/Near	TBD	TBD	FNSBSD
E5. Encourage the State of Alaska to maintain or increase existing levels of funding.	Immediate/Ongoing	TBD	TBD	FNSBSD
E6. Streamline the approval process for military-connected students transferring from other states.	Immediate/Near	TBD	TBD	FNSBSD
E7. Modify schedules for on-base family events and activities to make it easier for military families with children enrolled in off-base schools to participate.	Immediate	TBD	TBD	EAFB
E8. Encourage off-base schools and parent-teacher associations (PTAs) with high military-connected student enrollment to expand outreach and education to better engage military families.	Near	TBD	TBD	FNSBSD, PTAs
E9. Continue to encourage the bus contractor First Student to improve the reliability of bus transportation.	Near	TBD	TBD	FNSBSD
E10. Offer before and after school programming and/or child care at all local elementary schools.	Medium/Long	TBD	TBD	FNSBSD

Strategy	Priority Immediate = within the year; Near = 1-3 years; Medium = 4-9 years Long = 10+ years NOTE: Some strategies are recommended for ongoing implementation	Cost; Comments	Potential Funding Source(s); Comments	Potential Lead(s)
<b>Child Care</b>				
E11. Work with the Air Force to waive part of the national accreditation requirements so licensed Alaska providers are eligible for Air Force Child Care Fee Assistance.	Immediate	TBD	TBD	FNSB, FEDC
E12. Conduct marketing efforts to ensure local child care providers know about the opportunities, training needs and requirements associated with the F-35 Beddown.	Immediate/Near	TBD	TBD	FEDC
E13. Expand workforce recruitment to encourage residents and incoming dependents to get trained and licensed as child care providers.	Immediate/Near	TBD	TBD	FEDC
E14. Continue to implement Alaska's Quality Recognition and Improvement System (QRIS) program.	Immediate/Ongoing	TBD	TBD	FNSB
E15. Increase communication and collaboration between EAFB Child and Youth Services programs with community and state child care organizations to increase utilization of community resources.	Immediate/Ongoing	TBD	TBD	EAFB, thread, Thrive

## WORKFORCE DEVELOPMENT

Strategy	Priority Immediate = within the year; Near = 1-3 years; Medium = 4-9 years Long = 10+ years NOTE: Some strategies are recommended for ongoing implementation	Cost; Comments	Potential Funding Source(s); Comments	Potential Lead(s)	
<b>Connect Military Spouses with Local Employment</b>					
WFD1.	Remove barriers for military spouses to obtain occupational licenses.	Immediate/Near - in progress with current legislation.	TBD	TBD	FNSB, DOL&WD
WFD2.	Coordinate with the Airman and Family Readiness Center (A&FRC) to supplement existing information sharing with Air Force families before they arrive at EAFB.	Immediate/Near	TBD	TBD	FNSB, A&FRC
WFD3.	Encourage FNSB-located Job Centers, workforce development program representatives and large employers to participate in military family welcoming programs.	Immediate/Near/Ongoing	TBD	TBD	FEDC, FAI Job Centers, UAF CTC, DOL&WD
WFD4.	Prior to PCS, conduct debrief/departure interviews or focus groups with military families regarding experience with FNSB employment and workforce development.	Immediate/Ongoing	TBD	TBD	FNSB, FEDC
WFD5.	Expand access to affordable child care services for military households.	Immediate/Near	TBD	TBD	FEDC
<b>Training the FNSB Workforce to Meet Industry Needs</b>					
WFD6.	Host local training and employment events for residents and incoming military families to learn about education, training and employment opportunities available in FNSB.	Immediate/Ongoing	TBD	TBD	FEDC, FAI Job Centers, UAF CTC, DOL&WD
WFD7.	Conduct targeted recruitment efforts to encourage businesses to relocate to the FNSB area - see also Fiscal Impact Recommendation FI3.	Immediate to Medium - in progress with the FNSB CEDS, March 2016	TBD	TBD	FNSB, FEDC



Strategy	Priority Immediate = within the year; Near = 1-3 years; Medium = 4-9 years Long = 10+ years NOTE: Some strategies are recommended for ongoing implementation	Cost; Comments	Potential Funding Source(s); Comments	Potential Lead(s)
WFD8. Support implementation of Alaska's five workforce development plans, including the Maritime Workforce Plan, the Teacher Education Plan, the Oil & Gas Workforce Plan, the Mining Workforce Plan and the Health Workforce Plan.	Near/Medium	TBD	TBD	FEDC, FAI Job Centers, UAF CTC, DOL&WD
<b>Preparing Future Workers</b>				
WFD9. Continue to strengthen and expand existing secondary and postsecondary vocational and technical education programs (i.e., workforce-focused education).	Immediate/Ongoing	TBD	TBD	FNSBSD, UAF CTC, DOL&WFD
WFD10. Expand and market the use of University of Alaska's Career Coach, as developed by Emsi.	Near/Medium	TBD	TBD	FNSB, University of Alaska

## HEALTH AND SOCIAL SERVICES

Strategy	Priority Immediate = within the year; Near = 1-3 years; Medium = 4-9 years Long = 10+ years NOTE: Some strategies are recommended for ongoing implementation	Cost; Comments	Potential Funding Source(s); Comments	Potential Lead(s)
HSS1. Maintain joint planning and cooperation among military and civilian health planners and health and social service providers serving the region. Consider conducting a joint assessment of health needs and resources on a regular basis.	Immediate - in progress	TBD	TBD	EAFB, Ft. Wainwright, Foundation Health Partners
HSS2. Address known gaps in medical specialty care and behavioral health services.	Immediate/Near	TBD	TBD	EAFB, Ft. Wainwright, Foundation Health Partners
HSS3. Ensure adequate availability of family support services to build on the strengths of military families and mitigate risks.	Immediate/Near	TBD	TBD	EAFB, Ft. Wainwright, Foundation Health Partners

## PUBLIC SAFETY

Strategy	Priority Immediate = within the year; Near = 1-3 years; Medium = 4-9 years Long = 10+ years NOTE: Some strategies are recommended for ongoing implementation	Cost; Comments	Potential Funding Source(s); Comments	Potential Lead(s)	
<b>Fire Protection and Emergency Medical Services</b>					
PS1.	Form a mayoral task force to evaluate how the Borough forms, staffs and offers incentives to the volunteer fire and rescue departments.	Immediate/Near	TBD	TBD	FNSB
PS2.	Conduct a detailed analysis of need, location of fire stations and ambulances, and identify optimal positioning.	Near	TBD	TBD	FNSB
PS3.	Consolidate local fire and rescue departments and/or consolidate administrative functions.	Near/Medium	TBD	TBD	FNSB
PS4.	Combine fire and EMS service areas into one large service area.	Near/Medium	TBD	TBD	FNSB
PS5.	Establish more sustainable funding for existing and/or consolidated fire departments.	Medium	TBD	TBD	FNSB
<b>911</b>					
PS6.	Fill vacant dispatch positions and add a .5 FTE to adequately address call volume related to the incoming F-35 population.	Near	TBD	TBD	FECC
<b>Law Enforcement</b>					
PS7.	Consider joint recruitment practices aimed at developing attractive incentive packages and identifying quality recruits for the region.	Near	TBD	TBD	FNSB law enforcement agencies
PS8.	The State of Alaska should explore and implement new methods of retaining Alaska State Troopers.	Near/Medium	TBD	TBD	State of Alaska
PS9.	Explore new methods of compensation for public safety employees to increase recruitment and retention.	Near/Medium	TBD	TBD	City of Fairbanks

Strategy	Priority Immediate = within the year; Near = 1-3 years; Medium = 4-9 years Long = 10+ years NOTE: Some strategies are recommended for ongoing implementation	Cost; Comments	Potential Funding Source(s); Comments	Potential Lead(s)
<b>Emergency Management</b>				
PS10. Develop and actively test a more coordinated and unified disaster management plan.	Near	TBD	TBD	FNSB, City of Fairbanks, City of North Pole
<b>Fire Marshall</b>				
PS11. Fire inspectors should have a role in subdivision approvals to address quality of commercial, industrial and residential construction.	Immediate - An initial action is to include this recommendation as part of the Housing Task Force dialogue.	TBD	TBD	State of Alaska Fire Marshal
PS12. Request deferred fire marshal authority to employ an inspector within each fire department.	Near/Medium	TBD	TBD	FNSB
<i>See Planning and Zoning focus area for a related strategy to develop and implement borough-wide building and construction standard.</i>				
<b>Animal Control</b>				
PS13. Develop a master memorandum of agreement with Fort Wainwright and Eielson Air Force Base to provide animal control services.	Immediate/Near	TBD	TBD	FNSB, Ft. Wainwright and EAFB
PS14. Construct a new animal shelter.	Near - this recommendation is part of a FNSB bond package that will go before FSNB voters on October 2, 2018.	\$17 million	FNSB	FNSB
PS15. Update the Borough's 2015 Emergency Management Plan to include actions for shelter and care of domesticated animals during major borough-wide emergency events	Near/Medium	TBD	TBD	FNSB

## QUALITY OF LIFE

Strategy	Priority Immediate = within the year; Near = 1-3 years; Medium = 4-9 years Long = 10+ years NOTE: Some strategies are recommended for ongoing implementation	Cost; Comments	Potential Funding Source(s); Comments	Potential Lead(s)
<b>Strengthen Community-Military Partnerships</b>				
QOL1. Increase the dissemination of information to EAFB families to increase awareness of and participation in local activities and events.	Immediate/Near	TBD	TBD	FEDC, Greater Fairbanks Chamber of Commerce EAFB
QOL2. Increase distribution of Explore Fairbanks' list of businesses and partners who offer military discounts.	Immediate/Near	TBD	TBD	FEDC, Greater Fairbanks Chamber of Commerce
QOL3. Create a list of volunteer opportunities in the FNSB for military spouses and civilian residents.	Immediate/Near	TBD	TBD	FNSB
QOL4. Improve education and outreach about the availability of existing facilities and outdoor recreation options.	Immediate/Near	TBD	TBD	FNSB, FDC
QOL5. Consider providing bus transportation options from EAFB to North Pole and Fairbanks during large events and festivals to increase military engagement in community activities. See also Transportation Recommendation T4.	Immediate/Near	TBD	TBD	FNSB
QOL6. Develop guided programs to introduce newcomers to Alaska's unique outdoor recreational opportunities.	Immediate/Near	TBD	TBD	FNSB
QOL7. Investigate options for developing a community center in the Greater North Pole area.	Medium/Long	TBD	TBD	FNSB, City of North Pole
<b>Expand Retail and Commercial Activities near EAFB</b>				
QOL8. Establish a military-community liaison to coordinate the sharing of information with EAFB personnel.	Immediate	TBD	TBD	FNSB, FEDC
QOL9. Continue progress on commercial district re-zoning efforts in the City of North Pole.	Immediate/Near - in progress with City of North Pole efforts, and development/implementation of Salcha-Badger Road Subarea Plan	TBD	TBD	City of North Pole, FNSB



Strategy	Priority Immediate = within the year; Near = 1-3 years; Medium = 4-9 years Long = 10+ years NOTE: Some strategies are recommended for ongoing implementation	Cost; Comments	Potential Funding Source(s); Comments	Potential Lead(s)
QOL10. Consider policies that will attract businesses to the City of North Pole.	Immediate/Near - in progress with FNSB Comprehensive Economic Development Strategy (CEDS) implementation, the Salcha-Badger Road Subarea Plan effort, and planned Housing Task Force discussions	TBD	TBD	City of North Pole, FNSB, FEDC
QOL11. Continue to support the wholesale retailer Costco's entry into the FNSB market.	Near	TBD	TBD	FNSB, FEDC
<b>Expand Bicycle and Pedestrian Connectivity in FNSB</b>				
QOL12. Support implementation efforts to increase bike and pedestrian safety in high-use areas already identified in previous transportation planning efforts.	Immediate to Long - initial actions include development and implementation of priority projects identified in the FMATS MTP 2045 effort and the Salcha-Badger Road Subarea Plan	TBD	TBD	FNSB, FMATS
QOL13. Continue to work with landowners and developers to establish designated recreation areas, including creating and preserving access to trails and recreation from residential areas.	Immediate to Long - an initial action is development and implementation of the Salcha-Badger Road Subarea Plan	TBD	TBD	FNSB

## FISCAL IMPACT

Strategy	Priority Immediate = within the year; Near = 1-3 years; Medium = 4-9 years Long = 10+ years NOTE: Some strategies are recommended for ongoing implementation	Cost; Comments	Potential Funding Source(s); Comments	Potential Lead(s)
F11. Conduct further demographic analysis to confirm projected student populations and develop incremental funding strategies that will adequately fund increased student populations.	Immediate	\$30,000 - \$50,000	Office of Economic Adjustment	FNSB, FNSBSD
F12. Encourage EAFB families living on-base to enroll their school-aged children in FNSBD schools.	Immediate	TBD	TBD	FNSB, FNSBSD
F13. Implement and support a comprehensive economic development strategy (CEDS) aimed at diversifying and strengthening the FNSB economy.	Immediate to Medium - in progress with the FNSB CEDS, March 2016	TBD	TBD	FNSB, FEDC



# Appendices

## PART 4



# Housing Appendix



## APPENDIX

- A. Calculation of Housing Forecast Derived from F-35 Beddown Personnel Estimates
- B. Basic Allowance Housing 2017 Rates
- C. Tax Increment Financing Overview
- D. List of Housing Stakeholders Interviewed
- E. Zip Code Map
- F. Detailed Charts on Housing Tenure by Product Type



## APPENDIX B - 2017 Basic Allowance Housing by Rank and Dependent Status

Rank	Basic Allowance : 2017	
	Without Dependents	With Dependents
<b>Enlisted</b>		
Junior (E1-E3)	\$1,115	\$1,539
E4	\$1,115	\$1,539
E5	\$1,539	\$2,049
E6	\$1,545	\$2,058
E7	\$1,620	\$2,160
E8	\$1,710	\$2,280
E9	\$1,803	\$2,406
Subtotal Enlisted		
<b>Officers</b>		
O1/O2	\$1,623	\$2,055
O3	\$1,866	\$2,352
O4	\$2,172	\$2,532
O5	\$2,244	\$2,661
O6	\$2,358	\$2,688
Subtotal Officer		

## APPENDIX C - Tax Increment Financing Overview

Tax increment financing (TIF) is a public financing tool used by local jurisdictions and enabled by numerous states throughout the United States. While TIF programs vary between states and communities, TIF typically has the following characteristics.

**Requires a District** | A TIF district is formed based on the need for redevelopment and economic development in a particular area. Communities have various ways of determining how to define the boundary of a TIF district. In California, prior to the dissolution of California’s redevelopment agencies in 2011, state law enabled local jurisdictions to define a redevelopment project area (also called a TIF district) through a “blight” study. Blight was defined as either economic or physical blight with a set of quantitative measures that had to be met to form a district. Examples include the number of under-utilized properties, unemployment rates, stagnant or decreasing property values, poverty rates, condition of buildings based on a window survey, lack of typical neighborhood businesses, high number of “adult” uses, among others. Not all properties in a TIF district had to be blighted but the overall TIF district had to meet a certain threshold of blight, either physical, economic or a combination of both. States enable the formation of a TIF district in different ways, but the common denominator is that the local community generally defines the boundary of the area where TIF will apply, within the constraints of the state TIF enabling legislation.

**Utilizes Incremental Property Tax Revenue for Financing** | When a TIF district is formed, the year of the formation becomes the base year for property tax calculations. The base year is “frozen.” The incremental increase in assessed value between a future year and the base year assessed value is

used to calculate available tax increment revenues. For example, if the base year of a TIF district is 2015 with an assessed value of \$12 million and five years later in 2020, the assessed value is \$27 million, \$15 million in incremental assessed value is available to calculate property tax increment revenues for use within the district.

**Use of Funds** | Once a TIF district is formed and TIF revenues are collected, the use of those funds are authorized and potentially limited by state enabling legislation and the local agency’s policies. Common uses for TIF revenues are public infrastructure to support redevelopment projects and infill housing, business loans, direct subsidies to redevelopment projects, and land acquisition to assemble larger parcels that can be made available for redevelopment projects. In California, there was an affordable housing set-aside requiring 20 percent of TIF revenues be allocated to housing for those of low and moderate income. Typically, TIF revenues cannot be used for ongoing operating expenses associated with municipal government. It is also important to note that TIF revenues are collected from within the TIF district and must typically be spent within the same district from which they were collected.

**Property Tax Payments** | For the most part, TIF districts require property owners to pay the same amount of property taxes as those outside of a TIF district. Once collected, tax increment can be returned to the property owner or developer, as part of a development agreement (DA) or owner participation agreement (OPA) to help improve project feasibility. Often the amount of tax increment generated from a particular project forms the basis for identifying the amount of tax increment available to help support an eligible



development project. Other times, agencies fund public improvements at, or adjacent to, the project to help improve project feasibility.

**Allows for the Issuance of Bonds** | Enabling legislation that allows for the formation of TIF districts typically include an authorization to issue tax exempt or taxable bonds. These bonds are often called tax allocation bonds and the revenue source pledged to repay those bonds is the TIF revenue. Tax allocation bonds do not require a pledge of the local jurisdiction's general fund revenues to support bond repayment. Having said that, the bond market sometimes looks for a general fund guarantee depending on the creditworthiness of the TIF agency, the financial position of the TIF district, or the need to reduce interest rates or create favorable terms for bond repayment. Additionally, it is important to understand that the bond market typically does not support the issuance of bonds that are based on revenue sources from expected future redevelopment projects. Instead, bonds are typically issued based on demonstrated revenue that has a track record of already having been collected from within the TIF district. Because TIF districts often allow for the issuance of bonds, the districts are usually in place for at least 30 years in order to provide adequate time to repay bonds and

create a sizeable amount of TIF revenue to support an initial bond issuance. Bonding allows the TIF district to secure a larger amount of funds up-front and use those funds to help incentivize housing and economic development goals.

**Impacts to Special Districts or Other Taxing Entities** | Often there are concerns regarding the formation of a TIF district because other taxing entities, such as service areas or school districts perceive that future tax revenues will accrue to the TIF district instead of these other taxing entities. In California, redevelopment law allowed for the other taxing entities to continue to receive their share of property taxes from the base year assessed value plus an escalation factor tied to inflation. The theory behind this practice was that absent redevelopment and TIF, the taxing entities would still receive an increase in property tax revenues commensurate with inflation. However, without redevelopment, the larger increase in property taxes that accrues due to the redevelopment of new projects would not occur. Once a TIF district expires, the taxing entities receive the benefit of the higher property tax revenues from successful projects that have been developed throughout the duration of the TIF district.

## APPENDIX D

### List of Housing Related Stakeholders Interviewed

Air Force housing planners and EAFB  
personnel (5)

Alaska Housing Finance Corporation (3)

Alaska Industrial Development and Export  
Authority (1)

City of Fairbanks, Housing and Homeless  
Coordinator & Housing Homeless Coalition  
(3)

Cold Climate Housing Research Center (1)

Corvias (2)

Denali State Bank (1)

Design Alaska (1)

Fairbanks Economic Development  
Corporation (2)

Fairbanks Neighborhood Housing (1)

Fairbanks North Star Borough Planners (3)

Fischer Properties (3)

GHEMM Company (1)

Housing and Urban Development (HUD)  
Anchorage Field Office (1)

Intella Homes (1)

Interior Alaska Building Association (3)

JL Properties (2)

Mt.McKinley Bank (2)

Northern Appraisers (1)

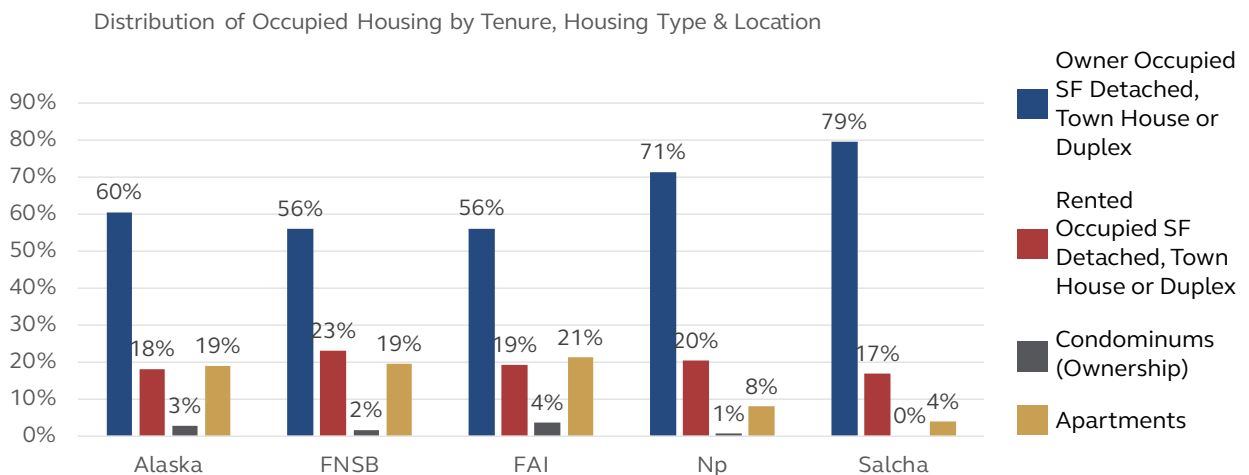
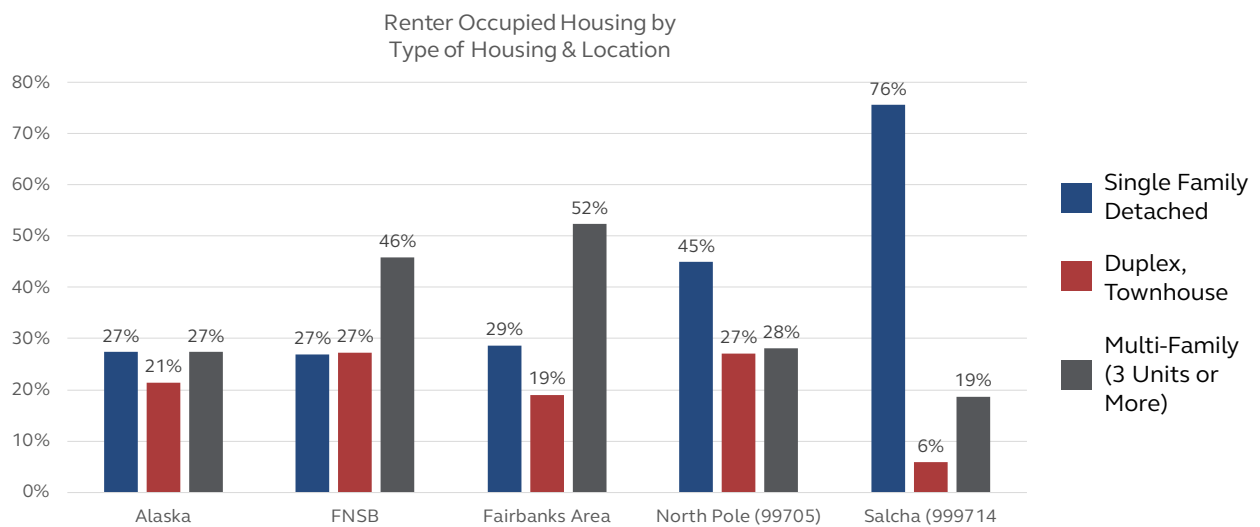
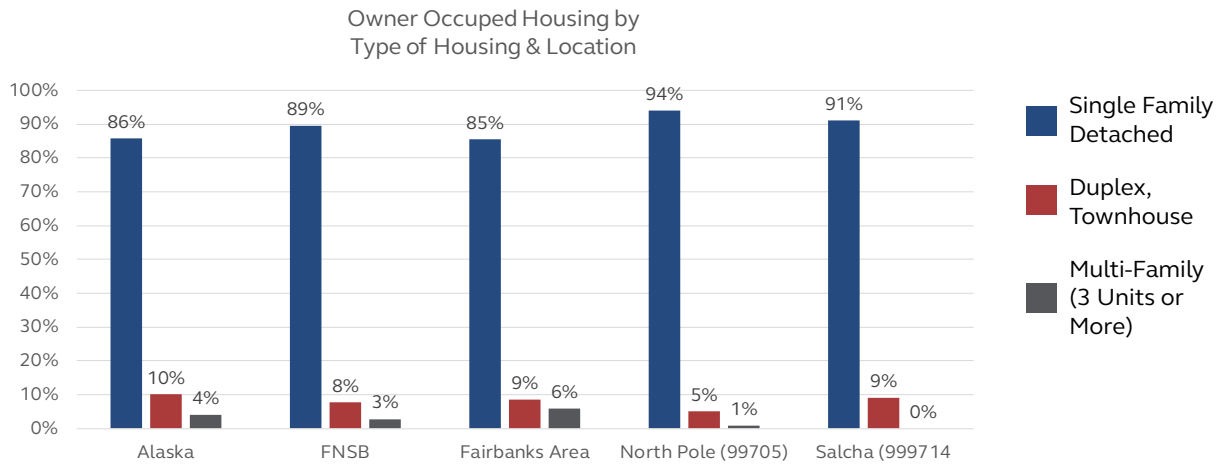
PT Capital via email (1)

State of Alaska, Department of Military and  
Veteran Affairs (1)

Well Fargo (local branch) (2)

Numbers in parenthesis are the number of individuals interviewed for that particular organization.

