



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

Challenges¹ – 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

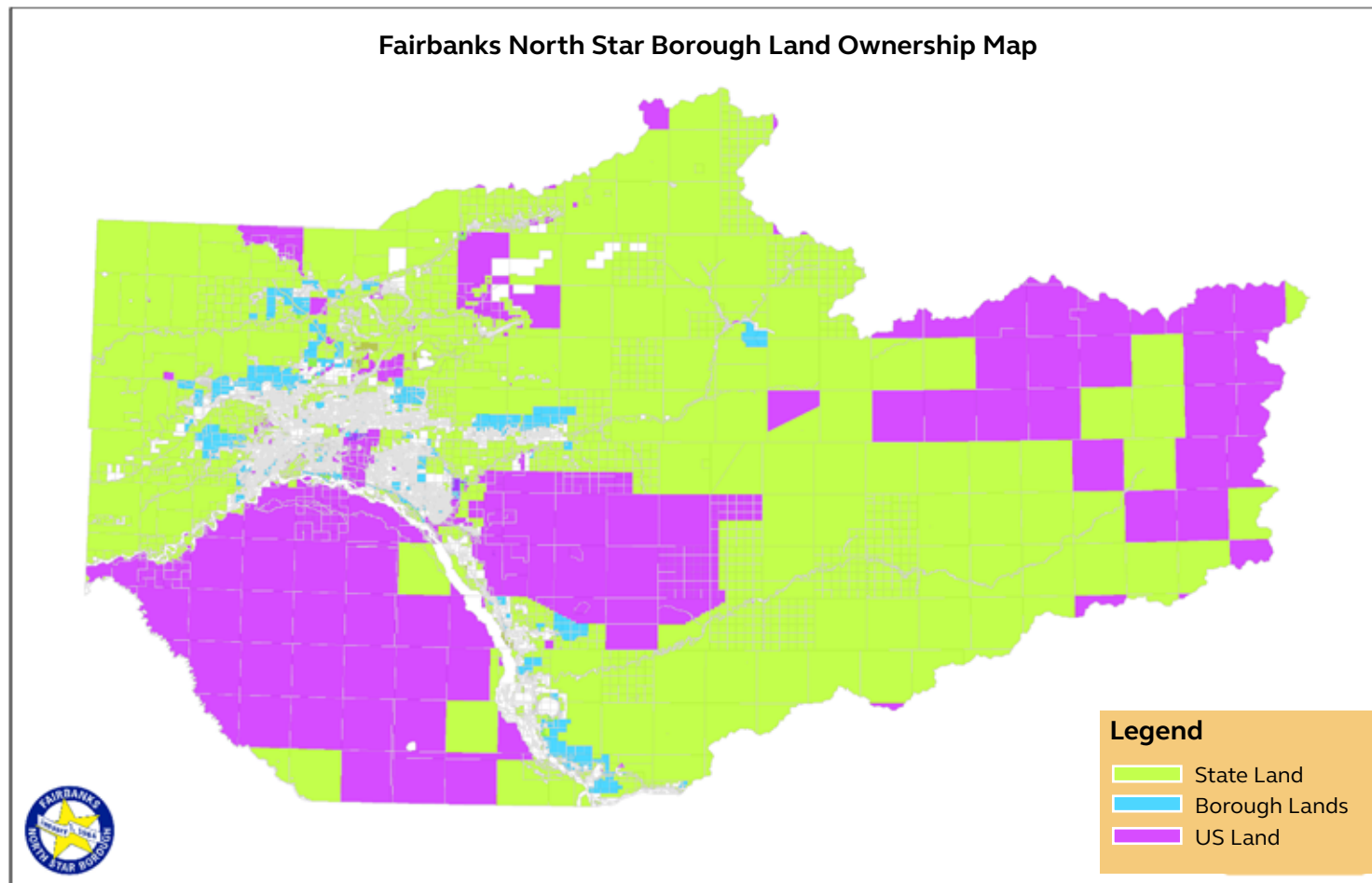
The borough encompasses an area of about 7,000 square miles. Like most regions of Alaska, most land in the FNSB is publicly owned (see Figure 1 on the following page). The State of Alaska is the largest landowner, with 68 percent of all lands in the Borough. The next largest landowner is the federal 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

¹ 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.