## APPENDIX F: HOUSING TENURE & HOUSING TYPE



Source: ACS 2015 5-Year Estimate; excludes zip codes associated with EAFB and Ft. Wainwright. Excludes mobile homes and boats



# Fiscal Impacts Appendix



This chapter focuses on the fiscal impacts to local governments and the State of Alaska resulting from Operation F-35 Beddown at Eielson, which we will hereafter refer to as the “F-35 Beddown”. For purposes of this chapter, the Eielson Regional Growth Plan team (RGP team) defines fiscal impacts as changes in revenues and expenditures for affected government entities. The affected local governments include the Fairbanks North Star Borough (FNSB), the City of Fairbanks, the City of North Pole and the FNSB School District (FNSBSD). The State of Alaska (SOA) is also an affected government entity, as the SOA is expected to experience increases in both taxes and fees as a result of the F-35 Beddown, as well as increases in expenditures for schools, public safety, and other general expenditures. Fiscal impacts of the federal government are not included in this assessment with the exception of additional impact aid payments to the FNSBSD.

## Overview of Methodology Used to Assess Fiscal Impacts

The RGP team uses a simple process to assess fiscal impacts. Specifically, the team assumes that for local governments, revenues and expenditures per capita are relatively stable. Thus, if the population of the FNSB increases in the future by five percent, then in general, taxes and fees are also assumed to increase by five percent, as are government expenditures.

As an example, the average per capita “general government” expenditures for the FNSB from 2007 to 2018 were \$183.02. In 2019, the baseline forecast population for the FNSB is expected to be 98,327. Therefore, the baseline forecast for general government expenditures in 2019 will equal  $\approx$  \$18.0 million (i.e.,  $98,327 \times \$183.02 = \$17,996,000$  after rounding). While the RGP team recognizes the “per capita” based assessment is a simplification of reality, the “per capita” methodology has contributed to accurate fiscal impact assessments for other Alaska communities.

There are important exceptions to the methodology described above. For example, local governments in the FNSB all collect a “bed” tax for each night a hotel room is rented. Bed taxes do not necessarily increase with population and instead are generally much more sensitive to trends in tourism. Another important exception is found with the SOA. While many SOA expenditures can be generally linked to population (school and public safety expenditures for example), most revenues coming to the SOA are not linked to population, and instead are generated through taxes and royalties related to resource extraction industries (oil and gas, fisheries, etc.), or from investment returns to the Permanent Fund.

Given the primary assumption that fiscal impacts are directly linked to changes in population, the

key to any fiscal impact assessment is the forecast changes in population, and in this study, specific locations within the FNSB in which the incremental population will choose to live. In the Baseline forecast of population, the RGP team assumes that in general, populations in the City of Fairbanks, the City of North Pole, and in other Census Designated Places (e.g. Salcha, Badger, Moose Creek) increase in proportion to their 2017 population—an exception under the Baseline forecast is the population at Eielson AFB itself is held constant at 2017 levels. Population by place in the F-35 Beddown forecast is more nuanced because it is assumed the majority of additional F-35 Beddown personnel and their dependents will be more likely choose to live on, or relatively near to Eielson AFB (i.e., in the 99705 ZIP code area—North Pole, Badger, or Moose Creek). The “additional induced population” under the F-35 Beddown forecast is (see Growth Projections Focus Area), however, expected to be distributed in the same proportions as in the baseline forecast. Additional details regarding the historic and future distributions of population under the Baseline and F-35 Beddown forecasts are provided in Section 1.1.

## Important Caveats Regarding the Fiscal Impact Assessment

The RGP team has undertaken this Fiscal Impact Assessment with the primary objective of determining whether the F-35 Beddown is likely to create significant funding issues or benefits for the affected government entities from a general, or big picture, perspective. The Fiscal Impact Assessment as developed is not intended to be an exhaustive financial analysis of how every dollar is categorized. There will undoubtedly be gaps in the assessment and funds that have not been fully described and documented.

## Roadmap to the Fiscal Impacts Chapter

The remainder of the Fiscal Impacts Chapter will provide the following:

**Section 1.1** will summarize historic and projected future populations for the FNSB as a whole, and for selected places. Two future forecasts developed using the Alaska REMI Model will be summarized:

- A Baseline Forecast will summarize the expected future as modeled without the F-35 Beddown. The baseline forecast will run from 2017 out through 2030.
- The F-35 Beddown Forecast will summarize the expected future as modeled with the F-35 Beddown. The F-35 Beddown Forecast will also run from 2017 out through 2030.

Both of the forecasts will provide summary information on the following drivers of fiscal impacts:

- Military population (including dependents)
- Non-military population
- Projected counts of school-aged children (ages 5–17)
- Numbers of school-aged children relative to total population

Both of the forecasts will summarize total population for specific places including:

- City of Fairbanks
- City of North Pole
- Other 99705 places (Badger Road, Moose Creek)
- Eielson AFB
- Other remaining areas of the FNSB

**Section 1.2** will include a summary of past and future tax and fee revenues and with subsections for the three primary types of revenues (property taxes, consumption taxes, and fees and user charges). For all three revenue types, information is organized by government entity.

- Section 1.2.1 summarizes property taxes collected by the FNSB, and the cities of Fairbanks and North Pole.
- Section 1.2.2 summarizes consumption taxes along with user fees and service charges, and is organized by local government entity. Taxes and fees collected and summarized by government include the following:
  - Alcohol Taxes that are shared by the FNSB, and the cities of Fairbanks and North Pole
  - Tobacco Taxes that are shared by the FNSB, and the cities of Fairbanks and North Pole
  - Bed Taxes (also referred to Accommodations Taxes) that are shared by the FNSB, and the cities of Fairbanks and North Pole
  - Sales Taxes that are collected only the City of North Pole
  - Tobacco and alcohol taxes and other per capita-based fees collected by the SOA
  - Fees and service charges including charges for permits fines and penalty that accrue to the government fund. Fees directly related separated funds, e.g. enterprise funds are not included

**Section 1.3** summarizes the projected government expenditures for schools, public safety, general government services, public works, and other general fund expenditures. The section is organized

by expenditure category, and each subsection summarizes expenditures for each affected government.

**Section 1.4** provides an overall summary that combines tax revenues and government spending for affected governments: the City of North Pole, City of Fairbanks, the larger FNSB and the SOA.

## 1.1 HISTORIC AND FORECAST POPULATION UNDER THE BASELINE AND THE F-35 BEDDOWN

The RGP team used the Alaska REMI Model to forecast future populations out to 2030 under the Baseline and with the F-35 Beddown. The process used to develop these forecasts using the Alaska REMI model is described in detail in the Growth Projections Focus Area. Both forecasts provide details for:

- Increases in Active Duty Military members and their dependents;
- Increases in the non-military population induced by additional economic activity related to the F-35 Beddown, including construction projects at Eielson AFB, other military construction projects, and other generalized economic activity related to the higher military population; and
- Increases in the numbers of school aged children (ages 5-17), including dependent children of military personnel, and children included in the “induced” population effect.

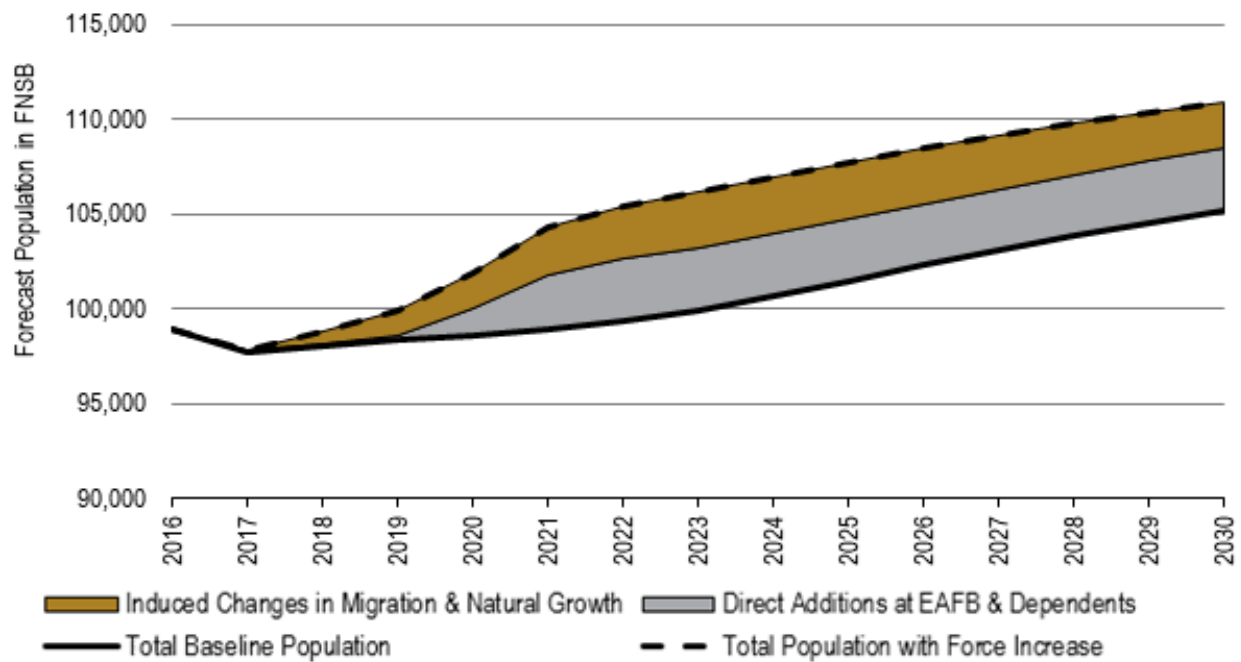
The RGP team notes the forecasts of future population developed using the Alaska REMI model do not generate population estimates for

specific cities and places within the FNSB, which are necessary for the fiscal impact assessment. Therefore, more detailed forecasts by city and place are developed in this subsection.

Figure 1 shows the baseline and F-35 Beddown forecasts of population in the FNSB for 2016–2030. The baseline forecast uses the Alaska REMI model’s standard forecast for the FNSB, without any additional assumptions regarding other factors that might affect the region’s growth. For example, the baseline does not account specifically for the long-term impacts of the SOA’s fiscal crisis, nor does the baseline consider future potential projects that could enhance growth, such as construction of the AK LNG pipeline.

Figure 2 provides historic population data from 2007 to 2016 along with the forecasts depicted in Figure 1. Data in this table, combined with historic population for cities and places within the FNSB (as shown in Figure 3), are used to facilitate the derivation of population forecasts for cities and places under the baseline and with F-35 Beddown. As indicated above, the population forecasts by place will be the primary driver of estimates of future government expenditures and revenues in the FNSB.

**FIGURE 1: BASELINE AND F-35 BEDDOWN PROJECTIONS OF FNSB POPULATION, 2016–2030**





**FIGURE 2: HISTORIC AND FUTURE FNSB POPULATION WITH DIFFERENCE FOR BASELINE AND F-35 BEDDOWN FORECASTS**

Year	Baseline Historical & Forecast Populations		F-35 Beddown Historical & Forecast Populations		Difference between Baseline & F-35 Beddown Forecasts	
	Military & Dependents	Total Population	Military & Dependents	Total Population	Change in Military & Dependents	Change in Total Population
2007	14,554	91,525	14,554	91,525	0	0
2008	16,272	92,762	16,272	92,762	0	0
2009	12,085	93,779	12,085	93,779	0	0
2010	14,436	97,581	14,436	97,581	0	0
2011	14,519	97,828	14,519	97,828	0	0
2012	13,122	100,243	13,122	100,243	0	0
2013	12,831	99,549	12,831	99,549	0	0
2014	13,354	97,972	13,354	97,972	0	0
2015	14,843	98,645	14,843	98,645	0	0
2016	14,532	98,954	14,532	98,954	0	0
2017	14,532	98,033	14,576	97,790	44	52
2018	14,532	98,034	14,599	98,765	67	731
2019	14,532	98,327	14,812	99,926	279	1,599
2020	14,532	98,589	15,947	101,921	1,415	3,332
2021	14,532	98,918	17,402	104,265	2,870	5,347
2022	14,532	99,349	17,789	105,399	3,256	6,050
2023	14,532	99,935	17,789	106,182	3,256	6,247
2024	14,532	100,654	17,789	106,972	3,256	6,318
2025	14,532	101,448	17,789	107,738	3,256	6,290
2026	14,532	102,262	17,789	108,460	3,256	6,197
2027	14,532	103,061	17,789	109,127	3,256	6,066
2028	14,532	103,828	17,789	109,753	3,256	5,925
2029	14,532	104,544	17,789	110,333	3,256	5,790
2030	14,532	105,208	17,789	110,879	3,256	5,671

Sources: Developed by NEI using data from ADOLWD (2018a, 2018b) and the Alaska REMI Model.

Figure 3 shows historic populations for selected places in the FNSB that are of importance to the fiscal impact assessment. The data are based on ADOLWD estimates of population by place data (ADOLWD 2018a, 2018b) for the FNSB. The table separates out the three local governments (FNSB, City of Fairbanks, and the City of North Pole), but also shows historic populations for Badger & Moose Creek (which combined with the City of North Pole comprise the 99705 ZIP code), Eielson AFB, and the remaining population of the

FNSB. The population of the 99705 ZIP code is used to sort out estimates of forecast property taxes from new housing development that results from the F-35 Beddown, and the population of Eielson AFB is important because future changes in the Eielson AFB population will be a key factor in determining Federal Impact Aid for school funding.

**FIGURE 3: HISTORIC POPULATION OF CITIES AND PLACES IN THE FNSB, 2007–2016**

Year	City of Fairbanks	City of North Pole	Other 99705 (Badger, Moose Creek)	Remainder of FNSB	Eielson AFB	FNSB Total
2007	31,801	1,977	18,928	34,567	4,252	91,525
2008	31,450	2,207	19,337	36,581	3,187	92,762
2009	32,506	2,200	19,452	36,725	2,896	93,779
2010	31,535	2,117	20,229	41,053	2,647	97,581
2011	30,599	2,102	20,628	42,168	2,331	97,828
2012	32,007	2,156	20,682	42,605	2,793	100,243
2013	32,185	2,206	20,143	42,422	2,593	99,549
2014	31,721	2,198	19,731	42,117	2,205	97,972
2015	32,116	2,138	19,722	41,802	2,867	98,645
2016	31,989	2,151	19,970	41,926	2,918	98,954
2017	31,905	2,124	19,617	41,134	2,958	97,738

Source: Developed by NEI using data from ADOLWD (2018a, 2018b).

Because the Alaska REMI Model does not break out population by city or CDP within the FNSB, forecasts of future populations by place under the baseline (as shown in Figure 4 on the following page) rely on two assumptions: 1) the population at Eielson AFB is held constant at 2017 levels, and 2) populations in places other than Eielson AFB maintain the same relative proportions as seen in 2017. The 2017 percentages for each place (excluding Eielson AFB) are shown in the top two rows of Figure 4, while the Baseline forecast for the FNSB as a whole from Figure 2 is shown in the rightmost column. The baseline forecasts for each of the FNSB places (excluding Eielson AFB) can be calculated by multiplying that place’s 2017 percentage by the FNSB Total after subtracting the Eielson population (2,958). Thus, the baseline forecasts of the City of Fairbanks population in 2018 = 33.7% × (98,034 – 2,958), or 32,005.

Figure 5 summarizes F-35 Beddown forecast of populations by place within the FNSB. Figure 5 utilizes information that is developed in the housing chapter and other data provided to the RGP team by Eielson AFB staff members for this assessment. Specifically, the RGP team assumes that 11.3 percent of the F-35 active duty personnel and their

families will live on base at Eielson AFB. Thus, the F-35 Beddown population forecast for Eielson AFB is calculated as the Baseline Forecast amount (2,958) + 11.3 percent of active duty personnel and dependents shown, which are in the second column from the right in Figure 2. In 2020 for example, 11.3 percent of the 1,415 F-35 Beddown military personnel and dependents (159 individuals) are forecast to live on base at Eielson, and 88.7 percent (1,256 individuals) are forecast to live off base. Of the 1,256 military personnel and dependents living off base, 1,067 (85 percent) are assumed to live in North Pole, Moose Creek, or Badger (i.e., within the 99705 ZIP code area), while 138 (11 percent) are expected to live within the City of Fairbanks, and the remaining 50 (4 percent) are expected to live in or around Salcha. Finally, the RGP Team assumes that the additional induced population that results from F-35 Beddown<sup>1</sup> will live throughout the FNSB in the same proportions (excluding Eielson AFB) as in the 2017 population.

<sup>1</sup> The “induced population” is the difference between the two columns on the right-side of Table 1. For example, the induced population in 2018 =664, (i.e. 731 – 67), while the induced population in 2030 is 2,415 (i.e. 5,671 – 3,256).

**FIGURE 4: FORECAST POPULATION OF CITIES AND PLACES IN THE FNSB UNDER THE BASELINE**

Year	City of Fairbanks	City of North Pole	Other 99705 (Badger, Moose Creek)	Remainder of FNSB	Eielson AFB	FNSB Total
<b>Percent of Total FNSB Population in 2017 Excluding Eielson AFB</b>						
<b>2017 Percentage</b>	<b>33.7%</b>	<b>2.2%</b>	<b>20.7%</b>	<b>43.4</b>	<b>NA</b>	<b>NA</b>
2018	32,005	2,131	19,678	41,262	2,958	<b>98,034</b>
2019	32,103	2,137	19,739	41,389	2,958	<b>98,327</b>
2020	32,191	2,143	19,793	41,503	2,958	<b>98,589</b>
2021	32,302	2,150	19,861	41,646	2,958	<b>98,918</b>
2022	32,447	2,160	19,950	41,833	2,958	<b>99,349</b>
2023	32,645	2,173	20,072	42,087	2,958	<b>99,935</b>
2024	32,887	2,189	20,221	42,400	2,958	<b>100,654</b>

Year	City of Fairbanks	City of North Pole	Other 99705 (Badger, Moose Creek)	Remainder of FNSB	Eielson AFB	FNSB Total
<b>Percent of Total FNSB Population in 2017 Excluding Eielson AFB</b>						
<b>2017 Percentage</b>	<b>33.7%</b>	<b>2.2%</b>	<b>20.7%</b>	<b>43.4</b>	<b>NA</b>	<b>NA</b>
2025	33,154	2,207	20,385	42,744	2,958	101,448
2026	33,428	2,225	20,553	43,097	2,958	102,262
2027	33,697	2,243	20,719	43,444	2,958	103,061
2028	33,955	2,260	20,878	43,777	2,958	103,828
2029	34,196	2,277	21,026	44,088	2,958	104,544
2030	34,420	2,291	21,163	44,376	2,958	105,208

Source: Developed by NEI using data from ADOLWD (2018a, 2018b), and the Alaska REMI Model.

**FIGURE 5: FORECAST POPULATION OF CITIES AND PLACES IN THE FNSB WITH THE F-35 BEDDOWN**

Year	City of Fairbanks	City of North Pole	Other 99705 (Badger, Moose Creek)	Remainder of FNSB	Eielson AFB	FNSB Total
2018	32,235	2,150	19,861	41,553	2,966	98,765
2019	32,575	2,187	20,202	41,972	2,989	99,926
2020	32,975	2,290	21,153	42,385	3,117	101,921
2021	33,416	2,417	22,327	42,823	3,281	104,265
2022	33,706	2,463	22,745	43,161	3,325	105,399
2023	33,969	2,480	22,907	43,501	3,325	106,182
2024	34,235	2,498	23,070	43,844	3,325	106,972
2025	34,493	2,515	23,229	44,176	3,325	107,738
2026	34,736	2,531	23,378	44,489	3,325	108,460
2027	34,960	2,546	23,516	44,779	3,325	109,127
2028	35,171	2,560	23,646	45,051	3,325	109,753
2029	35,367	2,573	23,766	45,303	3,325	110,333
2030	35,550	2,585	23,879	45,540	3,325	110,879

Source: Developed by NEI using data from ADOLWD (2018a, 2018b), and the Alaska REMI Model.

The Baseline and F-35 Beddown forecasts of school age children (ages 5–17) are shown in Figure 6 while Figure 7 shows the forecast differences by age group. The baseline forecast trends downward through 2020, and then begins a steady climb through the remainder of the forecast period. The F-35 Beddown forecast of school age children begins to increase relative to the baseline in 2018

and reflects the increase in military personnel beginning in 2020. The increase in school-age children is highest in 2024 at 1,236, then declines to 1,204 by 2030. The increase in school-age children is ≈ 800 children less than the increases in all children (ages 0 – 17) reported in other sections of this report. Because the FNSBSD comprises the entire FNSB, forecasts of school age children

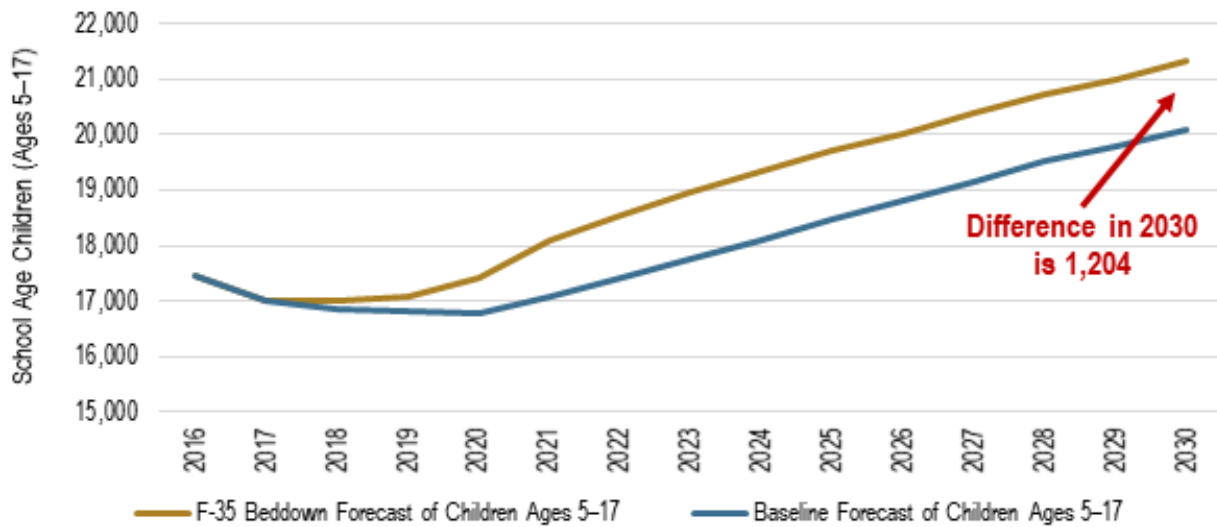


are not further disaggregated by place as was done for the general population.<sup>2</sup> Further, not all school age children attend FNSB funded schools—the FNSB’s Community Research Quarterly report that in 2017, 865 children attended private schools,

and another 1,675 children attended SOA funded correspondence schools.

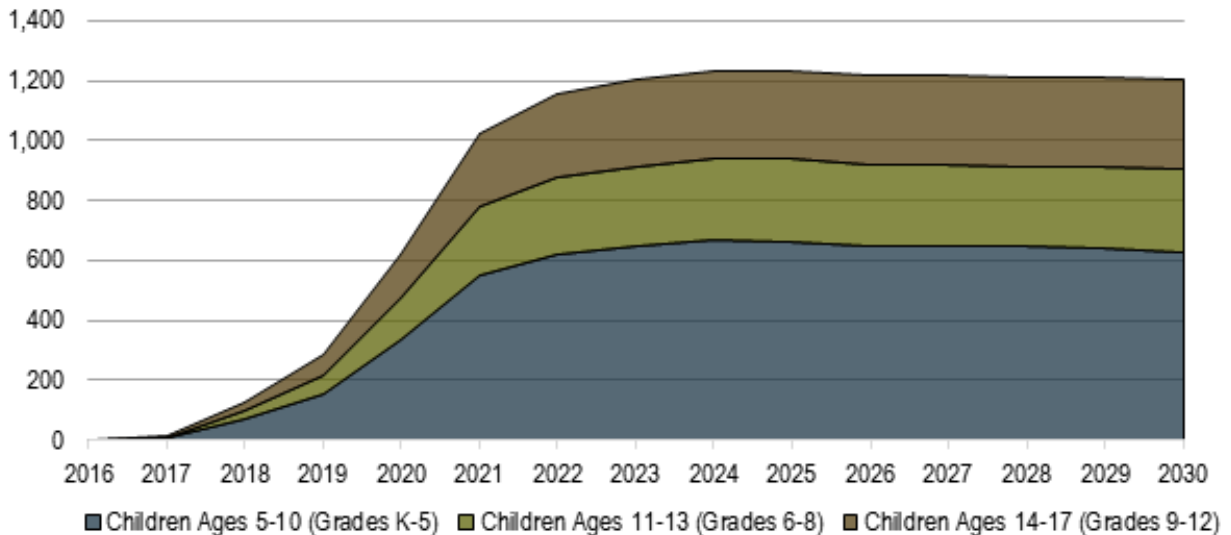
<sup>2</sup> The RGP team notes that Federal Impact Aid for school districts that provide education to children of military personnel is affected by the on-base and off-base distribution of children of military personnel; therefore, additional detail estimating increases in school-age children living at Eielson AFB will be provided in Section 1.3.1.

**FIGURE 6: BASELINE AND F-35 BEDDOWN FORECASTS OF SCHOOL AGE CHILDREN (AGES 5–17), 2016–2030**



Source: Developed by NEI using the Alaska REMI Model

**FIGURE 7: FORECAST CHANGE IN SCHOOL AGE CHILDREN BY AGE GROUP, 2017–2030**



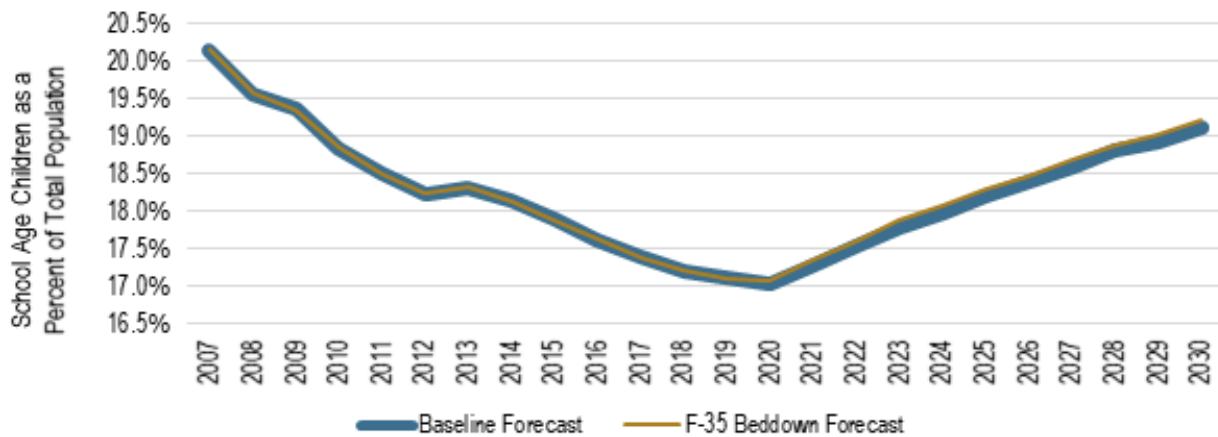
Source: Developed by NEI using the Alaska REMI Model

Figure 8 shows the long-term trend in school-age children as a percent of total population from the Alaska REMI Model. Trends under both the Baseline and the F-35 Beddown are virtually identical, as the Alaska REMI Models relies on a single demographic profile of population by age for the FNSB. The key feature to note is that after a long downward trend the relative size of the school age population is forecast to shift to an increasing trend beginning in 2020.

more adults among whom the cost of education can be spread. Conversely, when the relative size of the school-age population is increasing, there are proportionally fewer adults among whom the cost of education can be spread.

There are fiscal implications of this demographic shift: when the relative size of the school-age population is declining, there are proportionally

**FIGURE 8: SCHOOL AGE CHILDREN (AGES 5-17) AS A PERCENT OF TOTAL POPULATION, 2007-2030**



Source: Developed by NEI using the Alaska REMI Model

## 1.2 LOCAL GOVERNMENT REVENUES

Primary sources of local government revenue come from property taxes on private lands such as residential and commercial parcels, consumption taxes on sales, hotel rooms (bed tax), tobacco, and alcohol, and fees and service charges. This section discusses historical tax receipts for each of the revenue types and the projected changes in revenue for each government entity. Also included is a separate subsection that develops incremental increases in SOA revenues that can be expected with the F-35 Beddown. While the focus of this fiscal assessment is on taxes and fees, other sources of revenues are also important: including permanent funds, grants, and intergovernmental transfers.

### Property Taxes

This section provides estimated historical property tax revenue, broken out for the FNSB, the City of North Pole, and the City of Fairbanks. Historical property tax receipts presented in this section are based on Comprehensive Annual Financial Reports (CAFRs) (ADCCED, 2018) and on data in the FNSB Community Research Quarterly. As shown in Figure 9, property taxes are collected across the entire FNSB and separately for the City of Fairbanks and the City of North Pole. Property owners within the City of Fairbanks pay taxes to the City and to the FNSB; however, they only pay the “Areawide” portion to the FNSB. In 2017 for example, owners of property in the City of Fairbanks paid 5.874 mills to the City plus 11.913 mills to the FNSB for a total rate of 17.787. Property owners in the City of North Pole in 2017 paid 1.499 mills to the City, as well as the areawide assessment of 11.913 mills to FNSB, plus 1.401 mills to the Solid Waste District,<sup>3</sup> for a total of 14.813 mills. Owners of property that is located within the FNSB but outside the city limits of Fairbanks and North Pole pay the Non-Areawide taxes, the Areawide taxes, and taxes for the Solid Waste District—these three taxes combined for a total of 13.834 mill is 2017. Because the Fiscal Impact Assessment is focusing on General Fund revenues and expenditures, the remainder of this assessment will not include taxes collected for the Solid Waste District, nor will it explicitly address expenditures of the Solid Waste District. Similarly, other “special funds” and service districts will not be addressed in this assessment.

<sup>3</sup> The FNSB Solid Waste District comprises the entire FNSB area except for the City of Fairbanks. The City of Fairbanks uses a separate solid waste facility owned and operated by Doyon, and thus property owners in the City of Fairbanks do not pay property taxes to the Solid Waste District.

FIGURE 9: PROPERTY TAX MILL RATES OF GOVERNMENTS WITHIN THE FNSB

Fiscal Year Ending June 30th	Fairbanks North Star Borough				City of Fairbanks		City of North Pole	
	Non-Areawide	Areawide	Solid Waste District	Total Outside Cities	City of Fairbanks	City of Fairbanks + Areawide	City of North Pole	City of NP + Areawide + Solid Waste
2007	0.409	12.209	1.126	13.744	6.594	18.803	3.000	16.335
2008	0.400	11.287	1.103	12.790	5.991	17.278	3.000	15.390
2009	0.393	11.186	1.121	12.700	5.927	17.113	3.000	15.307
2010	0.400	11.432	1.141	12.973	5.803	17.235	3.000	15.573
2011	0.511	11.294	1.194	12.999	5.843	17.137	3.000	15.488
2012	0.525	11.216	1.229	12.970	5.734	16.950	3.000	15.445
2013	0.523	11.216	1.232	12.971	5.716	16.932	3.500	15.948
2014	0.493	11.356	1.300	13.149	5.549	16.905	3.500	16.156
2015	0.507	11.599	1.350	13.456	5.678	17.277	3.500	16.449
2016	0.520	11.418	1.389	13.327	5.651	17.069	3.500	16.307
2017	0.520	11.913	1.401	13.834	5.874	17.787	1.499	14.813

Source: Excerpted and reproduced from the Community Research Quarterly (FNSB 2017a,b).

The remainder of this assessment of property taxes will separately document the property taxes collected in recent years (2007–2016) for each of the three government entities beginning with the City of North Pole and ending with the FNSB. The assessment will then summarize projected future property tax revenues for the three local government entities under the baseline and with the F-35 Beddown.

### Historic Property Taxes Revenues for Government Entities Within the FNSB

This subsection summarizes historic property tax revenues (2007–2016) collected by City of North Pole, the City of Fairbanks, and the FNSB.

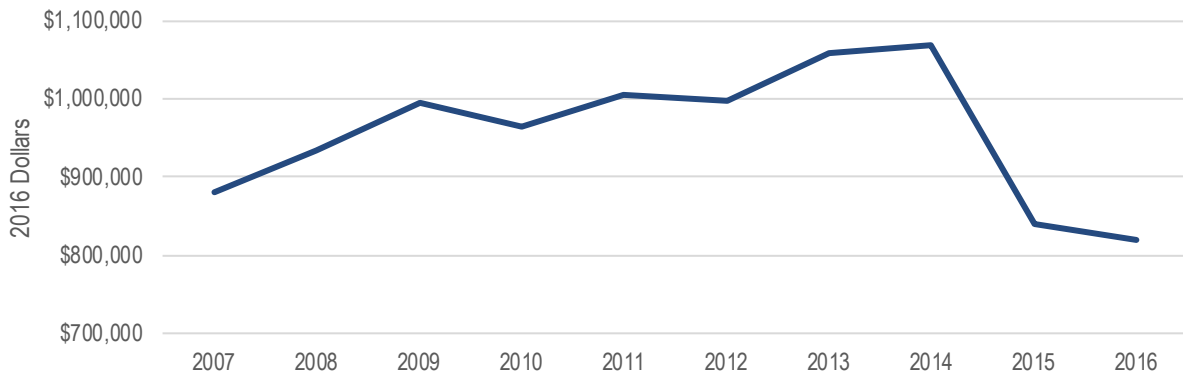
#### City of North Pole

Figure 10 gives total property tax receipts by North Pole from 2007 to 2016 in 2016 dollars. On average, the City of North Pole received \$956,069 from 2007 to 2016 annually. In 2015, FNSB Community Research Quarterly (2017a,b) records show that total property values dropped in the City of North Pole from \$313.7 million to \$260.2 million a year, and again to \$252.9 million in 2016. This decrease in property value corresponds to a roughly equivalent decrease in property tax revenue—from an estimated \$1.06 million in revenue in 2014 to \$819,599 in 2016.<sup>4</sup>

<sup>4</sup> The closure and downsizing of the two oil refineries located in North Pole accounts for most, if not all the decline in property tax revenues from 2014 to 2016 (Cole, 2014).



**FIGURE 10: CITY OF NORTH POLE HISTORICAL PROPERTY TAX RECEIPTS**

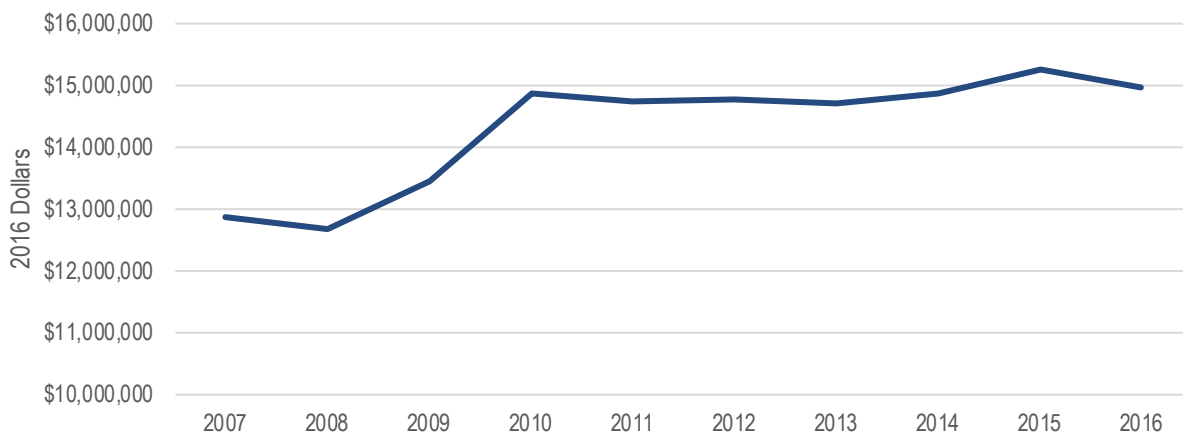


Source: Northern Economics using data from CAFRs  
 Note: Includes oil and gas property revenue

**City of Fairbanks**

The annual property tax receipts by the City of Fairbanks rose from roughly \$12.86 million in 2007 to just under \$15 million in 2016 (Figure 11), or an annual average of \$14.3 million.

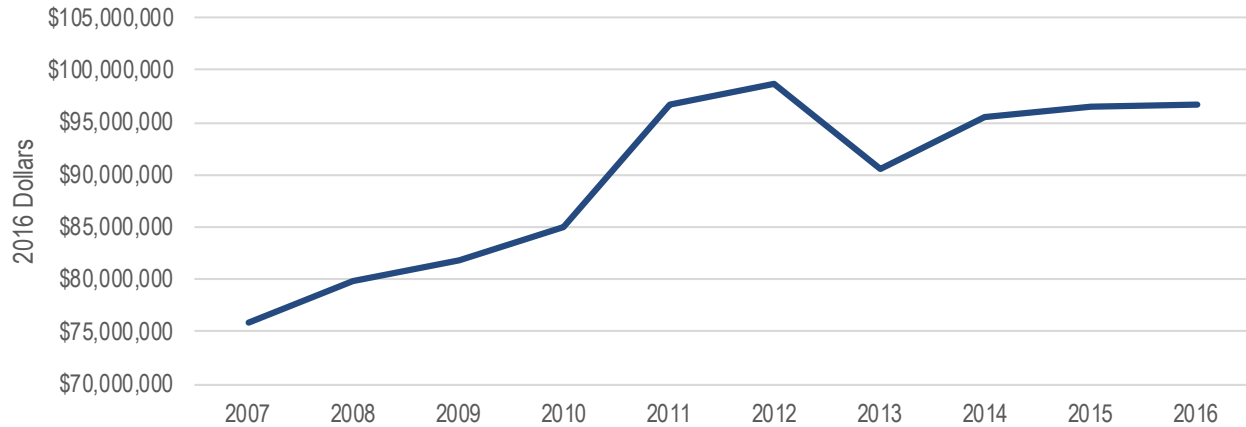
**FIGURE 11: CITY OF FAIRBANKS HISTORICAL PROPERTY TAX RECEIPTS**



### Fairbanks North Star Borough

Property tax revenues received specifically by the FNSB rose from roughly \$75.9 million in 2007 to \$96.7 million in 2016, for an annual average of \$89.7 million.

FIGURE 12: FAIRBANKS NORTH STAR BOROUGH HISTORICAL PROPERTY TAX RECEIPTS



Source: Northern Economics using data from CAFRs  
 Note: Includes oil and gas property revenue

### Forecasted Property Taxes under the Baseline and with the F-35 Beddown by Government

As construction increases, military personnel and their families move into the FNSB, and other supporting population increases because of F-35 Beddown, additional real property will be developed and taxed. Potential changes to the FNSB property tax revenues from 2017 to 2030, with and without F-35 Beddown, are calculated using historical property tax receipts—after excluding oil and gas property tax receipts that do not increase with population. In this case, the per capita calculations use only the last three years (2014–2016). Per capita calculations include all forms of property such as residential, commercial, industrial, farm, and vacant land.<sup>5</sup>

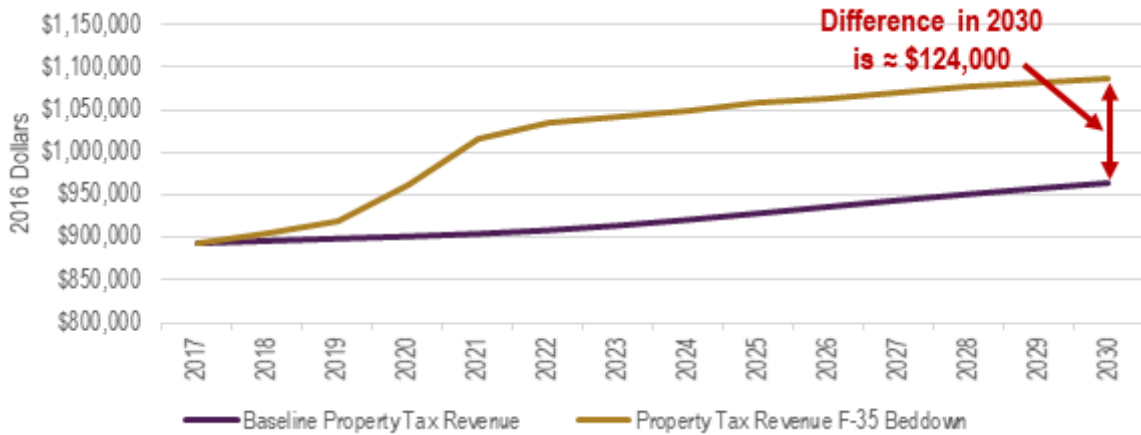
### City of North Pole

Figure 13 shows estimated property tax impacts in North Pole from 2017 to 2030. Baseline estimates (grey line in Figure 13) show that the City of North Pole would receive just over \$963,000 in property taxes by 2030 without F-35 Beddown impacts.

With a forecast increase in population of 294 persons with the F-35 Beddown, property taxes in the City of North Pole are expected to rise over the baseline by nearly \$130,000 annually by 2024. By 2030, annual property taxes are expected to increase from a baseline estimate of \$963,000, to \$1.09 million, or 13 percent.

<sup>5</sup> Oil and gas property revenues are removed prior to per capita calculations, and then added back into the projections as a fixed value using the most recent estimate available from the Alaska Taxable Database (ADCCED, 2018b). This methodology avoids the unrealistic assumption that population affects tax receipts from TAPS.

**FIGURE 13: CITY OF NORTH POLE PROJECTED BASELINE AND F-35 BEDDOWN: PROPERTY TAX RECEIPTS**



Source: Northern Economics using data from CAFRs  
 Note: Includes oil and gas property revenue

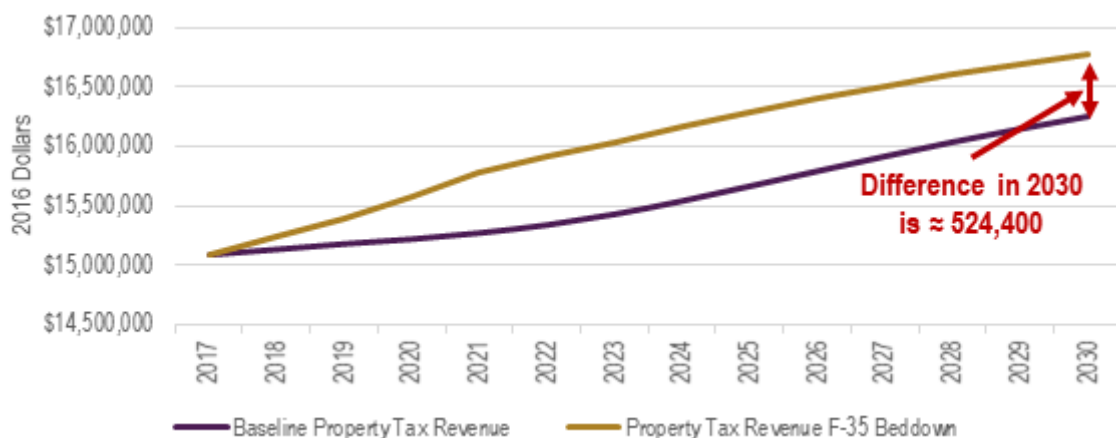
**City of Fairbanks**

Figure 14 shows estimated property tax impacts in the City of Fairbanks from 2017 to 2030. Baseline estimates show that the City of Fairbanks would receive roughly \$16.2 million in property taxes by 2030 without F-35 Beddown impacts. A total of 107 F-35-related housing units associated with military personnel and their dependents will be created or filled in the City of Fairbanks.<sup>6</sup> Combined with other property development such as commercial and industrial, property taxes in the City of

Fairbanks are expected to rise over the baseline by just over \$625,000 by 2024, because of the F-35 Beddown. By 2030, annual property taxes are expected to increase from a baseline estimate of \$16.2 million, to \$16.8 million, or 3.2 percent.