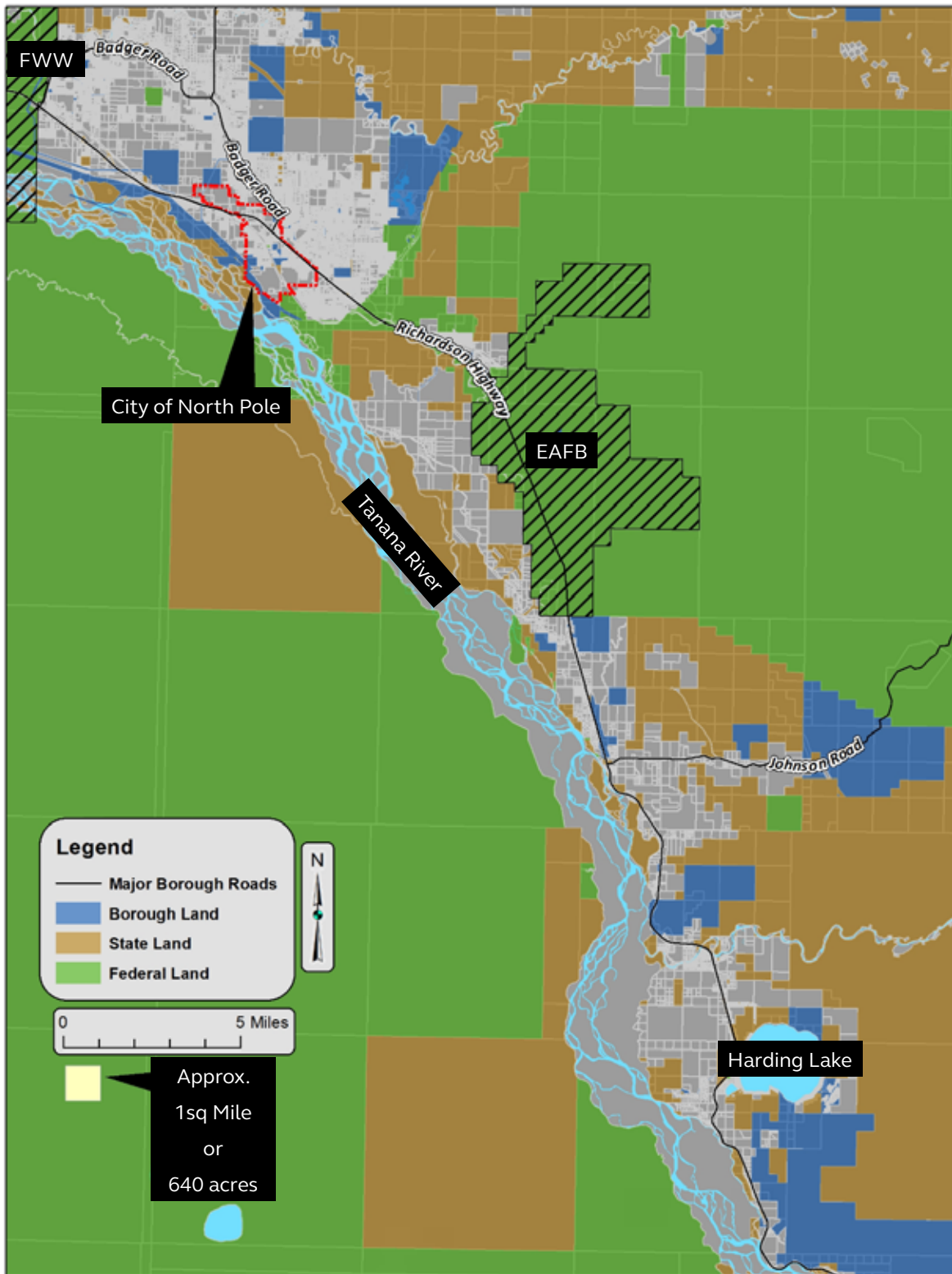
FIGURE 1: FNSB REGIONAL LAND OWNERSHIP



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

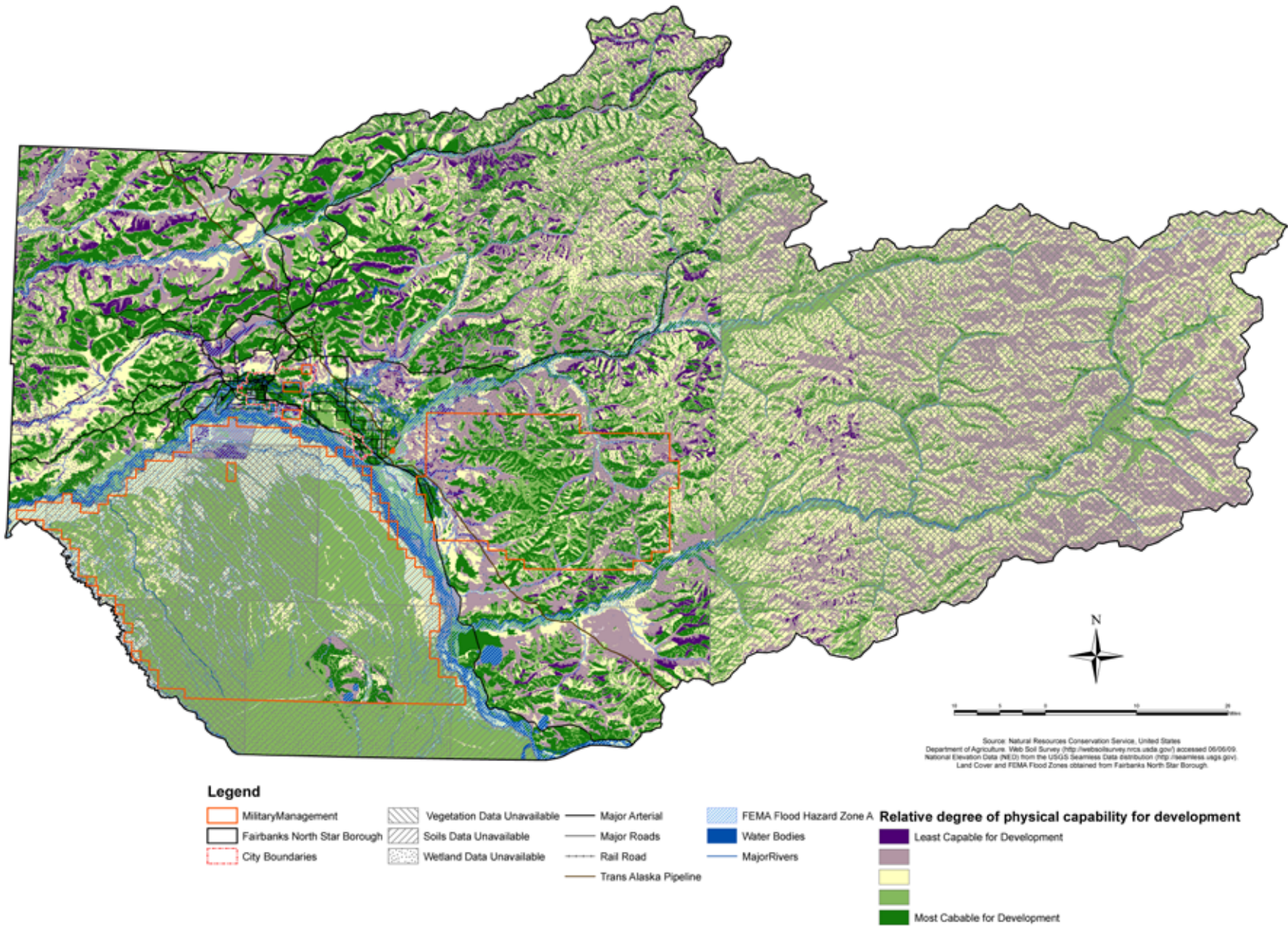
While the FNSB does include substantial areas of well drained, forested lands with minimal constraints for construction, much of the region is made up of wetlands, permafrost, flood zones, steep slopes and other significant natural constraints. A 2010 Borough study used a GIS-based approach (geographic 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 DEVELOPMENT²

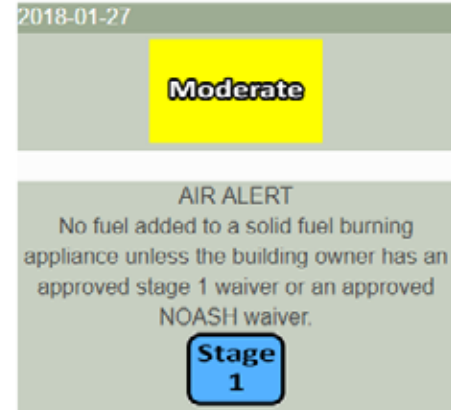


² GIS-based Land Use Capability Map + Alternative Futures Analysis, FNSB/Agnew::Beck, 2010.

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_{2.5} air quality standard (“PM_{2.5}” 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 standard³.

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



³ 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

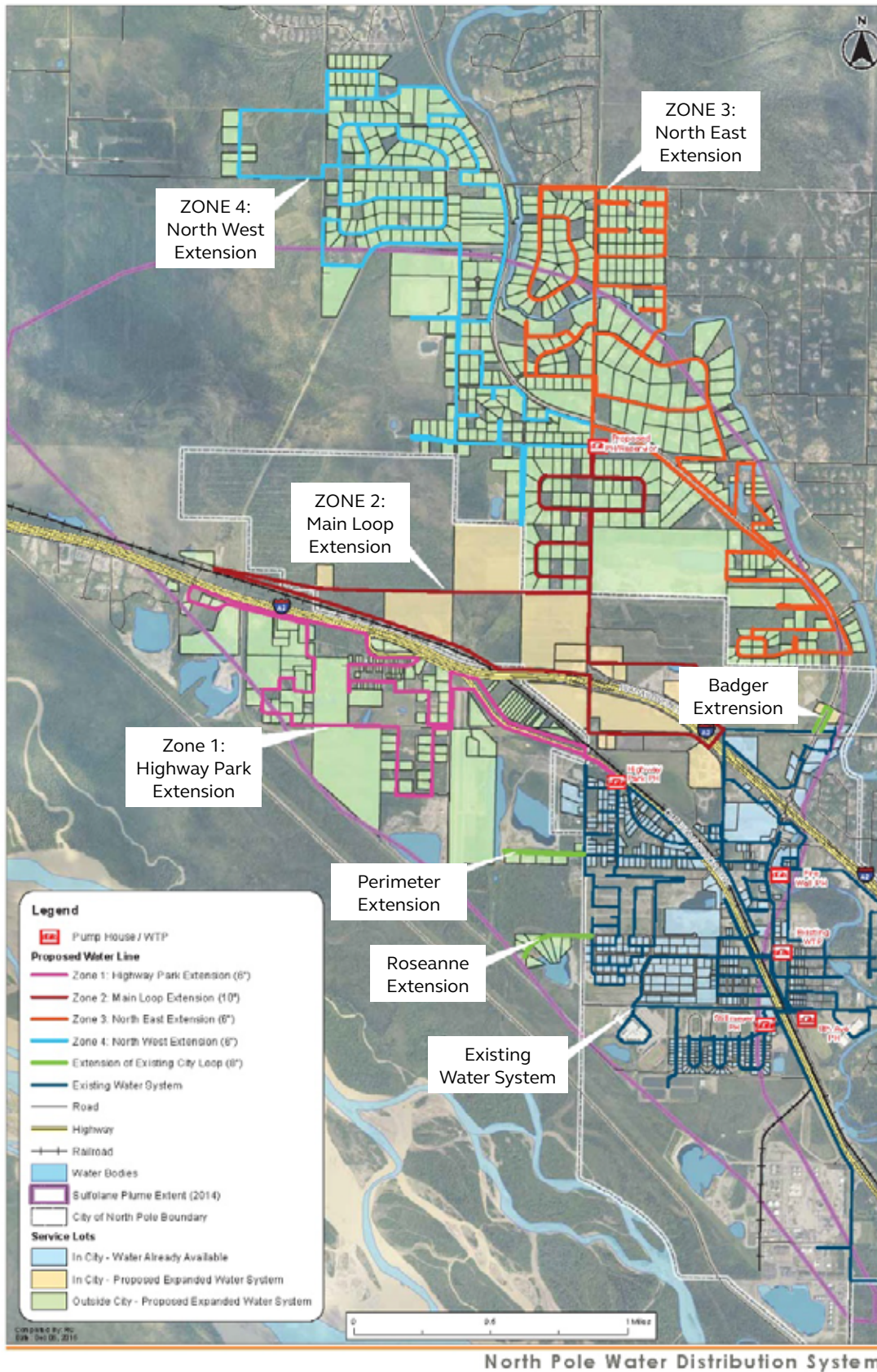
The region's history, as well as natural factors like topography, wetlands and permafrost, collectively create challenges for meeting needs for water and wastewater disposal. Provision of public water and sewer requires advance planning and substantial funding. These realities, coupled with a preference 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.