<sup>6</sup> See housing analysis in section Housing Focus Area. Based on current population, the City of Fairbanks is assumed to contain 11 percent of the Borough’s population or 73 percent of the total non-99705 ZIP code population.

**FIGURE 14: CITY OF FAIRBANKS PROJECTED BASELINE AND F-35 BEDDOWN: PROPERTY TAX RECEIPTS**



Source: Northern Economics using data from CAFRs  
 Note: Includes oil and gas property revenue

### Fairbanks North Star Borough

Figure 15 shows estimated property tax impacts in the FNSB from 2017 to 2030, not including the City of North Pole or the City of Fairbanks. Baseline estimates indicate the FNSB would receive roughly \$102.4 million in property taxes by 2030.

A total of 974 F-35-related housing units associated with military personnel and their dependents will be created or filled in the FNSB, the City of North Pole, or the City of Fairbanks, all of which will pay some portion of their property taxes to the Borough. Combined with other property development such as commercial and industrial,

property tax revenue in the FNSB is expected to rise by just over \$5.5 million annually over the baseline by 2024, because of the F-35 Beddown. By 2030, annual property taxes are expected to increase from a baseline estimate of \$102.4 million, to \$107.4 million, or 4.8 percent.

<sup>7</sup> See housing analysis in Housing Focus Area. Assumed by deduction from City of Fairbanks and City of North Pole calculations.

**FIGURE 15: FAIRBANKS NORTH STAR BOROUGH PROJECTED BASELINE AND F-35 BEDDOWN: PROPERTY TAX RECEIPTS**



Source: Northern Economics using data from CAFRs  
 Note: Includes oil and gas property revenue



Figure 16 provides detailed information on all annual property tax income baseline and impact estimates. Comparatively, the City of North Pole is likely to see the smallest annual impact in absolute dollar terms, but the largest impact in percent growth from baseline revenues (over 13 percent). The City of Fairbanks is projected to receive the

smallest percentage (3.7 percent in 2030) increase in annual property tax receipts, but the increase is likely made up of commercial and non-military connected property. The FNSB will likely see the largest annual impacts in absolute property tax dollars for both direct military and other F-35-related property growth.

**FIGURE 16: PROJECTED BASELINE AND F-35 PROPERTY TAX IMPACTS SUMMARY**

Year	City of Fairbanks Property Tax (2016\$) <sup>1,2</sup>		City of North Pole Property Tax (2016\$) <sup>1,2</sup>		FNSB Property Tax (2016\$) <sup>1,2</sup>	
	Baseline	F-35 Beddown	Baseline	F-35 Beddown	Baseline	F-35 Beddown
2017	15,081,016	15,084,363	892,895	894,330	95,876,003	95,921,882
2018	15,127,200	15,233,873	895,682	904,015	96,134,868	96,774,513
2019	15,172,916	15,391,665	898,440	919,531	96,391,111	97,790,823
2020	15,213,831	15,577,145	900,909	962,802	96,620,450	99,536,179
2021	15,265,225	15,781,867	904,010	1,016,238	96,908,517	101,587,465
2022	15,332,482	15,916,122	908,068	1,035,259	97,285,504	102,580,207
2023	15,424,021	16,038,407	913,592	1,042,638	97,798,589	103,265,632
2024	15,536,276	16,161,709	920,365	1,050,078	98,427,797	103,956,759
2025	15,660,234	16,281,262	927,845	1,057,292	99,122,594	104,626,870
2026	15,787,369	16,393,966	935,517	1,064,093	99,835,205	105,258,589
2027	15,912,049	16,498,167	943,040	1,070,380	100,534,053	105,842,649
2028	16,031,887	16,595,937	950,271	1,076,280	101,205,761	106,390,666
2029	16,143,564	16,686,487	957,009	1,081,743	101,831,726	106,898,208
2030	16,247,297	16,771,741	963,269	1,086,888	102,413,166	107,376,071

Sources: Northern Economics, Inc. using data from Borough Audited Financial Statements

Notes: 1) Values are normalized using U.S. Federal Housing Finance Agency All-Transactions House Price Index for Fairbanks North Star Borough. 2) Includes oil and gas property values.

## Consumption Taxes

This section addresses consumption-related taxes. The FNSB, the City of Fairbanks, and the City of North Pole all collect taxes on retail purchases of alcohol and tobacco, and as well as a tax on hotel/motel room rentals (bed tax). In addition, the City of North Pole has a general sales tax. The subsections below discuss historical tax receipts for each of the tax types and the projected changes in tax collections for each government entity. A per capita methodology is employed to forecast the alcohol, tobacco taxes and the sales taxes in North Pole, but because bed taxes rely more on tourism than on local populations, the RGP team forecasts bed tax revenues using the compound annual growth rate from 2007 to 2016.

## Existing Conditions by Government Entity

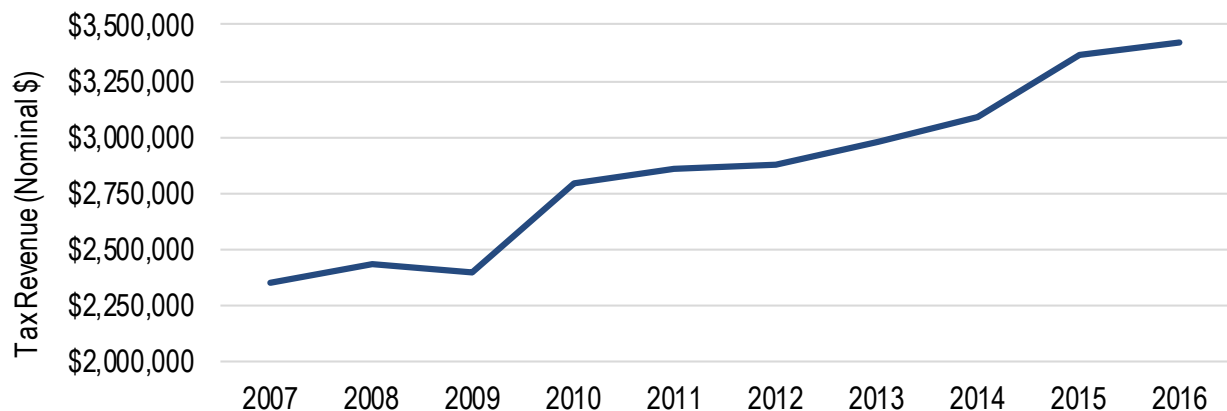
### City of North Pole

The City of North Pole collects several consumption-related taxes including a sales tax, bed tax, tobacco tax, and alcohol tax. Collectively, these taxes are projected to contribute 75 percent of the city’s general fund revenue for fiscal year 2018. These special taxes are factored at different rates per City Code 4.08.020 as follows:

- 5 percent general sales tax with a maximum tax of \$10.00 per transaction
- 8 percent bed tax
- 6 percent alcohol tax
- 10 percent wholesale tobacco

As shown in Figure 17, the aggregated tax receipts from these sources have been increasing since 2009. In 2009, a hotel was built within the North Pole city limits and the city began collecting an 8 percent bed tax with the stated purpose of funding services for the promotion of economic development, including the tourist industry, and for the funding of services for the public. The sales tax rate was also recently (in 2016) increased from 4 percent to 5 percent.

**FIGURE 17: CITY OF NORTH POLE, HISTORICAL AGGREGATED CONSUMPTION-RELATED TAXES, NOMINAL \$, 2007 TO 2016**

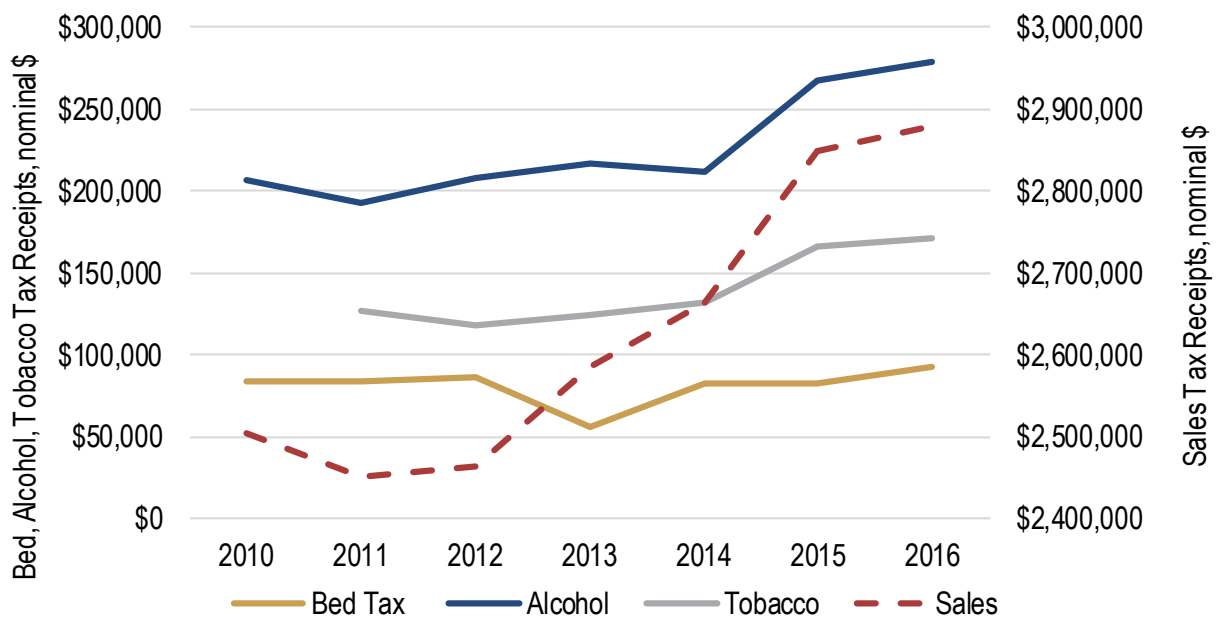


Source: City of North Pole Audited Financial Statements and Budget Documents, Fiscal Years 2007 to 2017.

Figure 18 shows the consumption-related tax payments collected by the City of North Pole broken out by tax type from 2010 to 2016. Disaggregated data by tax type are not publicly available prior to FY 2010.

Sales tax receipts (the vertical axis on the right side of the figure) account for about 85 percent of the total consumption-related taxes. Historical tax collections for all types have been increasing since 2014.

**FIGURE 18: CITY OF NORTH POLE HISTORICAL CONSUMPTION-RELATED TAXES, NOMINAL \$, 2010 TO 2016**



Source: City of North Pole budget documents, FY 2010 to FY 2017.

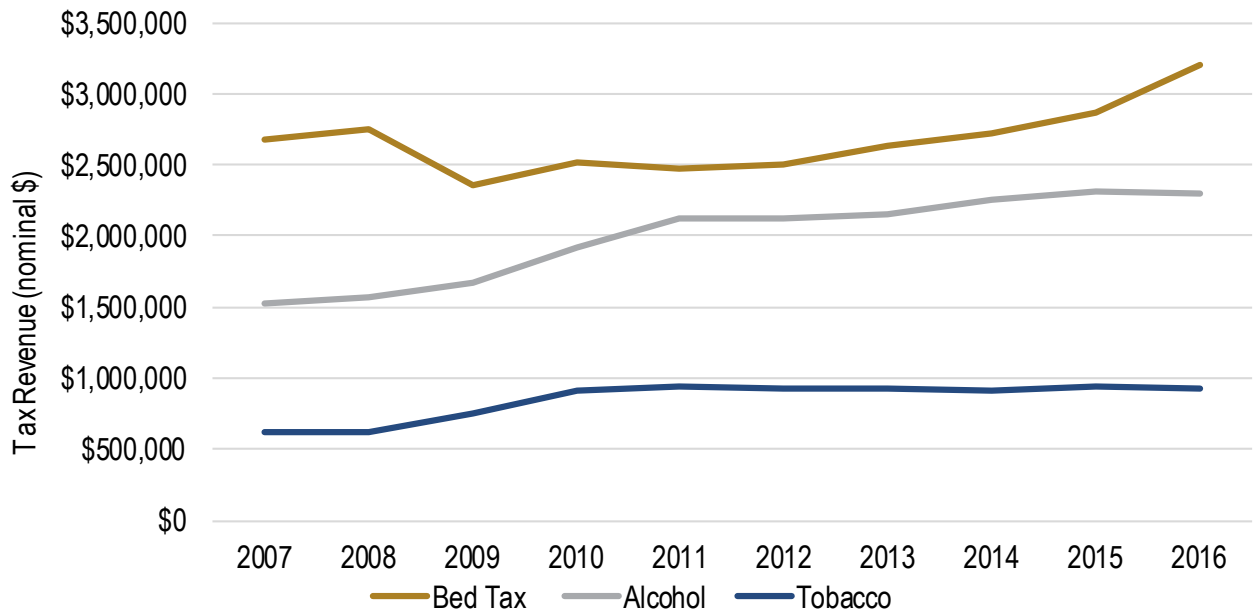
**City of Fairbanks**

The City of Fairbanks collects a bed tax (8 percent), alcohol tax (5 percent), and tobacco tax (8 percent) on hotel/motel room rental and alcohol and tobacco purchases made within the city limits.

tax collections have been increasing since 2009, while the rate of increase in tobacco and alcohol tax receipts in recent years has been relatively more modest. In fact, tobacco and alcohol tax receipts have declined in the last two years.

Figure 19 shows the City of Fairbanks’ historical collections for these taxes from 2007 to 2016. Bed

**FIGURE 19: CITY OF FAIRBANKS, HISTORICAL CONSUMPTION-RELATED TAXES, IN NOMINAL \$**



Source: City of Fairbanks Audited Financial Statements, FY2007 to FY2016.

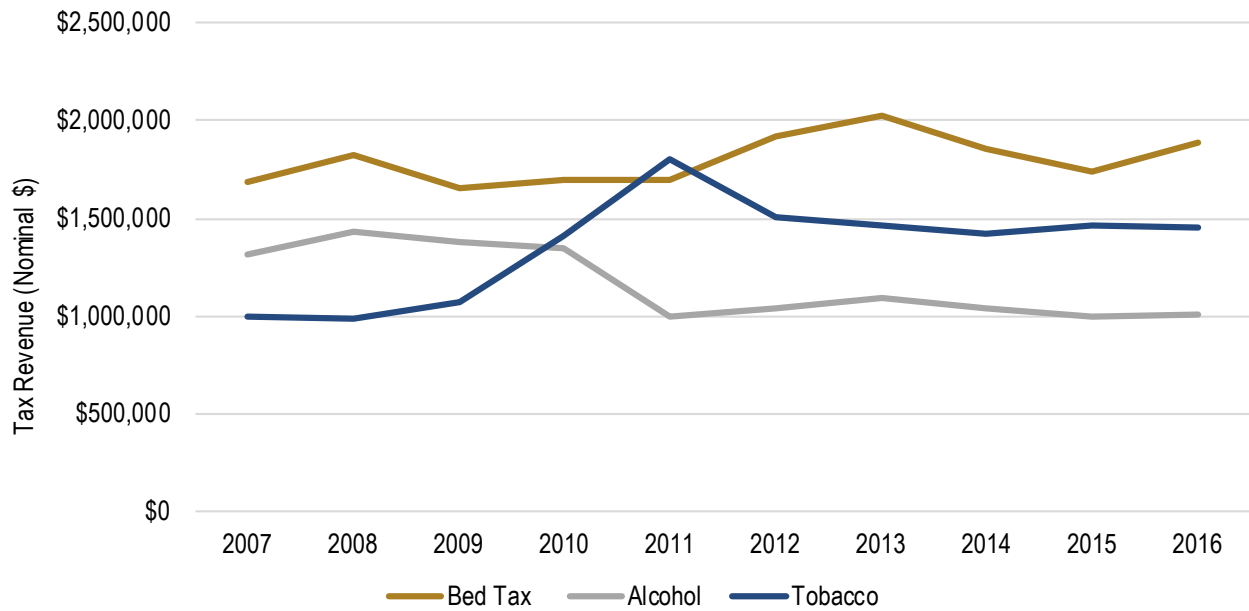


**Fairbanks North Star Borough**

The FNSB collects a bed tax (8 percent), alcohol tax (5 percent), and tobacco tax (8 percent) on hotel/motel room rental and purchases made within the borough limits. Figure 20 show the Borough’s historical tax collections for consumption-related

taxes from 2007 to 2016. Bed tax collections have fluctuated up and down since 2007, while alcohol and tobacco tax receipts have been on a declining trend in the past 5 years.

**FIGURE 20: FAIRBANKS NORTH STAR BOROUGH HISTORICAL CONSUMPTION-RELATED TAX RECEIPTS, IN NOMINAL \$**



Source: Fairbanks North Star Borough Audited Financial Statements.

## Baseline and F-35 Beddown Projections by Government Entity

To project future tax collections under the Baseline and with the F-35 Beddown, an average per capita rate for each of the consumption-related tax types was calculated based on the historical tax payments (from 2010 to 2016) and the resident population of each jurisdiction (City of North Pole, City of Fairbanks, and Fairbanks North Star Borough). The average per capita tax calculations are adjusted for inflation to 2016\$ using the official U.S. consumer price index (CPI) published by the Bureau of Labor Statistics (BLS, 2018).

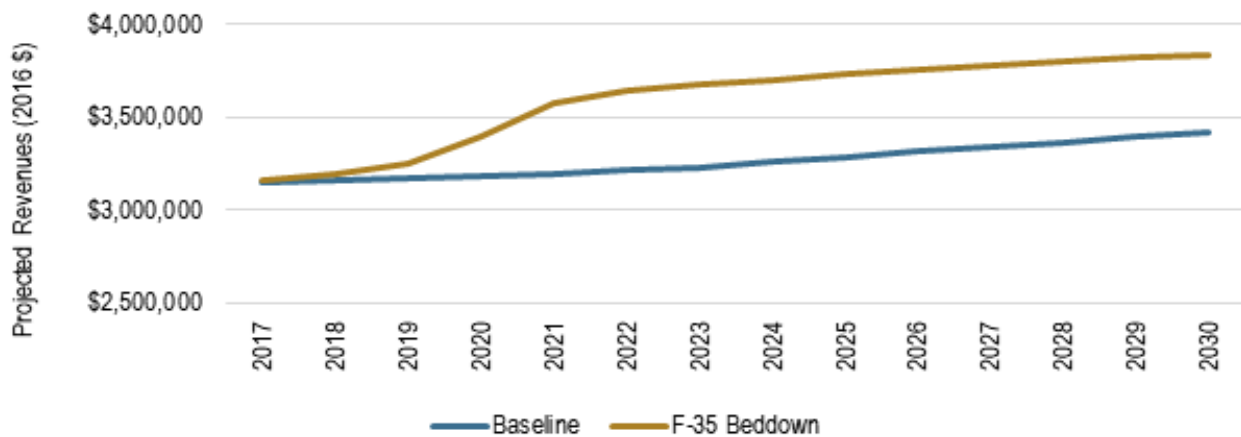
Tax receipts with the F-35 Beddown were projected with the same methodology but using the F-35 Beddown population forecast by place (see Figure 5 on page 170). The aggregated baseline projections and the F-35 Beddown case projections for each government entity are shown in the subsections below.

Bed taxes are not expected to be affected by population changes resulting from the F-35s basing at Eielson Air Force Base. The bed tax estimates included in the F-35 Beddown forecast below are the same as the estimates in the baseline forecast; only the sales, alcohol, and tobacco tax receipts are expected to change with changes in population resulting from the F-35 Beddown. Projected bed taxes are assumed to follow historical trends and were extrapolated using the compound annual growth rate of the historical bed tax collections for each government entity.

### City of North Pole

Baseline consumption related tax receipts in the City of North Pole are projected to increase modestly from 3.15 million in 2017 to 3.41 million by 2030. Under the F-35 Beddown, the City of North Pole can expect an estimated \$3.84 million in total consumption-related tax revenue by 2030, or an increase of \$423,854 (Figure 21 and Figure 22).

**FIGURE 21: CITY OF NORTH POLE PROJECTED BASELINE AND F-35 BEDDOWN CONSUMPTION-RELATED TAXES, 2016\$**



Source: Northern Economics estimates.

**FIGURE 22: CITY OF NORTH POLE PROJECTED BASELINE AND F-35 BEDDOWN CONSUMPTION-RELATED TAXES IN 2016\$**

Year	Bed Tax (Baseline & F-35 Beddown)	Baseline				F-35 Beddown			
		Alcohol	Sales	Tobacco	Total	Alcohol	Sales	Tobacco	Total
(2016\$)									
2017	91,677	230,765	2,689,659	141,056	3,153,158	\$231,136	\$2,693,981	\$141,283	\$3,158,077
2018	91,277	231,486	2,698,054	141,496	3,162,313	\$233,639	\$2,723,156	\$142,813	\$3,190,886
2019	92,696	232,199	2,706,363	141,932	3,173,190	\$237,649	\$2,769,893	\$145,264	\$3,245,502
2020	94,137	232,837	2,713,800	142,322	3,183,096	\$248,833	\$2,900,239	\$152,100	\$3,395,309
2021	95,601	233,638	2,723,141	142,812	3,195,192	\$262,643	\$3,061,205	\$160,541	\$3,579,991
2022	97,087	234,687	2,735,366	143,453	3,210,594	\$267,559	\$3,118,502	\$163,546	\$3,646,694
2023	98,597	236,114	2,752,005	144,326	3,231,042	\$269,466	\$3,140,729	\$164,712	\$3,673,503
2024	100,130	237,865	2,772,408	145,396	3,255,799	\$271,389	\$3,163,140	\$165,887	\$3,700,546
2025	101,686	239,798	2,794,939	146,577	3,283,001	\$273,253	\$3,184,871	\$167,027	\$3,726,837
2026	103,267	241,781	2,818,048	147,789	3,310,885	\$275,011	\$3,205,356	\$168,101	\$3,751,736
2027	104,873	243,725	2,840,710	148,978	3,338,286	\$276,636	\$3,224,296	\$169,095	\$3,774,899
2028	106,504	245,594	2,862,492	150,120	3,364,710	\$278,160	\$3,242,067	\$170,027	\$3,796,757
2029	108,159	247,336	2,882,791	151,185	3,389,470	\$279,573	\$3,258,525	\$170,890	\$3,817,147
2030	109,841	248,953	2,901,646	152,174	3,412,613	\$280,902	\$3,274,021	\$171,702	\$3,836,467

Note: Totals for both Baseline and F-35 Beddown include the Bed Tax.

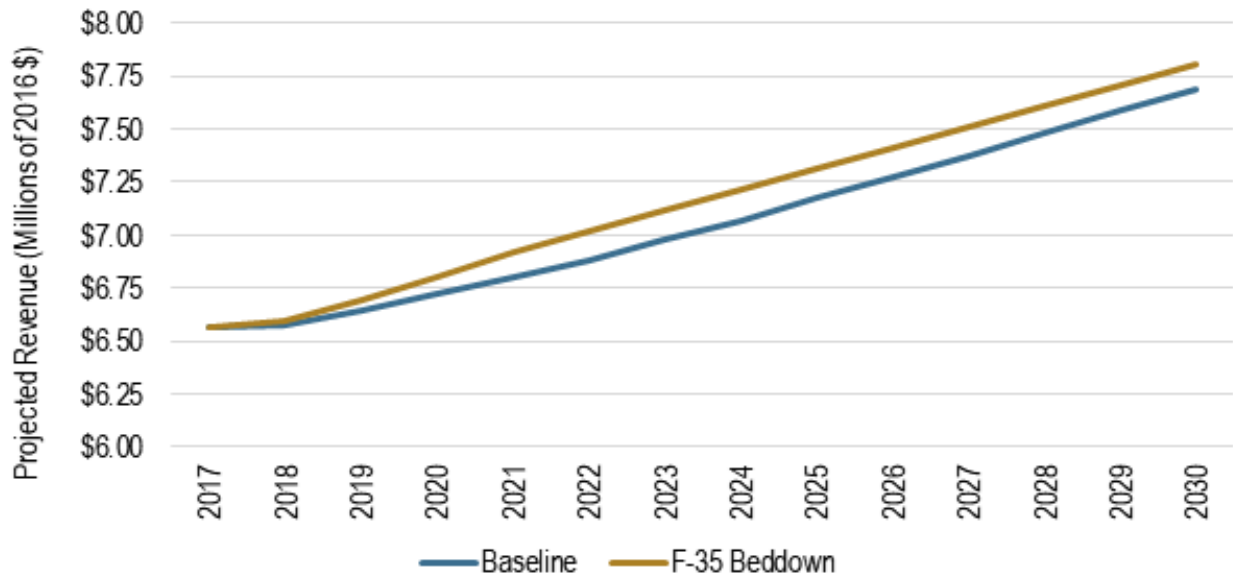
Source: Northern Economics estimates.

### City of Fairbanks

Baseline consumption related tax receipts in the City of Fairbanks are projected to increase modestly from \$6.56 million in 2017 to \$7.68 million by 2030. Under the F-35 Beddown, the City

of Fairbanks can expect an estimated \$7.8 million in total consumption-related tax revenue by 2030, or an increase of \$118,808 (Figure 23 and Figure 24).

**FIGURE 23: CITY OF FAIRBANKS PROJECTED BASELINE AND F-35 BEDDOWN CONSUMPTION-RELATED TAXES IN 2016\$**



Source: Northern Economics estimates.



**FIGURE 24: CITY OF FAIRBANKS PROJECTED BASELINE AND F-35 BEDDOWN  
CONSUMPTION-RELATED TAXES IN 2016\$**

Year	Bed Tax (Baseline & F-35 Beddown)	Baseline			F-35 Beddown		
		Alcohol	Tobacco	Total	Alcohol	Tobacco	Total
<b>(2016\$)</b>							
2017	3,210,061	2,343,758	1,008,519	6,562,338	\$2,344,288	\$1,008,748	\$6,563,097
2018	3,210,135	2,351,073	1,011,667	6,572,875	\$2,367,969	\$1,018,937	\$6,597,041
2019	3,274,413	2,358,314	1,014,783	6,647,509	\$2,392,961	\$1,029,691	\$6,697,065
2020	3,339,978	2,364,794	1,017,571	6,722,344	\$2,422,339	\$1,042,333	\$6,804,649
2021	3,406,856	2,372,934	1,021,074	6,800,864	\$2,454,764	\$1,056,285	\$6,917,905
2022	3,475,073	2,383,587	1,025,658	6,884,318	\$2,476,028	\$1,065,435	\$7,016,537
2023	3,544,656	2,398,086	1,031,897	6,974,638	\$2,495,397	\$1,073,770	\$7,113,822
2024	3,615,633	2,415,865	1,039,547	7,071,045	\$2,514,926	\$1,082,173	\$7,212,732
2025	3,688,030	2,435,499	1,047,995	7,171,524	\$2,533,862	\$1,090,321	\$7,312,213
2026	3,761,877	2,455,635	1,056,660	7,274,173	\$2,551,713	\$1,098,002	\$7,411,592
2027	3,837,203	2,475,383	1,065,158	7,377,744	\$2,568,217	\$1,105,104	\$7,510,524
2028	3,914,038	2,494,364	1,073,325	7,481,727	\$2,583,702	\$1,111,767	\$7,609,507
2029	3,992,410	2,512,052	1,080,936	7,585,399	\$2,598,044	\$1,117,939	\$7,708,393
2030	4,072,352	2,528,482	1,088,006	7,688,841	\$2,611,547	\$1,123,749	\$7,807,649

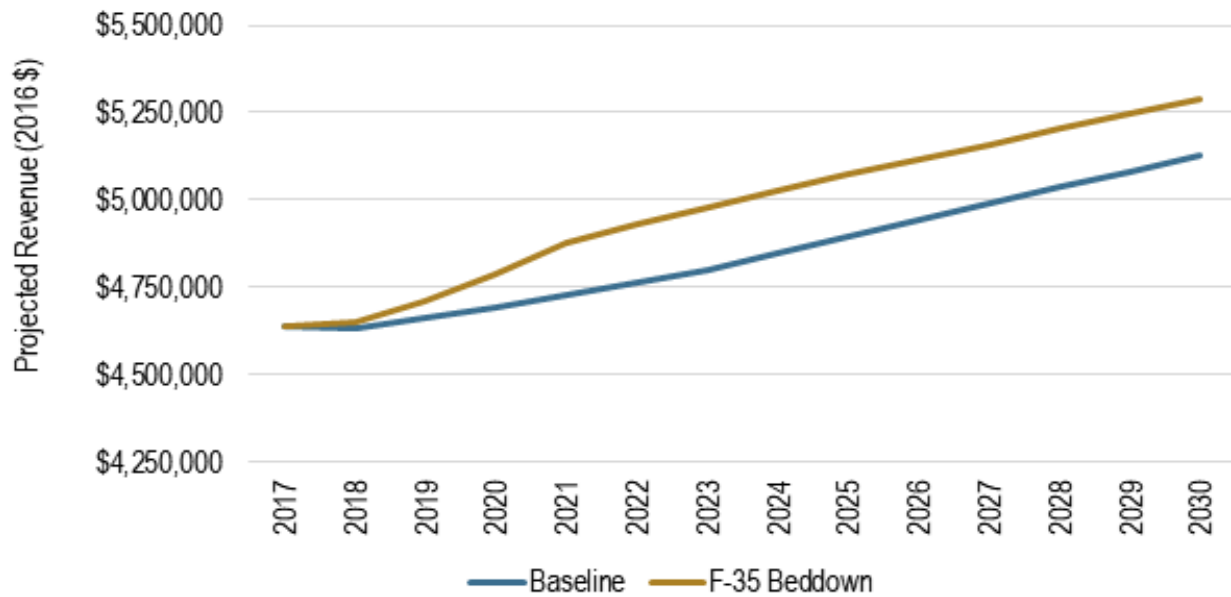
Note: Totals for both baseline and F-35 Beddown include the Bed Tax.  
Source: Northern Economics estimates.

### Fairbanks North Star Borough

Baseline consumption related tax receipts in the FNSB (not including City of North Pole or and the City of Fairbanks) are projected to increase from \$4.63 million in 2017 to roughly \$5.12 million

by 2030. Under the F-35 Beddown scenario, the FNSB can expect an estimated \$5.29 million in total consumption related tax revenue by 2030, or an increase of \$160,515 (Figure 25 and Figure 26).

**FIGURE 25: FNSB PROJECTED BASELINE AND F-35 BEDDOWN CONSUMPTION-RELATED TAXES IN 2016\$**



Source: Northern Economics estimates.

**FIGURE 26: FNSB PROJECTED BASELINE AND F-35 BEDDOWN CONSUMPTION-RELATED TAXES BY TYPE, 2016\$**

Year	Bed Tax (Baseline & F-35 Beddown)	Baseline			F-35 Beddown		
		Alcohol	Tobacco	Total	Alcohol	Tobacco	Total
<b>(2016\$)</b>							
2017	1,871,983	1,156,088	1,610,247	4,638,318	\$1,156,707	\$1,611,110	\$4,639,801
2018	1,857,626	1,159,587	1,615,120	4,632,333	\$1,168,233	\$1,627,163	\$4,653,021
2019	1,880,246	1,163,050	1,619,945	4,663,241	\$1,181,970	\$1,646,296	\$4,708,512
2020	1,903,142	1,166,150	1,624,262	4,693,554	\$1,205,561	\$1,679,155	\$4,787,857
2021	1,926,316	1,170,044	1,629,685	4,726,045	\$1,233,287	\$1,717,773	\$4,877,376
2022	1,949,772	1,175,139	1,636,783	4,761,695	\$1,246,705	\$1,736,463	\$4,932,941
2023	1,973,515	1,182,075	1,646,442	4,802,031	\$1,255,970	\$1,749,367	\$4,978,852
2024	1,997,546	1,190,579	1,658,288	4,846,413	\$1,265,312	\$1,762,378	\$5,025,236
2025	2,021,870	1,199,970	1,671,369	4,893,209	\$1,274,369	\$1,774,994	\$5,071,233
2026	2,046,490	1,209,603	1,684,784	4,940,877	\$1,282,908	\$1,786,887	\$5,116,285
2027	2,071,410	1,219,049	1,697,941	4,988,400	\$1,290,802	\$1,797,883	\$5,160,095
2028	2,096,633	1,228,128	1,710,587	5,035,348	\$1,298,210	\$1,808,200	\$5,203,043
2029	2,122,164	1,236,589	1,722,372	5,081,124	\$1,305,070	\$1,817,755	\$5,244,989
2030	2,148,005	1,244,448	1,733,318	5,125,771	\$1,311,529	\$1,826,752	\$5,286,286

Note: Totals for both baseline and F-35 Beddown include the Bed Tax.  
Source: Northern Economics estimates.

## State of Alaska Revenues Generated in the FNSB

Oil and gas taxes, by and large, make up the greatest percent of annual state revenues. However, taxes on oil production and leasing do not meaningfully vary with state population. The SOA also collects marginal levels of tax revenue from the general population, mostly through consumption of tobacco, fuel, and alcohol. Other state level per capita revenue comes from vehicle rentals,

gaming, utility cooperatives, and tire sales. Shown in Figure 27, population-based revenues were roughly \$240.55 per person in 2016. As discussed in Section 1.1 the total population is expected to rise by 5,724 by 2030 because of the F-35 Beddown. This means that on a per capita basis, the SOA will receive an estimated increase in revenues of \$1.37 million ( $\$240.55 \times 5,724$ ) by 2030.

FIGURE 27: STATE OF ALASKA PER CAPITAL REVENUES

Category	FY 2016 Revenue (\$)	Percentage of Total (%)	Per Capita Population-Based Revenues (\$)
Oil & Gas Production Tax	259,145,422	35.9	-
Oil & Gas Property Tax	111,736,765	15.5	-
Tobacco Tax	67,918,506	9.4	91.82
Corporate Income Tax	67,456,950	9.3	-
Motor Fuel Tax	48,773,877	6.8	65.94
Alcoholic Beverages Tax	42,430,408	5.9	57.36
Fisheries Business Tax	39,901,481	5.5	-
Commercial Passenger Vessel Excise Tax	19,066,852	2.6	-
Mining License Tax	11,137,900	1.5	-
Vehicle Rental Tax	10,472,558	1.4	14.16
Fishery Resource Landing Tax	9,765,515	1.4	-
Seafood Marketing Assessment	9,681,785	1.3	-
Large Passenger Vessel Gambling Tax	7,736,499	1.1	-
Salmon Enhancement Tax	6,805,741	0.9	-
Charitable Gaming	2,569,107	0.4	3.47
Telephone Cooperative Tax	2,287,312	0.3	3.09
Electric Cooperative Tax	2,015,794	0.3	2.73
Tire Fee	1,469,382	0.2	1.99
Regional Seafood Development Tax	1,409,426	0.2	-
Dive Fishery Management Assessment	460,822	0.1	-
Common Property Fishery Assessment	36,062	0.0	-
<b>Total</b>	<b>722,278,164</b>	<b>100.0</b>	<b>240.55</b>

Sources: Developed by Northern Economics using data from ADCEED (2018a), and ADOLWD (2018a).  
Note: Alaska's population was 739,709 in 2016.

As discussed in Section 1.1, the total population in the FNSB is expected to rise by 5,724 by 2030 because of the F-35 Beddown. This means that on a

per capita basis, the SOA will receive an estimated increase in revenues of \$1.371.36 million ( $\$240.55 \times 5,724$ ) by 2030.



## Fees, Fines and Service Charges

User fees, service charges, fines and penalties can be important sources of revenues for local governments and in general vary annually based on population.

The relative importance of the fees, fines, and service charges varies by community. Fees, fines and service charges are relatively unimportant for the FNSB—in 2016 the included amount of \$2.75 million was 2.7 percent of combined revenues from property taxes, consumption taxes, and fees. For the City of Fairbanks, fees, fines and service charges were approximately the same order of magnitude as consumption taxes at \$6.9 million and were 24.4 percent of all taxes and fees combined. Fees, fines and service charges for the City of North Pole in 2016 were \$0.7 million or 14.1 percent of combined fees, property taxes and consumption taxes.

### Fees, Fines and Service Charges for the City of North Pole

The City of North Pole’s financial report for 2016 includes several line items that have been included by the RGP Team as fees, fines and service charges

including: licenses and permits, ambulance service charges, citations, and charges for other public safety reports and services. Of these the largest single item is the charges for ambulance service. In 2016, fees, fines and service charges generated \$682,719, or given the 5,151 population, \$317.40 per capita. Fees, fines and service charges are a relatively small portion of total tax and fee-based revenues—14.1 percent. Figure 28 summarizes forecast fees, fines and service charges under the baseline from 2017–2030 and with the F-35 Beddown. Also shown are the differences between the baseline and F-35 Beddown. Forecasts are estimated by multiplying the \$317.40 per capita fee from 2016 by the forecast population in North Pole from 2017–2030 under the two scenarios. Under the baseline, fees are expected to increase to \$727,283 by 2030, an increase of \$53,133 from 2017 forecast levels. With the F-35 Beddown, fees in 2030 are expected to reach \$820,617, a difference of \$93,334 from the baseline.

**FIGURE 28: CITY OF NORTH POLE FORECAST FEES, FINES AND SERVICE CHARGES UNDER THE BASELINE AND F-35 BEDDOWN**

Year	Baseline	F-35 Beddown	Difference
2017	\$674,149	\$675,232	\$1,083
2018	\$676,253	\$682,545	\$6,292
2019	\$678,336	\$694,260	\$15,924
2020	\$680,200	\$726,930	\$46,730
2021	\$682,541	\$767,275	\$84,734
2022	\$685,606	\$781,636	\$96,031
2023	\$689,776	\$787,208	\$97,432
2024	\$694,890	\$792,825	\$97,935
2025	\$700,537	\$798,272	\$97,734
2026	\$706,329	\$803,406	\$97,077
2027	\$712,009	\$808,153	\$96,144
2028	\$717,469	\$812,607	\$95,139
2029	\$722,557	\$816,733	\$94,176
2030	\$727,283	\$820,617	\$93,334

Source: Northern Economics Estimates

## Fees, Fines and Service Charges for the City of Fairbanks

The City of Fairbanks' financial report for 2016 specifically includes line items for "service charges", "licenses and permits", and "fines and forfeitures" and these are the revenues included by the RGP Team in estimates of fees, fines and service charges. In 2016 these revenues amounted to \$6.93 million, an amount that slightly higher than revenues from included consumption-based taxes (\$6.4 million in 2016). Given the population of Fairbanks in 2016, fees, fines and service charges are estimated to be \$216.71 per capita. Fees, fines and service charges are a large portion—24 percent—of total tax and fee-based revenues for the City of Fairbanks.

Figure 29 summarizes the forecast fees, fines and service charges under the baseline from 2017–2030 and with the F-35 Beddown. Forecasts are estimated by multiplying the estimated per capita fee from 2016 by the forecast population under the two scenarios. Under the baseline, fees are expected to increase to \$7.5 million by 2030, an increase of \$544,931 from 2017 forecast levels. With the F-35 Beddown, fees in 2030 are expected to reach \$7.7 million, a difference of \$245,040 from the baseline.

**FIGURE 29: CITY OF FAIRBANKS FORECAST FEES, FINES AND SERVICE CHARGES UNDER THE BASELINE AND F-35 BEDDOWN**

Year	Baseline	F-35 Beddown	Difference
2017	\$6,914,020	\$6,915,584	\$1,564
2018	\$6,935,598	\$6,985,440	\$49,842
2019	\$6,956,958	\$7,059,167	\$102,208
2020	\$6,976,076	\$7,145,830	\$169,754
2021	\$7,000,089	\$7,241,484	\$241,395
2022	\$7,031,514	\$7,304,213	\$272,698
2023	\$7,074,284	\$7,361,349	\$287,065
2024	\$7,126,734	\$7,418,960	\$292,226
2025	\$7,184,652	\$7,474,820	\$290,168
2026	\$7,244,054	\$7,527,480	\$283,425
2027	\$7,302,310	\$7,576,166	\$273,857
2028	\$7,358,302	\$7,621,848	\$263,546
2029	\$7,410,482	\$7,664,156	\$253,674
2030	\$7,458,950	\$7,703,991	\$245,040

Source: Northern Economics Estimates

## Fees, Fines and Service Charges for the FNSB

The FNSB's 2016 audited financial report lists several non-tax revenue items which the RGP Team has categorized into two general categories: 1) Fees, Fines and Service charges, and 2) Intergovernmental Transfers, Grants, and other Unspecified Revenues. Included in the former are "Charges for Services" and "Interest and Penalties on Taxes". All other non-tax line items are assigned to the latter category (Intergovernmental Transfers). In 2016 revenues from fees, fines and service charges amounted to \$2.76 million. Based on the 2016 population of FNSB, fees, fines and service charges are estimated to be \$27.84 per capita and account for only 2.7 percent of total tax and fee-based revenues for the FNSB.

Figure 30 summarizes the forecast fees, fines and service charges which are estimated based on forecast population and the per capita fee amount. Under the baseline, fees are expected to increase to \$2.9 million by 2030, an increase of \$207,995 from 2017 forecast levels. With the F-35 Beddown, fees in 2030 are expected to reach \$3.1 million, a difference of \$157,905 from the baseline.

**FIGURE 30: FNSB FORECAST FEES, FINES AND SERVICE CHARGES UNDER THE BASELINE AND F-35 BEDDOWN**

Year	Baseline	F-35 Beddown	Difference
2017	\$2,721,357	\$2,722,817	\$2,722,817
2018	\$2,729,595	\$2,749,946	\$2,749,946
2019	\$2,737,748	\$2,782,282	\$2,782,282
2020	\$2,745,045	\$2,837,815	\$2,837,815
2021	\$2,754,210	\$2,903,080	\$2,903,080
2022	\$2,766,205	\$2,934,667	\$2,934,667
2023	\$2,782,529	\$2,956,475	\$2,956,475
2024	\$2,802,549	\$2,978,465	\$2,978,465
2025	\$2,824,655	\$2,999,786	\$2,999,786
2026	\$2,847,329	\$3,019,885	\$3,019,885
2027	\$2,869,564	\$3,038,468	\$3,038,468
2028	\$2,890,936	\$3,055,904	\$3,055,904
2029	\$2,910,852	\$3,072,053	\$3,072,053
2030	\$2,929,352	\$3,087,257	\$3,087,257

Source: Northern Economics Estimates

## 1.3 EXISTING CONDITIONS AND FORECAST CHANGES IN GOVERNMENT SPENDING

In this section we document existing conditions and forecast changes in government spending related to the F-35 Beddown. This section is subdivided into two parts: Schools and Other Government Spending.

### Schools Spending

Schools spend all the revenues they receive as they operate under a balanced budget. FNSBSD receives its revenues from the FNSB, the State of Alaska, the federal government, and other sources. The following analysis looks at FNSBSD revenues in total and by source. Given how school

districts operate, these revenues also represent the expenditures of the school district as well as the expenditures of the government entities that provide funding.

### Historic School Enrollments

The number of school-age children in the FNSB was presented in Section 1.1. In 2016, there were 17,445 school-age children in the borough, as seen in Figure 31. FNSBSD had an average daily membership (ADM) of 13,844 students in 2016, representing 79.5 percent of school-age children. This ratio has been relatively stable over the last 10 years, averaging 78.4 percent. Other school-age children attend private or correspondence schools. Within FNSBSD, the student to teacher ratio has averaged 17.4 over the last 10 years, though the ratio increased to 18 in 2016, reflecting larger class sizes.

FIGURE 31: SCHOOL-AGE CHILDREN, FNSBSD ENROLLMENT, AND STUDENT/TEACHER RATIOS, 2007-2016

Year	Data for Fairbanks North Star Borough School District			School Age Children		Other K-12 School Enrollments	
	Student Total ADM	Total Teachers (FTE)	Student/Teacher Ratio	Total Children Ages 5-17	Percent of School Age Children Enrolled in FNSB Schools	Private Schools in FNSB	Correspondence Schools outside FNSB
2007	14,162	813	17.40	18,444	76.8	1,148	1,181
2008	14,083	825	17.10	18,156	77.6	1,098	1,221
2009	14,148	806	17.60	18,155	77.9	1,102	1,218
2010	13,999	837	16.70	18,392	76.1	1,034	1,173
2011	14,215	806	17.60	18,102	78.5	989	1,216
2012	14,257	805	17.70	18,283	78.0	935	1,254
2013	14,308	834	17.20	18,232	78.5	912	1,283
2014	14,034	802	17.50	17,774	79.0	947	1,249
2015	13,746	797	17.20	17,650	77.9	921	1,422
2016	13,844	770	18.00	17,445	79.4	869	1,897

Sources: Developed by Northern Economics using data from ADEED (2018b) for FNSBSD enrollments, and FNSB (2018a) for data on private and correspondence enrollments.



As shown in Figure 32, funding for the school district comes from multiple sources, including locally generated revenues, state formula and other funding, federal funding, and other. Federal funds

are provided for federally-connected students and vary substantially, depending on whether a military student lives and attends school on base or off base.

**FIGURE 32: FNSBSD PER-STUDENT REVENUES BY SOURCE**

Year	Average Daily Membership (ADM)	School District Revenue by Source, per Student (ADM)					
		Operating Fund				Special Revenue	Total
		Local	State	Federal	Other		
2007	14,442	2,771	6,334	815	65	908	10,895
2008	14,082	2,998	6,647	819	60	1,078	11,603
2009	14,148	3,126	6,914	678	47	1,063	11,829
2010	14,418	3,006	7,739	834	51	1,525	13,155
2011	14,238	3,182	8,032	1,014	75	1,436	13,740
2012	14,277	3,263	8,221	984	85	1,300	13,853
2013	14,273	3,237	8,724	1,034	72	1,155	14,223
2014	14,063	3,382	8,656	994	76	1,206	14,314
2015	13,770	3,624	9,019	1,288	86	1,112	15,130
2016	13,876	3,990	8,662	1,249	77	1,041	15,019

Source: Developed by Northern Economics using data from ADEED (2018a).

### Future Conditions for School Spending

School spending under the baseline and with F-35 Beddown will depend on the number of children attending FNSBSD schools. Differences in numbers of forecast FNSBSD students between the Baseline and F-35 Beddown are summarized in Figure 33, along with estimates of students that are “Federally Connected”. As mentioned above Federal Impact Aid to schools depends in part on the number of students that are “Federally Connected” including all children whose parents work on military bases in the FNSB. With F-35 Beddown, the number of FNSBSD students are

expected to increase by 957 by 2030. Of this total 495 are expected to be “Federally Connected”, in other words directed affiliated with the F-35 Beddown at EAFB. The bottom section of the table breaks down the Federally Connected students into two categories, those forecast to live at EAFB and those living off-base. The number of students living at EAFB is expected to peak at 59 students, while the number of Federally Connected students living off-base increases by 436.

**FIGURE 33: FORECAST INCREASES IN SCHOOL AGE CHILDREN AND FNSBSD STUDENTS WITH F-35 BEDDOWN**

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Category of Students</b>	<b>Difference in Forecast of Students at FNSBSD Schools with and without Affiliation to Military Bases</b>													
<b>Total Children Ages 5-17</b>	10	127	283	621	1,020	1,155	1,203	1,235	1,236	1,220	1,216	1,213	1,209	1,204
<b>Students Attending FNSBSD (79.5%)</b>	8	100	225	494	811	918	956	981	983	970	966	964	961	957
<b>Additional Students without a Federal Connection</b>	8	94	215	453	600	488	467	489	490	476	471	469	466	462
<b>Additional Federally Connected Students</b>	0	6	10	41	211	430	489	492	493	494	495	495	495	495
<b>Category of Students</b>	<b>Additional Federally Connected Students Living On- and Off-base with F-35 Beddown</b>													
<b>Additional Students Living at EAFB</b>	0	1	1	5	25	51	58	59	59	59	59	59	59	59
<b>Additional Students Living Off-base</b>	0	5	9	36	186	379	431	433	434	435	436	436	436	436

Source: Estimated by Northern Economics using data the Alaska REMI Model and data from ADEED (2018a).

Estimates of future spending per student in the future are set equal to spending in 2016, i.e. at \$15,019 per student. The location where each F-35-related student lives will affect the amount of Federal Impact Aid received. The net effect of each additional dollar of Federal Impact Aid is, approximately, a fifty-cent reduction in the local and state share. The estimated Federal Impact Aid for each student living on base is \$7,626. Students living off base would generate only \$80 of Federal

Impact Aid. At the peak enrollment impact, however, only 0.5 percent of students would be living on base, generating that higher impact aid amount. As Figure 34 shows, federal impact aid will increase with the F-35 Beddown to over \$390,832 in 2030, resulting in reductions in state and local shares of education funding requirements by \$195,416 relative to funding if the same increase in students were not federally connected.

**FIGURE 34: PROJECTED FEDERAL IMPACT AID, 2017–2030, IN 2016\$**

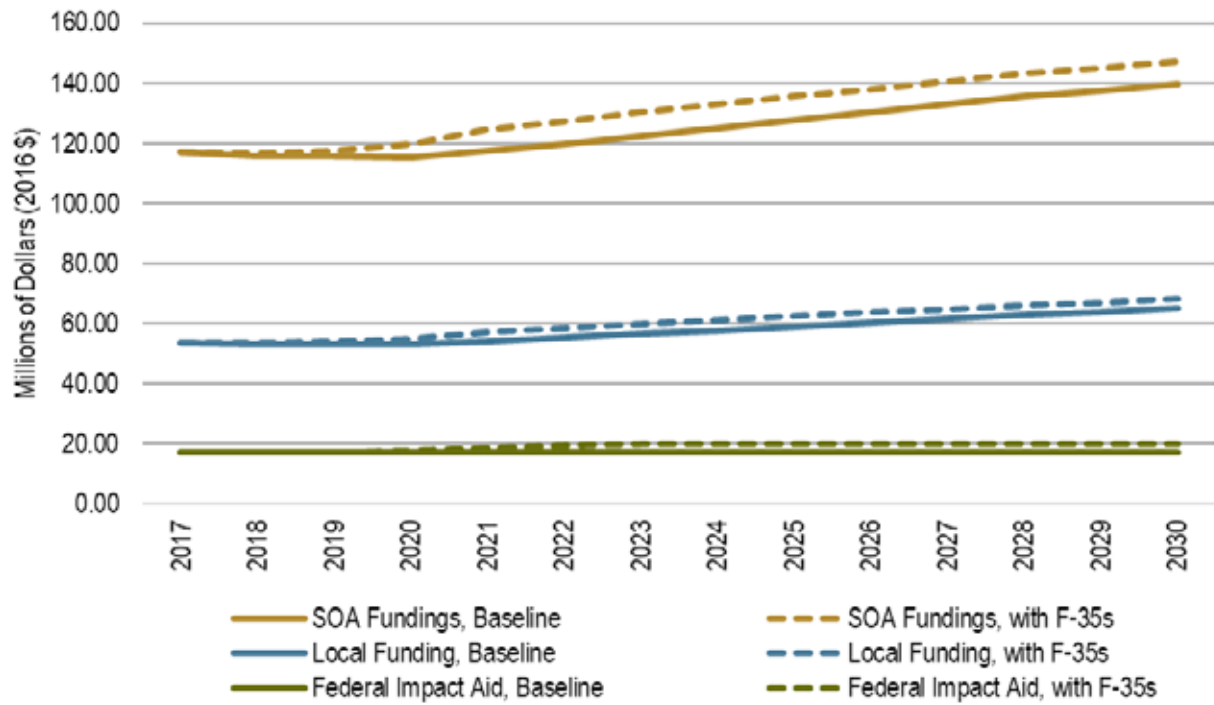
Year	Total Impact Aid From F-35	Estimated State Education Funding Reduction	Estimated Local Education Funding Reduction
	2016 \$		
2017	0	0	0
2018	5,027	2,513	2,513
2019	7,540	3,770	3,770
2020	32,046	16,023	16,023
2021	166,512	83,256	83,256
2022	339,308	169,654	169,654
2023	386,434	193,217	193,217
2024	388,319	194,159	194,159
2025	389,575	194,788	194,788
2026	390,204	195,102	195,102
2027	390,832	195,416	195,416
2028	390,832	195,416	195,416
2029	390,832	195,416	195,416
2030	390,832	195,416	195,416

Figure 35 and Figure 36 show the projected FNSBSD revenues by source under the baseline and with the F-35 Beddown, as well as the incremental changes between the two scenarios.

**FIGURE 35: PROJECTED FNSBSD REVENUES BY SOURCE UNDER BASELINE, WITH F-35S, AND INCREMENTAL, IN MILLIONS OF DOLLARS, 2017-2030**

Year	Operating Revenues Under the Baseline				Operating Revenues with the F-35 Beddown				Incremental Change in Operating Revenues			
	Local (FNSB)	SOA	Federal Impact Aid	Other & Special Revenue	Local (FNSB)	SOA	Federal Impact Aid	Other & Special Revenue	Local (FNSB)	SOA	Federal Impact Aid	Other & Special Revenue
Projected Revenues in Millions of 2016\$												
2017	53.73	116.91	17.33	15.12	53.77	116.98	17.33	15.12	0.04	0.08	0.00	0.01
2018	53.24	115.90	17.33	14.99	53.68	116.82	17.36	15.11	0.45	0.92	0.03	0.11
2019	53.07	115.57	17.33	14.95	54.08	117.64	17.38	15.21	1.01	2.07	0.05	0.25
2020	52.94	115.31	17.33	14.92	55.12	119.79	17.54	15.48	2.18	4.48	0.21	0.55
2021	54.05	117.54	17.33	15.19	57.25	124.53	18.42	16.10	3.20	6.99	1.09	0.91
2022	55.23	119.92	17.33	15.48	58.35	127.33	19.55	16.50	3.13	7.42	2.22	1.03
2023	56.56	122.60	17.33	15.80	59.71	130.22	19.85	16.87	3.15	7.62	2.53	1.07
2024	57.80	125.10	17.33	16.10	61.06	132.94	19.87	17.20	3.26	7.84	2.54	1.10
2025	59.13	127.76	17.33	16.42	62.40	135.62	19.87	17.52	3.27	7.86	2.54	1.10
2026	60.39	130.30	17.33	16.73	63.59	138.04	19.87	17.81	3.21	7.74	2.54	1.08
2027	61.69	132.93	17.33	17.04	64.88	140.63	19.87	18.12	3.19	7.70	2.55	1.08
2028	63.00	135.55	17.33	17.36	66.17	143.23	19.87	18.44	3.18	7.68	2.54	1.08
2029	63.91	137.38	17.33	17.58	67.08	145.04	19.87	18.65	3.17	7.66	2.54	1.07

FIGURE 36: PROJECTED FNSBSD FUNDING BY MAJOR SOURCES, 2017-2030



Source: Developed by Northern Economics using data from ADEED (2018).



## Other Government Expenditures

The assessment of impacts of government expenditures of the F-35 Beddown on the FNSB, the City of Fairbanks and on the City of North Pole will first show an overall forecast of historic and expected future general fund expenditures, and will then drill down describe and forecast expenditures in four sub-categories of expenditures: Public Safety, General Government, Public Works, and a catch-all category of “All Other General Fund Expenditures”. Note that education expenditures in the FNSB were already discussed in Section 1.3.1, and are excluded from expenditures in this section.

The assessment focuses on the “General Fund” expenditures of the three “local” governments. The RGP Team notes that all three local governments have other funds in addition their General Fund that have not been included in this assessment.

To estimate fiscal impacts to the cities of North Pole and Fairbanks, and the FNSB, a per capita methodology was employed using historic expenditures (2007–2016) on police, fire, emergency operations services, general government, public works, and all other general fund expenditures as documented in Audited Financial Statements available from ADCED (2018b). The per capita coefficient used to estimate the baseline and F-35 Beddown scenarios is calculated using the following process:

1. Adjust annual expenditures for each government entity by type for inflation to 2016\$ using the consumer price index.<sup>8</sup>
2. Divide each expenditure in #1 by population for the entity in that year—this is the per capita expenditure for the year.
3. Take the average of per capita expenditures for each year (from #2) over the historic period from 2007–2016.<sup>9</sup>

The average per capita expenditure coefficient primarily includes operational expenditures from the General Funds, but also includes some specific capital outlay expenditures. Therefore, it is assumed that not only operational expenditures will change as a function of population, but that some minimum level of capital will also need to be built/maintained as the population changes.

This introductory section provides a summary of total general fund expenditures by the City of North Pole, City of Fairbanks, and FNSB.<sup>10</sup> The subsequent sections provide further detail on the different general fund service components with a focus on public safety expenditures, but also documenting and forecasting “general government” expenditures, public works expenditures, and “other general fund” expenditures. While these sections describe the fiscal conditions quantitatively, much of the qualitative information regarding the organization of each jurisdiction’s local government can be found in sections public safety and utilities and infrastructure focus areas.

Total general fund expenditures by the City of North Pole, City of Fairbanks, and Fairbanks North Star Borough, adjusted for inflation to 2016\$, are shown in Figure 37 for 2007–2016.

<sup>8</sup> Nominal expenditures from 2007–2016 were inflated using the U.S. Consumer Price Index. (BLS, 2016).

<sup>9</sup> Fire service categories for the City of North Pole were consolidated in 2007. Therefore, the coefficient for North Pole fire services is calculated as the average per-capita expenditure from 2008–2016.

<sup>10</sup> FNSB expenditures reported in this section do not include expenditures for education/schools.

**FIGURE 37: GENERAL FUND EXPENDITURES (2016\$), EXISTING CONDITIONS, 2007–2016**

Year	City of North Pole	City of Fairbanks	FNSB
	(2016\$)		
2007	4,466,734	36,730,653	39,138,334
2008	5,521,632	38,418,212	39,990,243
2009	5,529,959	33,729,867	41,496,587
2010	5,353,592	31,952,017	44,500,459
2011	5,265,496	34,855,799	44,927,094
2012	5,445,937	32,933,762	45,575,474
2013	5,208,637	32,858,691	45,109,376
2014	5,636,559	33,394,695	44,730,463
2015	5,672,335	33,392,659	47,012,964
2016	5,362,694	31,636,944	45,066,695

Source: Developed by Northern Economics using data from ADCCED (2018a)  
 Note that general fund expenditures as shown here for the FNSB exclude FNSB’s funding for FNSBSD.

General fund expenditures by the City of North Pole, City of Fairbanks, and FNSB are forecast to increase in both the baseline and with the F-35 Beddown (Figure 38). The total change over baseline in the F-35 Beddown scenario ranges between 0.3 percent (City of Fairbanks in 2017) and 13.8 percent (City of North Pole in 2024), i.e. in direct proportion to increases in population. In general forecast spending in all categories will increase under the F-35 Beddown at these same rates.

**FIGURE 38: FORECAST TOTAL GENERAL FUND EXPENDITURES (2016\$), BASELINE AND F-35 BEDDOWN, 2017-2030**

Year	City of North Pole			City of Fairbanks			Fairbanks North Star Borough		
	Baseline	F-35 Beddown	Difference as a Percent of Baseline	Baseline	F-35 Beddown	Difference as a Percent of Baseline	Baseline	F-35 Beddown	Difference as a Percent of Baseline
	(2016\$)			(2016\$)			(2016\$)		
2017	5,276,969	5,285,448	0.2	34,131,861	34,139,581	0.0	44,107,937	44,131,596	0.1
2018	5,293,438	5,342,689	0.9	34,238,387	34,484,437	0.7	44,241,431	44,571,292	0.7
2019	5,309,741	5,434,384	2.3	34,343,834	34,848,396	1.5	44,373,574	45,095,396	1.6
2020	5,324,332	5,690,116	6.9	34,438,209	35,276,220	2.4	44,491,843	45,995,464	3.4
2021	5,342,659	6,005,923	12.4	34,556,752	35,748,426	3.4	44,640,397	47,053,298	5.4
2022	5,366,644	6,118,335	14.0	34,711,886	36,058,094	3.9	44,834,806	47,565,249	6.1
2023	5,399,287	6,161,943	14.1	34,923,026	36,340,154	4.1	45,099,401	47,918,718	6.3
2024	5,439,318	6,205,914	14.1	35,181,952	36,624,560	4.1	45,423,879	48,275,127	6.3
2025	5,483,523	6,248,547	14.0	35,467,869	36,900,318	4.0	45,782,181	48,620,699	6.2
2026	5,528,860	6,288,739	13.7	35,761,116	37,160,278	3.9	46,149,670	48,946,472	6.1

Year	City of North Pole			City of Fairbanks			Fairbanks North Star Borough		
	Baseline	F-35 Beddown	Difference as a Percent of Baseline	Baseline	F-35 Beddown	Difference as a Percent of Baseline	Baseline	F-35 Beddown	Difference as a Percent of Baseline
	(2016\$)			(2016\$)			(2016\$)		
2027	5,573,322	6,325,898	13.5	36,048,700	37,400,625	3.8	46,510,061	49,247,668	5.9
2028	5,616,058	6,360,763	13.3	36,325,115	37,626,140	3.6	46,856,457	49,530,277	5.7
2029	5,655,882	6,393,054	13.0	36,582,706	37,834,999	3.4	47,179,262	49,792,013	5.5
2030	5,692,875	6,423,457	12.8	36,821,975	38,031,645	3.3	47,479,107	50,038,443	5.4

Note: Table does not include FNSB general fund expenditures for schools.

## Police

Figure 39 and Figure 40 summarize historical, future baseline, and F-35 Beddown expenditures on police services for the cities of North Pole and Fairbanks, as the FNSB is policed by several different authorities (as outlined in the public safety focus area). The information in the tables is derived using the same per capita methodology described on page 40.

### Historic Police Expenditures (2007–2016) and Forecast Police Expenditures Under the Baseline and with the F-35 Beddown

Figure 39 summarizes historic police expenditures for the cities of North Pole and Fairbanks for the years 2007–2016. The data are adjusted for inflation to 2016\$. FNSB does not maintain a separate police force. Police expenditures for both cities have been relatively flat with annual variations up and down..

FIGURE 39: POLICE EXPENDITURES (2016\$), EXISTING CONDITIONS, 2007-2016

Year	City of North Pole	City of Fairbanks
	(2016\$)	
2007	1,331,989	6,701,447
2008	1,776,716	7,081,075
2009	1,731,283	6,971,001
2010	1,783,879	6,289,464
2011	1,859,814	6,477,238
2012	1,757,462	6,687,285
2013	1,713,095	6,704,233
2014	1,884,092	6,888,954
2015	1,701,542	6,812,338
2016	1,946,535	6,621,078

Source: Developed by Northern Economics using data from ADCCED (2018a).

FIGURE 40: POLICE EXPENDITURES (2016\$), BASELINE AND F-35 BEDDOWN, 2017-2030

Year	City of North Pole			City of Fairbanks		
	Baseline	F-35 Beddown	Difference as a Percent of Baseline	Baseline	F-35 Beddown	Difference as a Percent of Baseline
	(2016\$)			(2016\$)		
2017	1,729,541	1,736,752	0.4	6,747,802	6,766,619	0.3
2018	1,734,939	1,750,522	0.9	6,768,862	6,815,325	0.7
2019	1,740,283	1,773,708	1.9	6,789,708	6,860,483	1.0
2020	1,745,065	1,852,293	6.1	6,808,366	6,924,651	1.7
2021	1,751,072	1,954,636	11.6	6,831,802	7,013,465	2.7
2022	1,758,933	1,994,720	13.4	6,862,472	7,087,329	3.3
2023	1,769,632	2,011,368	13.7	6,904,213	7,152,281	3.6
2024	1,782,752	2,028,101	13.8	6,955,403	7,217,567	3.8
2025	1,797,240	2,044,122	13.7	7,011,928	7,280,071	3.8
2027	1,826,672	2,072,446	13.5	7,126,757	7,390,576	3.7
2028	1,840,679	2,084,795	13.3	7,181,404	7,438,758	3.6
2029	1,853,732	2,095,971	13.1	7,232,329	7,482,361	3.5
2030	1,865,856	2,106,271	12.9	7,279,632	7,522,544	3.3

Source: Estimated by Northern Economics.

## State Troopers

Estimating the impact on Alaska State Trooper expenditures within the FNSB required a slightly different methodology than that used for all other public safety components. While an inflation-adjusted per capita expenditure coefficient is used, the calculation of the coefficient uses total statewide expenditures and population as shown in Figure 41. This was done given the lack of area-specific data on Alaska State Trooper expenditures.<sup>11</sup> Total expenditures on Alaska State Troopers include all units within the Alaska State Troopers, such as the Alaska Bureau of Highway Patrol, Search and Rescue, Detachments, Alaska Bureau of Investigation, Alaska Wildlife Troopers, etc. The real per capita expenditures estimated in Figure 41, are then applied to forecast populations in the FNSB under the Baseline and the F-35 Beddown to arrive at the forecasts of expenditures shown in Figure 42.

<sup>11</sup> The RGP team reached out to Alaska's Public Safety office for budget information specific to Alaska State Troopers' D detachment (which includes the Fairbanks area) but has been unsuccessful in obtaining data to date.



**FIGURE 41: ALASKA STATE TROOPER EXPENDITURES (2016\$), STATE OF ALASKA, EXISTING CONDITIONS, 2007-2016**

Year	State Trooper Expenditures (Nominal \$)	AK population	Per Capita Expenditures (Nominal \$)	Per Capita Expenditures (2016\$)
2007	93,205,200	680,169	137.0	158.6
2008	106,698,500	686,818	155.4	173.2
2009	101,790,300	697,828	145.9	163.2
2010	108,322,300	710,231	152.5	167.9
2011	101,926,900	722,886	141.0	150.5
2012	113,523,100	731,238	155.2	162.3
2013	118,605,000	735,859	161.2	166.1
2014	125,166,400	736,818	169.9	172.2
2015	130,979,700	737,183	177.7	179.9
2016	130,451,700	739,828	176.3	176.3
<b>Average</b>	<b>113,066,910</b>	<b>717,886</b>	<b>157.2</b>	<b>167.0</b>

Source: Northern Economic estimates using AOMB (2018) and ADOLWD (2018a)

**FIGURE 42: ALASKA STATE TROOPER EXPENDITURES (2016\$) UNDER THE BASELINE AND F-35 BEDDOWN, 2017-2030**

Year	Baseline (2016\$)	F-35 Beddown (2016\$)	Difference as a Percent of Baseline
2017	16,323,873	16,332,629	0.1
2018	16,373,278	16,495,356	0.7
2019	16,422,182	16,689,321	1.6
2020	16,465,952	17,022,426	3.4
2021	16,520,931	17,413,919	5.4
2022	16,592,879	17,603,387	6.1
2023	16,690,803	17,734,202	6.3
2024	16,810,889	17,866,105	6.3
2025	16,943,493	17,993,998	6.2
2026	17,079,496	18,114,563	6.1
2027	17,212,873	18,226,032	5.9
2028	17,341,070	18,330,622	5.7
2029	17,460,537	18,427,488	5.5
2030	17,571,507	18,518,689	5.4

Source: Northern Economic estimates.

### Fire Protection Services

Figure 43 and Figure 44 summarize historical, future baseline, and F-35 Beddown expenditures on fire services for the cities of North Pole and Fairbanks. A description of fire services offered in each jurisdiction is outlined in the public

safety chapter. The FNSB does not list specific expenditures for fire protection, but there are several “Special Service Area Funds” for fire protection reported separately in the FNSB financial statements that are not included in this assessment.

**FIGURE 43: FIRE EXPENDITURES (2016\$), EXISTING CONDITIONS, 2007–2016**

Year	City of North Pole	City of Fairbanks
	(2016\$)	
2007	1,918,517	5,544,935
2008	1,950,638	6,256,986
2009	2,137,512	6,230,430
2010	1,949,603	6,256,744
2011	2,012,868	6,208,890
2012	2,010,863	6,378,928
2013	1,927,797	6,405,564
2014	2,088,682	6,350,830
2015	1,767,109	6,543,262
2016	1,859,823	6,189,127

Source: Developed by Northern Economics using data from ADCCED (2018b).

**FIGURE 44: FORECAST FIRE EXPENDITURES (2016\$) UNDER THE BASELINE AND WITH F-35 BEDDOWN, 2017-2030**

Year	City of North Pole			City of Fairbanks		
	Baseline	F-35 Beddown	Difference as a Percent of Baseline	Baseline	F-35 Beddown	Difference as a Percent of Baseline
	(2016\$)			(2016\$)		
2017	1,930,817	1,933,919	0.2	6,259,912	6,261,327	0.0
2018	1,936,843	1,954,863	0.9	6,279,449	6,324,575	0.7
2019	1,942,808	1,988,414	2.3	6,298,788	6,391,327	1.5
2020	1,948,147	2,081,985	6.9	6,316,097	6,469,791	2.4
2021	1,954,853	2,197,537	12.4	6,337,838	6,556,395	3.4
2022	1,963,628	2,238,669	14.0	6,366,290	6,613,190	3.9
2023	1,975,572	2,254,625	14.1	6,405,014	6,664,921	4.1
2024	1,990,220	2,270,713	14.1	6,452,502	6,717,082	4.1

Year	City of North Pole			City of Fairbanks		
	Baseline	F-35 Beddown	Difference as a Percent of Baseline	Baseline	F-35 Beddown	Difference as a Percent of Baseline
	(2016\$)			(2016\$)		
2025	2,006,394	2,286,313	14.0	6,504,940	6,767,657	4.0
2026	2,022,983	2,301,018	13.7	6,558,723	6,815,334	3.9
2027	2,039,251	2,314,615	13.5	6,611,467	6,859,415	3.8
2028	2,054,888	2,327,372	13.3	6,662,163	6,900,775	3.6
2029	2,069,459	2,339,187	13.0	6,709,406	6,939,081	3.4
2030	2,082,995	2,350,311	12.8	6,753,289	6,975,146	3.3

### Spending for Emergency Operations in the FNSB

FNSB provides 911 services, animal control, and ambulance services, all of which are covered under their department of emergency operations (Figure 45).

Figure 46 provides forecasts of expenditures for emergency operations services under the Baseline and F-35 Beddown. These services are described

in additional detail in the public safety focus area. The cities of Fairbanks and North Pole do not have similar expenditures.

**FIGURE 45: HISTORIC EMERGENCY OPERATIONS EXPENDITURES, 2007-2016**

Year	Fairbanks North Star Borough (Nominal \$)
2007	2,027,534
2008	2,114,991
2009	2,112,967
2010	2,134,345
2011	2,234,448
2012	1,896,470
2013	1,845,579
2014	1,896,814
2015	1,888,783
2016	1,779,203

Source: Developed by Northern Economics using data from ADCCED (2018b).

**FIGURE 46: FORECAST EMERGENCY OPERATIONS EXPENDITURES UNDER THE BASELINE AND F-35 BEDDOWN, 2017-2030**

Year	Fairbanks North Star Borough		
	Baseline (2016\$)	F-35 Beddown (2016\$)	Difference as a Percent of Baseline
2017	2,014,808	2,015,888	0.1
2018	2,020,906	2,035,973	0.7
2019	2,026,942	2,059,914	1.6
2020	2,032,344	2,101,028	3.4
2021	2,039,130	2,149,349	5.4
2022	2,048,010	2,172,734	6.1
2023	2,060,097	2,188,880	6.3
2024	2,074,919	2,205,161	6.3
2025	2,091,285	2,220,946	6.2
2026	2,108,072	2,235,827	6.1
2027	2,124,534	2,249,586	5.9
2028	2,140,357	2,262,495	5.7
2029	2,155,103	2,274,451	5.5
2030	2,168,799	2,285,707	5.4

### General Government Expenditures

General government expenditures typically include expenditures for the Mayor, the Assembly, legal services, computer services, financial services, the assessor's office, and human resources. Figure 47 shows historic (2007–2016) general government expenditure (in nominal \$) for the cities of North Pole and Fairbanks and for the FNSB.

Figure 48 that follows uses the standard per capita process described in earlier sections to derive forecast expenditures under the Baseline and with the F-35 Beddown.



FIGURE 47: HISTORIC GENERAL GOVERNMENT EXPENDITURES, 2007–2016

Year	City of North Pole	City of Fairbanks	FNSB
	(Nominal \$)		
2007	664,743	14,597,038	13,425,303
2008	860,884	14,260,763	13,308,735
2009	884,484	9,856,210	13,883,885
2010	844,096	9,823,569	16,190,579
2011	812,735	10,008,114	20,746,847
2012	871,910	10,348,206	20,458,305
2013	812,147	9,987,241	20,523,696
2014	901,101	11,762,682	18,976,269
2015	915,568	11,421,732	20,697,172
2016	841,148	10,481,243	19,816,849

Source: Developed by Northern Economics using data from ADCED (2018b).

FIGURE 48: GENERAL GOVERNMENT EXPENDITURES UNDER THE BASELINE AND WITH F-35 BEDDOWN, 2017–2030

Year	City of North Pole			City of Fairbanks			Fairbanks North Star Borough		
	Baseline	F-35 Beddown	Difference as a Percent of Baseline	Baseline	F-35 Beddown	Difference as a Percent of Baseline	Baseline	F-35 Beddown	Difference as a Percent of Baseline
	(2016\$)			(2016\$)			(2016\$)		
2017	831,659	832,995	0.2	11,300,684	11,303,240	0.0	17,888,224	17,897,820	0.1
2018	834,254	842,016	0.9	11,335,954	11,417,418	0.7	17,942,364	18,076,141	0.7
2019	836,824	856,468	2.3	11,370,866	11,537,921	1.5	17,995,955	18,288,694	1.6
2020	839,123	896,772	6.9	11,402,113	11,679,569	2.4	18,043,920	18,653,722	3.4
2021	842,012	946,543	12.4	11,441,361	11,835,911	3.4	18,104,167	19,082,733	5.4
2022	845,792	964,260	14.0	11,492,724	11,938,439	3.9	18,183,011	19,290,357	6.1
2023	850,936	971,132	14.1	11,562,630	12,031,826	4.1	18,290,318	19,433,708	6.3
2024	857,245	978,062	14.1	11,648,358	12,125,989	4.1	18,421,912	19,578,252	6.3
2025	864,212	984,781	14.0	11,743,022	12,217,290	4.0	18,567,224	19,718,401	6.2
2026	871,357	991,115	13.7	11,840,113	12,303,360	3.9	18,716,261	19,850,520	6.1
2027	878,365	996,972	13.5	11,935,328	12,382,936	3.8	18,862,420	19,972,672	5.9
2028	885,100	1,002,467	13.3	12,026,846	12,457,601	3.6	19,002,902	20,087,285	5.7
2029	891,376	1,007,556	13.0	12,112,132	12,526,752	3.4	19,133,818	20,193,434	5.5
2030	897,206	1,012,347	12.8	12,191,351	12,591,860	3.3	19,255,422	20,293,375	5.4

## Spending on Public Works

This section summarizes historic and forecast future expenditures for public works by local government entities. Typically, public works expenditures in the general fund include normal design, repair, and maintenance of roads and other public facilities. Design and construction of new infrastructures are typically, but not always accounted for in funds other than the general fund. Figure 49 shows historic (2007–2016) general government expenditure (in nominal \$) for the cities of North Pole and Fairbanks and for the FNSB.

Figure 50 that follows uses the standard per capita process described in earlier sections to derive forecast expenditures under the Baseline and with the F-35 Beddown.

**FIGURE 49: HISTORIC PUBLIC WORKS EXPENDITURES, 2007–2016**

Year	City of North Pole	City of Fairbanks	FNSB
	(Nominal \$)		
2007	393,833	7,369,080	4,586,778
2008	702,625	8,366,119	5,041,999
2009	557,121	8,258,754	5,480,080
2010	549,405	7,172,692	5,632,933
2011	418,412	7,577,294	5,656,102
2012	630,007	7,920,925	6,505,162
2013	645,693	8,164,679	6,306,759
2014	631,611	7,746,466	6,330,370
2015	613,466	7,940,614	6,265,411
2016	541,605	7,645,011	5,460,711

Source: Developed by Northern Economics using data from ADCED (2018b).

**FIGURE 50: PUBLIC WORKS EXPENDITURES UNDER THE BASELINE AND F-35 BEDDOWN, 2017-2030**

Year	City of North Pole			City of Fairbanks			Fairbanks North Star Borough		
	Baseline	F-35 Beddown	Difference as a Percent of Baseline	Baseline	F-35 Beddown	Difference as a Percent of Baseline	Baseline	F-35 Beddown	Difference as a Percent of Baseline
	(2016\$)			(2016\$)			(2016\$)		
2017	560,816	561,717	0.2	7,843,806	7,845,580	0.0	5,766,622	5,769,715	0.1
2018	562,566	567,800	0.9	7,868,286	7,924,831	0.7	5,784,075	5,827,200	0.7
2019	564,299	577,545	2.3	7,892,519	8,008,472	1.5	5,801,351	5,895,721	1.6
2020	565,849	604,723	6.9	7,914,207	8,106,789	2.4	5,816,813	6,013,395	3.4
2021	567,797	638,286	12.4	7,941,449	8,215,307	3.4	5,836,235	6,151,695	5.4
2022	570,346	650,233	14.0	7,977,101	8,286,471	3.9	5,861,652	6,218,627	6.1
2023	573,815	654,867	14.1	8,025,622	8,351,291	4.1	5,896,245	6,264,839	6.3
2024	578,070	659,540	14.1	8,085,126	8,416,650	4.1	5,938,667	6,311,436	6.3
2025	582,767	664,071	14.0	8,150,832	8,480,022	4.0	5,985,511	6,356,615	6.2
2026	587,586	668,343	13.7	8,218,223	8,539,763	3.9	6,033,556	6,399,207	6.1
2027	592,311	672,292	13.5	8,284,312	8,594,997	3.8	6,080,673	6,438,585	5.9
2028	596,853	675,997	13.3	8,347,835	8,646,822	3.6	6,125,960	6,475,533	5.7
2029	601,085	679,429	13.0	8,407,032	8,694,820	3.4	6,168,164	6,509,752	5.5
2030	605,016	682,660	12.8	8,462,018	8,740,011	3.3	6,207,365	6,541,970	5.4

Source: Northern Economics estimates.

## All Other General Fund Expenditures

This section summarizes historic and forecast future expenditures for all other general fund expenditures that not have already been included. As an example, these “Other” expenditures for the FNSB include community planning and expenditures on the library. Figure 51 shows historic (2007–2016) “Other” expenditure (in nominal \$) for the cities of North Pole and Fairbanks and for the FNSB. Figure 52 that follows uses the standard per capita process described in earlier sections to derive forecast for “Other” expenditures under the Baseline and with the F-35 Beddown.

In 2013, the City of Fairbanks retired \$883,215 (in nominal \$) in debt service payments, and thus the “Other” expenditures for the City of Fairbanks is reduced by that amount. In 2015, the City of North Pole incurred a special “PERS on-behalf” expenditure of \$619,234, increasing their other general fund expenditures for that year. Future expenditures take the average over existing years, and thus these “special cases” are incorporated into the General Fund Expenditures.

**FIGURE 51: ALL OTHER GENERAL FUND EXPENDITURES FOR THE HISTORIC PERIOD, 2007-2016**

Year	City of North Pole	City of Fairbanks	FNSB
	(Nominal \$)		
2007	157,653	2,518,153	19,098,719
2008	230,768	2,453,269	19,524,518
2009	219,558	2,413,471	20,019,654
2010	226,610	2,409,547	20,542,602
2011	161,667	4,584,264	16,289,696
2012	175,695	1,598,418	16,715,537
2013	109,905	1,596,974	16,433,344
2014	131,072	645,763	17,527,010
2015	674,650	674,713	18,161,598
2016	173,583	700,485	18,009,932

Source: Developed by Northern Economics using data from ADCED (2018b).

**FIGURE 52: ALL OTHER GENERAL FUND EXPENDITURES UNDER THE BASELINE AND F-35 BEDDOWN, 2017-2030**

Year	City of North Pole			City of Fairbanks			Fairbanks North Star Borough		
	Baseline	F-35 Beddown	Difference as a Percent of Baseline	Baseline	F-35 Beddown	Difference as a Percent of Baseline	Baseline	F-35 Beddown	Difference as a Percent of Baseline
	(2016\$)			(2016\$)			(2016\$)		
2017	224,136	224,496	0.2	1,979,658	1,980,106	0.0	18,438,283	18,448,173	0.1
2018	224,836	226,927	0.9	1,985,837	2,000,108	0.7	18,494,087	18,631,977	0.7
2019	225,528	230,822	2.3	1,991,953	2,021,217	1.5	18,549,326	18,851,067	1.6
2020	226,148	241,684	6.9	1,997,426	2,046,031	2.4	18,598,765	19,227,319	3.4
2021	226,926	255,098	12.4	2,004,302	2,073,419	3.4	18,660,865	19,669,522	5.4
2022	227,945	259,873	14.0	2,013,300	2,091,380	3.9	18,742,133	19,883,530	6.1
2023	229,331	261,725	14.1	2,025,546	2,107,740	4.1	18,852,741	20,031,290	6.3
2024	231,032	263,592	14.1	2,040,564	2,124,235	4.1	18,988,381	20,180,278	6.3
2025	232,909	265,403	14.0	2,057,147	2,140,229	4.0	19,138,161	20,324,737	6.2
2026	234,835	267,110	13.7	2,074,155	2,155,307	3.9	19,291,781	20,460,918	6.1
2027	236,723	268,689	13.5	2,090,835	2,169,247	3.8	19,442,434	20,586,826	5.9
2028	238,539	270,170	13.3	2,106,868	2,182,327	3.6	19,587,237	20,704,964	5.7
2029	240,230	271,541	13.0	2,121,808	2,194,441	3.4	19,722,178	20,814,377	5.5
2030	241,801	272,832	12.8	2,135,686	2,205,847	3.3	19,847,521	20,917,391	5.4



## 1.4 SUMMARY OF FISCAL IMPACTS

This section summarizes benefits (revenues) to major affected governmental entities such as the FNSB and the SOA, along with costs (spending), described above as a result of the F-35 Beddown. This summary outlines revenue and expenditures categories that are likely to see impacts.

Again, this fiscal impact assessment has been undertaken with the primary objective of determining whether the F-35 Beddown is likely to create significant funding issues for the affected government entities from a “big picture” perspective. The Fiscal Impact Assessment is not

intended to be an exhaustive accounting exercise in which every dollar is categorized and every fund is balanced and examined. There will undoubtedly be gaps in the assessment and funds that have not been fully described and documented.

### City of North Pole, City of Fairbanks, and FNSB

Figure 53 summarizes the estimated difference in annual fiscal position for the City of North Pole, the City of Fairbanks, and the FNSB, related to F-35

FIGURE 53: SUMMARY OF FISCAL IMPACTS BY GOVERNMENT IN 2022 AND 2030

Government	Differences Between F-35 Beddown and the Baseline (2016\$)	
	2022	2030
<b>City of North Pole</b>		
<b>Revenues<sup>1</sup></b>	<b>731,753</b>	<b>705,378</b>
Property Tax	127,191	123,619
Consumption Related Tax	436,100	423,854
Fees, Services Charges, Fines & Forfeitures	168,462	157,905
<b>Expenditures</b>	<b>751,691</b>	<b>730,582</b>
<b>City of Fairbanks</b>		
<b>Revenues<sup>1</sup></b>	<b>988,556</b>	<b>888,292</b>
Property Tax	583,639	524,444
Consumption Related Taxes	132,218	118,808
Fees, Services Charges, Fines & Forfeitures	272,698	245,040
<b>Expenditures</b>	<b>1,346,208</b>	<b>1,209,669</b>
<b>FNSB</b>		
<b>Revenues<sup>1</sup></b>	<b>5,738,647</b>	<b>5,368,460</b>
Property Tax	5,294,703	4,962,905
Consumption Related Tax	171,246	160,515
Fees, Services Charges, Fines & Forfeitures	168,462	157,905
<b>Expenditures</b>	<b>5,856,203</b>	<b>5,707,832</b>
General Fund	2,730,442	2,559,336
Education <sup>2</sup>	3,125,761	3,148,496

Notes:

<sup>1</sup> Does not include additional grants, state and federal funds, trust and invested fund income, and other miscellaneous income.

<sup>2</sup> General Fund includes public safety but does not include state troopers.

<sup>3</sup> Education costs to the Borough, represent revenue to the FNSB School district

Beddown. Impacts are described in 2022, the year when the majority of active duty military population will be fully moved into the region, and 2030, the end of the study period.

## Summary of Results for the City of North Pole

With the F-35 Beddown, the population in the 99705 ZIP code area—which includes North Pole, Moose Creek and Badger—is projected to be 13.5 percent higher than under the Baseline. Because of this higher than average growth, property and consumption taxes for the City North Pole are expected to increase faster than for the City of Fairbanks (with 3.7 percent more population under F-35 Beddown) or the FNSB as a whole (with 5.9 percent more population with F-35 Beddown). Similarly, general fund expenditures in the City of North Pole are expected to experience greater percentage increases than the City of Fairbanks or the FNSB.

For the City of North Pole, the difference between quantifiable F-35 Beddown related expenditures and revenues relative to the size of the general fund budget is quite small. While expected revenue increases with F-35 Beddown are less than expected spending increases, the difference over the entire forecast period is just 0.2 percent of total general fund expenditures from 2017–2030 with the F-35 Beddown.

For example, in 2030, the City of North Pole will receive an estimated increase of \$705,378 from F-35 related property taxes, consumption taxes, and various fees, while general fund spending to provide local services is forecast to increase by \$730,582 a difference of \$25,204. Compared to

the forecast total general fund expenditures with F-35 Beddown in 2030 of \$6.4 million, the \$25,204 incremental revenue shortfall represents just 0.4 percent of the budget. The RGP team also notes that spending and revenue associated with F-35 population could also vary depending on current infrastructure needs, and spending habits of the new and neighboring populations.

## Summary of Results for the City of Fairbanks

The impacts to the City of Fairbanks are similar to those for the City of North Pole—the difference between quantifiable F-35 Beddown related expenditures and revenues relative to the size of the general fund budget is small—averaging just 1.02 percent of total general fund expenditures from 2017–2030 with the F-35 Beddown. In 2024, the difference between forecasts of increased revenues and increased expenditures is \$499,573—an amount that is just 1.36% of the forecast of all general fund expenditures. In other words, the F-35 Beddown is forecast to slightly increase the amount of funding required from other sources, such as intergovernmental transfers or draw-downs from the City’s permanent fund, in order to balance the annual budget.

The RGP team also notes that because the City of Fairbanks is a hub for much of the consumption in the region, consumption related taxes could increase by a greater percentage than the increase in population.

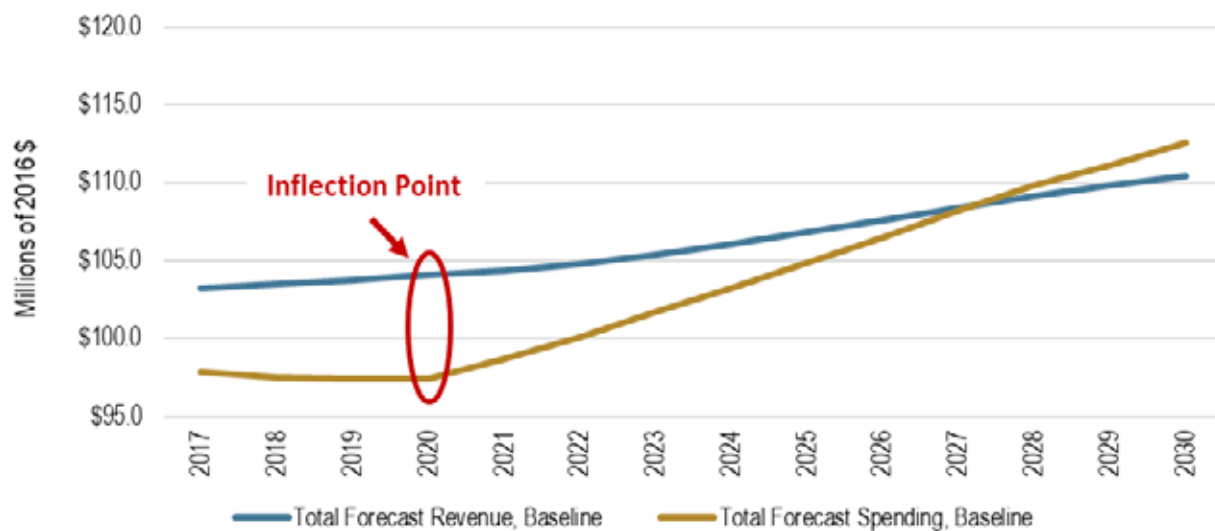
## Summary of Results for the Fairbanks North Star Borough

The differences between general fund revenues and expenditures for the FNSB (summarized in Figure 53 above) are relatively minor when compared to the overall general fund revenues and expenditures. Over the entire forecast period from 2017–2030, the weighted average gap between additional revenues and additional expenditures is -0.19 percent relative to total forecast expenditures under F-35 Beddown. In 2030 for example, additional expenditures exceed additional revenues by \$339,372, while the total general fund expenditures with F-35 Beddown in 2030 are forecast at \$118.3 million. The additional difference is 0.29 percent of the total ( $\$339,372 \div \$118,328,370 = 0.29\%$ ).

Perhaps more importantly the RGP teams finds that unlike forecast revenues and expenditures for the City of North Pole and the City of Fairbanks, forecast revenues and expenditures for the FNSB do not follow generally parallel tracks. Under the

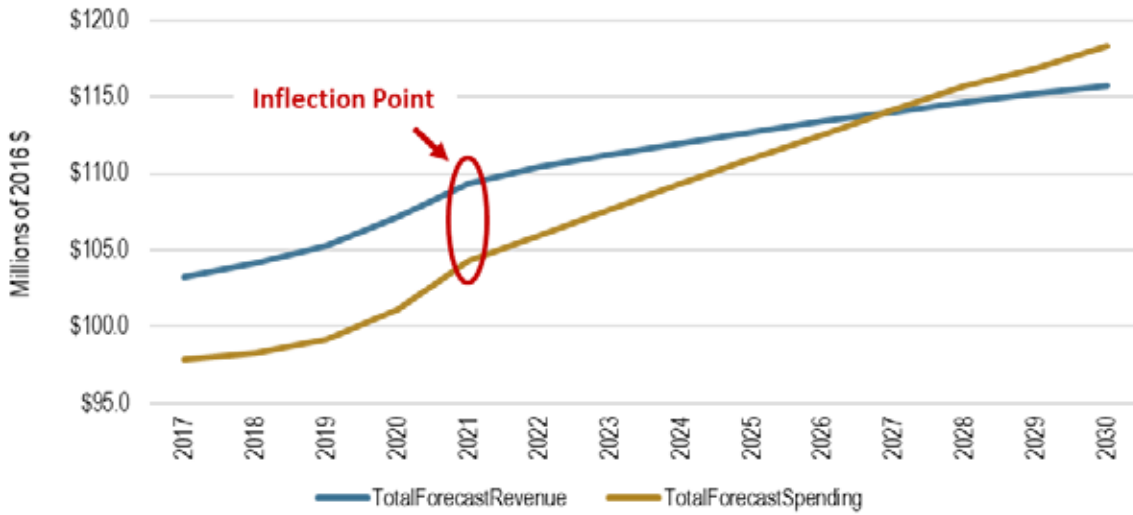
baseline, revenues for the FNSB are forecast to exceed expenditures from 2017 to 2024, but in 2025 through 2030, general fund expenditures are expected to exceed forecast revenues. Similarly, under the F-35 Beddown forecast, revenues are forecast to exceed expenditures from 2017 to 2023, but in 2024 through 2030, expenditures are expected to exceed forecast revenues. Figure 19 demonstrates this issue for the Baseline, while Figure 20 shows forecast expenditures and revenues with the F-35 Beddown. In both figures there is a clearly defined inflection point in the spending forecast. The inflection occurs in 2020 under the baseline, and in 2021 with the F-35 Beddown. If this inflection point were only present in the F-35 Beddown case it might be attributed to the F-35 Beddown, but since the inflection is also present in the baseline, the root cause of the inflection must be attributed to something that is occurring in both the baseline case, and in the F-35 Beddown case.

**FIGURE 54: FORECAST GENERAL FUND REVENUE AND SPENDING UNDER THE BASELINE FOR THE FNSB**



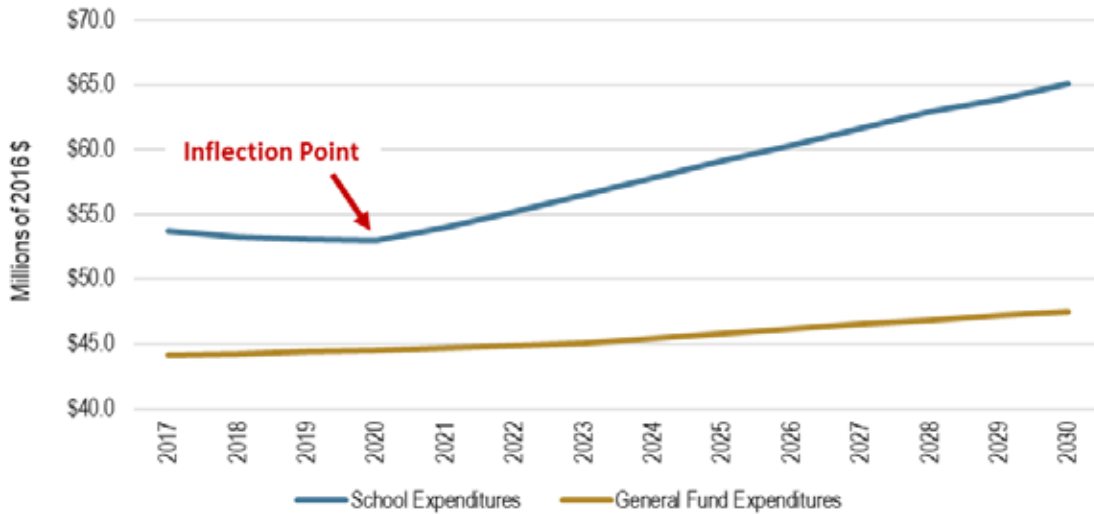
Source: Developed by Northern Economics using the Alaska REMI Model.

**FIGURE 55: FORECAST GENERAL FUND REVENUE AND SPENDING WITH THE F-35 BEDDOWN FOR THE FNSB**



Developed by Northern Economics using the Alaska REMI Model

**FIGURE 56: BASELINE FORECAST OF FNSB SCHOOL AND GENERAL FUND EXPENDITURES**



Developed by Northern Economics using the Alaska REMI Model

## State of Alaska

Figure 57 summarizes the estimated change in annual fiscal position for the SOA resulting from F-35 Beddown relative to Baseline forecasts. As with Borough summaries above, SOA impacts are described in 2022, the year when most of active duty military population will be fully moved into

the region, and 2030, the end of the study period. Revenues shown in Figure 57 are calculated by multiplying per capita expenditures in Figure 27 (on page 32) by F-35 Beddown-related population increases. Costs were estimated separately; costs to the SOA for schools were estimated in Section 1.3.1.2, and costs for State Troopers were estimated in Section 1.3.2.2.



FIGURE 57: SUMMARY OF FISCAL IMPACTS TO THE STATE OF ALASKA IN 2022 AND 2030

Revenue and Cost by Government	Change from Baseline (2016\$)	
	2022	2030
Revenues(receipts)	1,455,409	1,364,204
Tobacco Tax	555,529	520,716
Motor Fuel Tax	398,939	373,939
Alcoholic Beverages Tax	347,053	325,305
Vehicle Rental Tax	85,659	80,291
Charitable Gaming	21,014	19,697
Telephone Cooperative Tax	18,709	17,536
Electric Cooperative Tax	16,488	15,455
Tire Fee	12,019	11,265
Costs(outlays) <sup>1</sup>	8,040,507	8,847,183
State Troopers	1,010,507	947,183
Education	7,030,000	7,900,000

Notes:

<sup>1</sup> Does not estimate AKDOTF road construction and maintenance.

Forecast of revenues generated for the SOA within the FNSB under both the Baseline and with the F-35 Beddown are much lower than forecast expenditures. Revenues generated for the SOA on a per capita basis are estimated to be just \$240.55, while the SOA is forecast to spend \$176 per capita on State Troopers alone. In addition, the SOA incurs the largest portion of costs for K-12 education within the FNSB. Under the baseline, the SOA is forecast to provide \$8,683 per student to the FNSBSD. With the F-35 Beddown, the SOA's average contribution per student declines by an average \$26/student because of increases in

Federal Impact Aid. However, the increase in the overall number of students with the F-35 Beddown increases the SOA's total education contribution by \$7.42 million in 2022 and \$7.62 million in 2030. The RGP notes that the expenditure estimates for the SOA do not consider additional spending by the Alaska Department of Transportation and Public Facilities for increased road and infrastructure maintenance, potential increases in spending in the university system, increased per capita spending on Medicaid, or on other state-funded social programs.

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## **Health and Social Services Organizations**



Organization	Entity Type	Website
Anchorage Community Mental Health Services	Abuse/Crisis	<a href="http://www.acmhs.com/fairbanks-community-mental-health-services">http://www.acmhs.com/fairbanks-community-mental-health-services</a>
US DoD- Bassett Army Community Hospital	Abuse/Crisis	<a href="http://www.wainwright.army.mil/sites/phone">http://www.wainwright.army.mil/sites/phone</a>
SOA - Department Of Health And Social Services	Abuse/Crisis	<a href="http://www.ajcn.state.ak.us/offices/index.html">http://www.ajcn.state.ak.us/offices/index.html</a>
Gwich'in Steering Committee	Advocacy Group	<a href="http://www.alaska.net/~gwichin/">http://www.alaska.net/~gwichin/</a>
Autism Society Of Alaska - Golden Heart Chapter	Advocacy Human Rights	<a href="http://www.asagoldenheart.org">http://www.asagoldenheart.org</a>
Disability Law Center Of Alaska	Advocacy Human Rights	<a href="http://www.dlcak.org">http://www.dlcak.org</a>
National Alliance On Mental Illness	Advocacy Human Rights	<a href="http://www.nolimitinc.org">http://www.nolimitinc.org</a>
Access Alaska	Advocacy Human Rights	<a href="http://www.accessalaska.org">http://www.accessalaska.org</a>
Alzheimer's Resource Of Alaska	Advocacy Human Rights	<a href="http://www.alzalaska.org">http://www.alzalaska.org</a>
Parents Families And Friends Of Lesbians And Gays - Fairbanks	Advocacy Human Rights	<a href="http://www.paws4ph.org">http://www.paws4ph.org</a>
Tanana Chiefs Conference - Behavioral Health	Mental Health	<a href="http://www.tananachiefs.org">http://www.tananachiefs.org</a>
Family Centered Services of Alaska, Incorporated	Mental Health	<a href="http://www.familycenteredservices.com">www.familycenteredservices.com</a>
Presbyterian Hospitality House, Incorporated	Mental Health	<a href="http://www.phhalaska.org">www.phhalaska.org</a>
Boys and Girls Home of Alaska, Incorporated	Mental Health	<a href="http://www.boysandgirlshomeofalaska.com">www.boysandgirlshomeofalaska.com</a>
Hope Counseling Center, Incorporated	Mental Health	
Department of Veterans Affairs Alaska VA Healthcare System - Fairbanks C	Mental Health	<a href="http://www.alaska.va.gov/locations/Fairbanks.asp">www.alaska.va.gov/locations/Fairbanks.asp</a>
University of Alaska Fairbanks - Health and Counseling Center	Mental Health	<a href="http://www.uaf.edu/chc/">www.uaf.edu/chc/</a>
Salvation Army (The) - Alaska Division	Child	<a href="http://www.santaseniors.com">http://www.santaseniors.com</a>
Thread	Child	<a href="http://www.thrivalaska.com">http://www.thrivalaska.com</a>
UAF - Cooperative Extension Services - Anchorage District	Child	<a href="http://www.uaf.edu/ces/districts/tribes">http://www.uaf.edu/ces/districts/tribes</a>
SOA - Department Of Health And Social Services	Child	<a href="http://www.hss.state.ak.us/dpa/programs/ccare/parents.htm">http://www.hss.state.ak.us/dpa/programs/ccare/parents.htm</a>

Organization	Entity Type	Website
Big Brothers Big Sisters Of Alaska	Child	<a href="http://www.bbbs.org">http://www.bbbs.org</a>
Boys & Girls Clubs Alaska	Child	<a href="http://www.bgcalaska.org">http://www.bgcalaska.org</a>
SOA - Department Of Health And Social Services	Child	<a href="http://dhss.alaska.gov/dpa/Pages/nutri/WIC/default.aspx">http://dhss.alaska.gov/dpa/Pages/nutri/WIC/default.aspx</a>
US - Bureau Of Indian Affairs - Alaska Regional Office - Juneau	Consumer	<a href="http://www.blm.gov/ak/st/en/fo/fdo.html">http://www.blm.gov/ak/st/en/fo/fdo.html</a>
North Star Council On Aging	Consumer	<a href="http://www.oxfordhouse.org/directory.php">http://www.oxfordhouse.org/directory.php</a>
Wellspring Revival Ministries	Consumer	<a href="http://www.accessalaska.org">http://www.accessalaska.org</a>
SOA - Department Of Commerce Community And Economic Development	Consumer	<a href="http://www.correct.state.ak.us/institutions/anch/anchEM.jsf">http://www.correct.state.ak.us/institutions/anch/anchEM.jsf</a>
Alaska Small Business Development Center - State Office	Consumer	<a href="http://www.aksbdc.org">http://www.aksbdc.org</a>
SOA - Department Of Health And Social Services	Consumer	<a href="http://dhss.alaska.gov/djj/Pages/default.aspx">http://dhss.alaska.gov/djj/Pages/default.aspx</a>
USDA Rural Development - Alaska State Office	Consumer	<a href="http://donyoung.house.gov">http://donyoung.house.gov</a>
Fairbanks North Star Borough	Consumer	<a href="http://fnsblibrary.org/">http://fnsblibrary.org/</a>
US - Drug Enforcement Agency District Office	Criminal	<a href="https://www.wbu.edu/campuses/fairbanks/doyon-industrial-facility.htm">https://www.wbu.edu/campuses/fairbanks/doyon-industrial-facility.htm</a>
SOA - Department Of Health And Social Services	Criminal	<a href="http://www.hss.state.ak.us/dpa/programs/ccare/parents.htm">http://www.hss.state.ak.us/dpa/programs/ccare/parents.htm</a>
SOA - Department Of Transportation And Public Facilities	Criminal	<a href="http://gov.alaska.gov/Walker/contact/office-locations.html">http://gov.alaska.gov/Walker/contact/office-locations.html</a>
American Red Cross Of Alaska	Disaster	<a href="http://www.redcross.org/Alaska">http://www.redcross.org/Alaska</a>
Fairbanks North Star Borough	Disaster	<a href="http://www.co.fairbanks.ak.us/pages/default.aspx">http://www.co.fairbanks.ak.us/pages/default.aspx</a>
Interior Alaska Center for Non-Violent Living	Domestic Violence and Sexual Assault	<a href="http://www.iacnvl.org">www.iacnvl.org</a>
Thread	Education	<a href="http://www.alaska4h.org/military.html">http://www.alaska4h.org/military.html</a>
Fairbanks Native Association	Education	<a href="http://www.fairbanksnative.org/johnson_omalley.html">http://www.fairbanksnative.org/johnson_omalley.html</a>
Alaska Works Partnership	Education	<a href="http://www.alaskaworks.org">http://www.alaskaworks.org</a>
University Of Alaska Fairbanks	Education	<a href="http://www.va.gov/directory/guide/facility.asp?ID=5128&amp;dnum=1">http://www.va.gov/directory/guide/facility.asp?ID=5128&amp;dnum=1</a>
Fairbanks Native Association	Education	<a href="http://www.fairbanksnative.org/early_head_start.html">http://www.fairbanksnative.org/early_head_start.html</a>

Organization	Entity Type	Website
Wayland Baptist University - Fairbanks - Eielson Air Force Base	Education	<a href="https://www.wbu.edu/campuses/fairbanks/ft-wainwright.htm">https://www.wbu.edu/campuses/fairbanks/ft-wainwright.htm</a>
Fairbanks North Star Borough School District	Education	<a href="http://son.k12northstar.org/cec">http://son.k12northstar.org/cec</a>
SOA - Department Of Labor And Workforce Development	Employment	<a href="http://www.labor.state.ak.us/wc/home.htm">http://www.labor.state.ak.us/wc/home.htm</a>
SOA - Department Of Labor And Workforce Development	Employment	<a href="http://www.labor.state.ak.us/esd_unemployment_insurance/call-centers.htm">http://www.labor.state.ak.us/esd_unemployment_insurance/call-centers.htm</a>
SOA - Department Of Labor And Workforce Development	Employment	<a href="http://www.labor.state.ak.us/dvr/home.htm">http://www.labor.state.ak.us/dvr/home.htm</a>
Us - Social Security Administration	Family Support	<a href="http://www.ushealthworks.com/Medical-Center/Alaska/Fairbanks.html">http://www.ushealthworks.com/Medical-Center/Alaska/Fairbanks.html</a>
Fairbanks Resource Agency	Family Support	<a href="http://www.fra-alaska.net">http://www.fra-alaska.net</a>
Banner Health - Fairbanks Memorial Hospital	Family Support	<a href="http://www.bannerhealth.com/Locations/Alaska/Fairbanks+Memorial+Hospital/">http://www.bannerhealth.com/Locations/Alaska/Fairbanks+Memorial+Hospital/</a>
Planned Parenthood Of The Great Northwest	Family Support	<a href="http://www.rescare.com">http://www.rescare.com</a>
Fairbanks Native Association	Family Support	<a href="http://www.fairbanksnative.org">http://www.fairbanksnative.org</a>
ResCare	Family Support	<a href="http://www.restoreinc.org">http://www.restoreinc.org</a>
SOA - Department Of Revenue	Family Support	<a href="http://dot.alaska.gov/faiiap/police-fire">http://dot.alaska.gov/faiiap/police-fire</a>
Healy Lake Village	Federally Recognized Tribe	
Aar Free Tax-Aide Sites	Financial	<a href="http://www.myfreetaxes.com/">http://www.myfreetaxes.com/</a>
Santa's Senior Center	Food	<a href="http://www.doa.alaska.gov/pda/Offices.html">http://www.doa.alaska.gov/pda/Offices.html</a>
SOA - Department Of Health And Social Services	Food	<a href="http://www.hss.state.ak.us/dph">http://www.hss.state.ak.us/dph</a>
Stone Soup Café	Food	<a href="http://www.tananachiefs.org">http://www.tananachiefs.org</a>
SOA- Department Of Health And Social Services	Food	<a href="http://www.dhss.alaska.gov/dpa/Pages/nutri/WIC/">http://www.dhss.alaska.gov/dpa/Pages/nutri/WIC/</a>
Family Centered Services Of Alaska	Foster	<a href="http://www.familycenteredservices.com">http://www.familycenteredservices.com</a>
SOA - Alaska Legislature	Government	<a href="http://www.stonesoupcafe.org">http://www.stonesoupcafe.org</a>
SOA Department Of Labor And Workforce Development	Government	<a href="http://www.csed.state.ak.us">http://www.csed.state.ak.us</a>
SOA Office Of The Governor - Juneau Office	Government	<a href="http://www.acca-ilp.org">http://www.acca-ilp.org</a>
SOA - Department Of Health And Social Services	Government	<a href="http://dhss.alaska.gov/ocs/Pages/default.aspx">http://dhss.alaska.gov/ocs/Pages/default.aspx</a>

Organization	Entity Type	Website
Fairbanks Regional Public Health Center	Health	<a href="http://www.hss.state.ak.us/dph/nursing/">www.hss.state.ak.us/dph/nursing/</a>
Chief Andrew Isaac Health Center	Health	<a href="http://www.tananachiefs.org">http://www.tananachiefs.org</a>
Interior Community Health Center - ICHC	Health	<a href="http://www.myhealthclinic.org">www.myhealthclinic.org</a>
Fairbanks Memorial Hospital	Health	<a href="https://www.bannerhealth.com">https://www.bannerhealth.com</a>
Graf-Rheeneerhaahii (Healing Place)	Health	
Ralph Perdue Center	Health	<a href="http://www.fairbanksnative.org">www.fairbanksnative.org</a>
Fairbanks Community Mental Health Center, Incorporated	Health	<a href="http://www.acmhs.com/fairbanks-community-mental-health-services">http://www.acmhs.com/fairbanks-community-mental-health-services</a>
Interior AIDS Association	Health	<a href="http://www.interioraids.org">http://www.interioraids.org</a>
UAF - Cooperative Extension Services - Anchorage District	Health Dental	<a href="http://www.ctc.uaf.edu">http://www.ctc.uaf.edu</a>
Alaska Health Fair	Health Dental	<a href="http://www.alaskahealthfair.org">http://www.alaskahealthfair.org</a>
Blood Bank Of Alaska	Health Dental	<a href="http://www.bloodbankofalaska.org">http://www.bloodbankofalaska.org</a>
Alaska Dental Arts	Health Dental	<a href="http://www.alaskadentalarts.com/fairbanks">http://www.alaskadentalarts.com/fairbanks</a>
Paws For Purple Hearts - Fairbanks, Alaska	Health Dental	<a href="http://www.plannedparenthood.org/ppgnw">http://www.plannedparenthood.org/ppgnw</a>
US Healthworks - North Care Lake Otis Clinic	Hospitals	<a href="http://www.sullivan.senate.gov">http://www.sullivan.senate.gov</a>
Value Village	Household	<a href="http://www.wbu.edu/colleges-in-fairbanks">http://www.wbu.edu/colleges-in-fairbanks</a>
Love In The Name Of Christ Of The Tanana Valley	Household	<a href="http://www.loveincfairbanks.org">http://www.loveincfairbanks.org</a>
Moore Street Senior Apartments	Housing	<a href="http://www.nami.org/Local-NAMI?state=AK">http://www.nami.org/Local-NAMI?state=AK</a>
Alaska Housing Finance Corporation	Housing	<a href="http://www.ahfc.us">http://www.ahfc.us</a>
Ben Lomond, Inc	Housing	<a href="http://www.benlomondinc.com/executive-estates">http://www.benlomondinc.com/executive-estates</a>
SOA - Department Of Health And Social Services	Housing	<a href="http://dhss.alaska.gov/dpa/Pages/ccare/default.aspx">http://dhss.alaska.gov/dpa/Pages/ccare/default.aspx</a>
Association Of Alaska Housing Authorities	Housing	<a href="http://www.irha.org">http://www.irha.org</a>
Interior Regional Housing Authority	Housing Authority	<a href="http://www.irha.org/">http://www.irha.org/</a>
SOA - Department Of Administration	Legal	<a href="http://commerce.state.ak.us/dnn/dcra/staffdirectory.aspx">http://commerce.state.ak.us/dnn/dcra/staffdirectory.aspx</a>

Organization	Entity Type	Website
SOA - Department Of Administration	Legal	<a href="http://doa.alaska.gov/opa/home.html">http://doa.alaska.gov/opa/home.html</a>
SOA - Department Of Revenue	Legal	<a href="http://www.pfd.state.ak.us">http://www.pfd.state.ak.us</a>
Alaska Legal Services Corporation (Fairbanks Office)	Legal Assistance	
SOA - Department Of Labor And Workforce Development	Medical / Dental	<a href="http://www.labor.alaska.gov/offices/wh-of.htm">http://www.labor.alaska.gov/offices/wh-of.htm</a>
Family Centered Services Of Alaska	Mental Health	<a href="http://www.familycenteredservices.com">http://www.familycenteredservices.com</a>
US - Department Of Veterans Affairs	Mental Health	<a href="http://www.socialsecurity.gov">http://www.socialsecurity.gov</a>
Restore Incorporated	Mental Health	<a href="http://www.salvationarmyalaska.org">http://www.salvationarmyalaska.org</a>
US/DoD - Alaska National Guard - Warrior And Family Assistance Center	Military	<a href="http://www.ftwainwrightfmwr.com/acs.html">http://www.ftwainwrightfmwr.com/acs.html</a>
US/DoD - Alaska National Guard - Airman And Family Readiness Center	Military	<a href="http://www.wainwright.army.mil/asap">http://www.wainwright.army.mil/asap</a>
American Red Cross Of Alaska	Military	<a href="http://www.redcross.org/alaska">http://www.redcross.org/alaska</a>
Tanana Chiefs Conference, Department of Health Services	Native Health Care Provider	<a href="https://www.tananachiefs.org/health/">https://www.tananachiefs.org/health/</a>
Denakanaaga', Incorporated	Native Non-Profit (Local)	
Fairbanks Native Association	Native Non-Profit (Local)	<a href="http://www.fairbanksnative.org">http://www.fairbanksnative.org</a>
Fairbanks Counseling And Adoption	Outreach Public Awareness	<a href="http://www.fcaalaska.org/street_outreach_services.html">http://www.fcaalaska.org/street_outreach_services.html</a>
SOA - Department Of Health And Social Services	Health	<a href="http://dhss.alaska.gov/dsds/Pages/adrc/default.aspx">http://dhss.alaska.gov/dsds/Pages/adrc/default.aspx</a>
City Of Fairbanks	Health	<a href="http://www.fairbanksalaska.us/departments/fire-department">http://www.fairbanksalaska.us/departments/fire-department</a>
Bureau Of Land Management - Alaska State Office	Health	<a href="http://www.valuevillage.com/">http://www.valuevillage.com/</a>
Oxford House	Shelters	<a href="http://www.fairbanksplag.org">http://www.fairbanksplag.org</a>
Fairbanks Youth Advocates	Shelters	<a href="http://www.fairbanksyouthadvocates.org">http://www.fairbanksyouthadvocates.org</a>
Fairbanks Rescue Mission	Shelters	<a href="http://www.fairbanksrescuemission.org">http://www.fairbanksrescuemission.org</a>
Geo Group (The)	Shelters	<a href="http://www.geogroup.com/Maps/LocationDetails/100">http://www.geogroup.com/Maps/LocationDetails/100</a>
Fairbanks Community Food Bank Service, Incorporated	Social Service	<a href="http://www.fairbanksfoodbank.org">http://www.fairbanksfoodbank.org</a>



Organization	Entity Type	Website
Northwest Resource Associates	Social Service	<a href="http://www.nwresource.org">http://www.nwresource.org</a>
Us/DoD - Army Community Service	Substance Abuse	<a href="http://www.alaska.amedd.army.mil/about/About_Bassett_army_community_hosp">http://www.alaska.amedd.army.mil/about/About_Bassett_army_community_hosp</a>
Fairbanks Native Association	Substance Abuse	<a href="http://www.fairbanksnative.org">http://www.fairbanksnative.org</a>
Women and Children's Center for Inner Healing	Substance Treatment Services	<a href="http://www.fairbanksnativeassociation.org">www.fairbanksnativeassociation.org</a>
Turning Point Counseling Services, Limited Liability Corporation	Substance Treatment Services	<a href="http://www.turningpointcounselingservices.com">www.turningpointcounselingservices.com</a>
Project Special Delivery	Substance Treatment Services	<a href="http://www.interioraids.org">www.interioraids.org</a>
American Lung Association In Alaska	Support Groups	<a href="http://www.lung.org">http://www.lung.org</a>
GCI	Utilities	<a href="http://www.gci.com">http://www.gci.com</a>