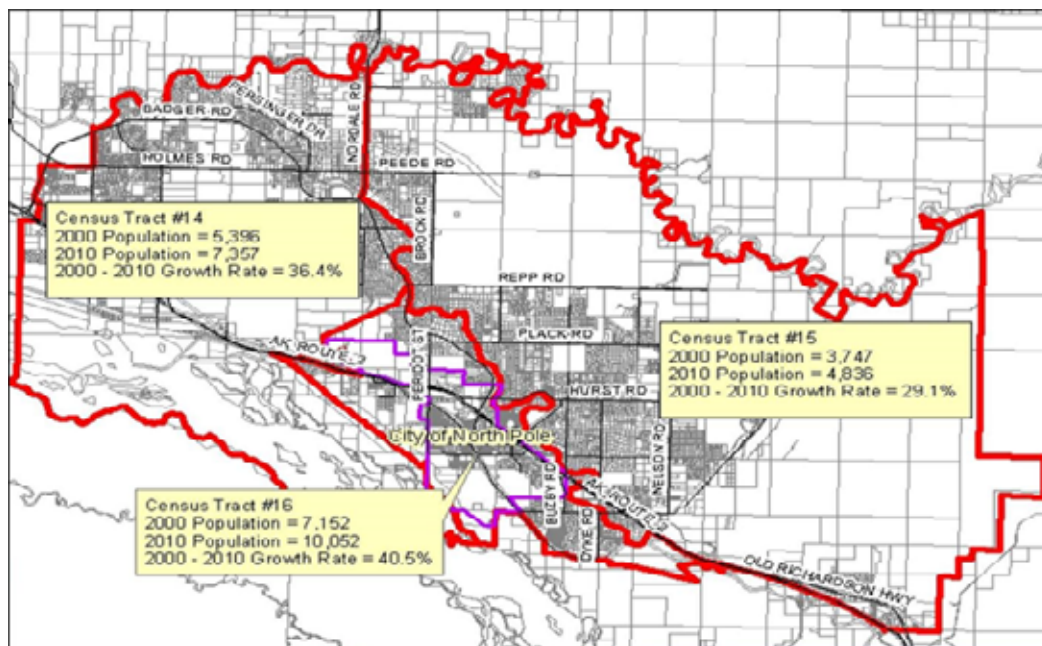
These growth trends are expected to continue. As part of the 2013-2014 update of the FMATS transportation model, the “Geographic Allocation of Household and Commercial Acre Growth within the FMATS Travel Demand Model Area” identifies the 99705 zip code as one of the areas of the borough most likely to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

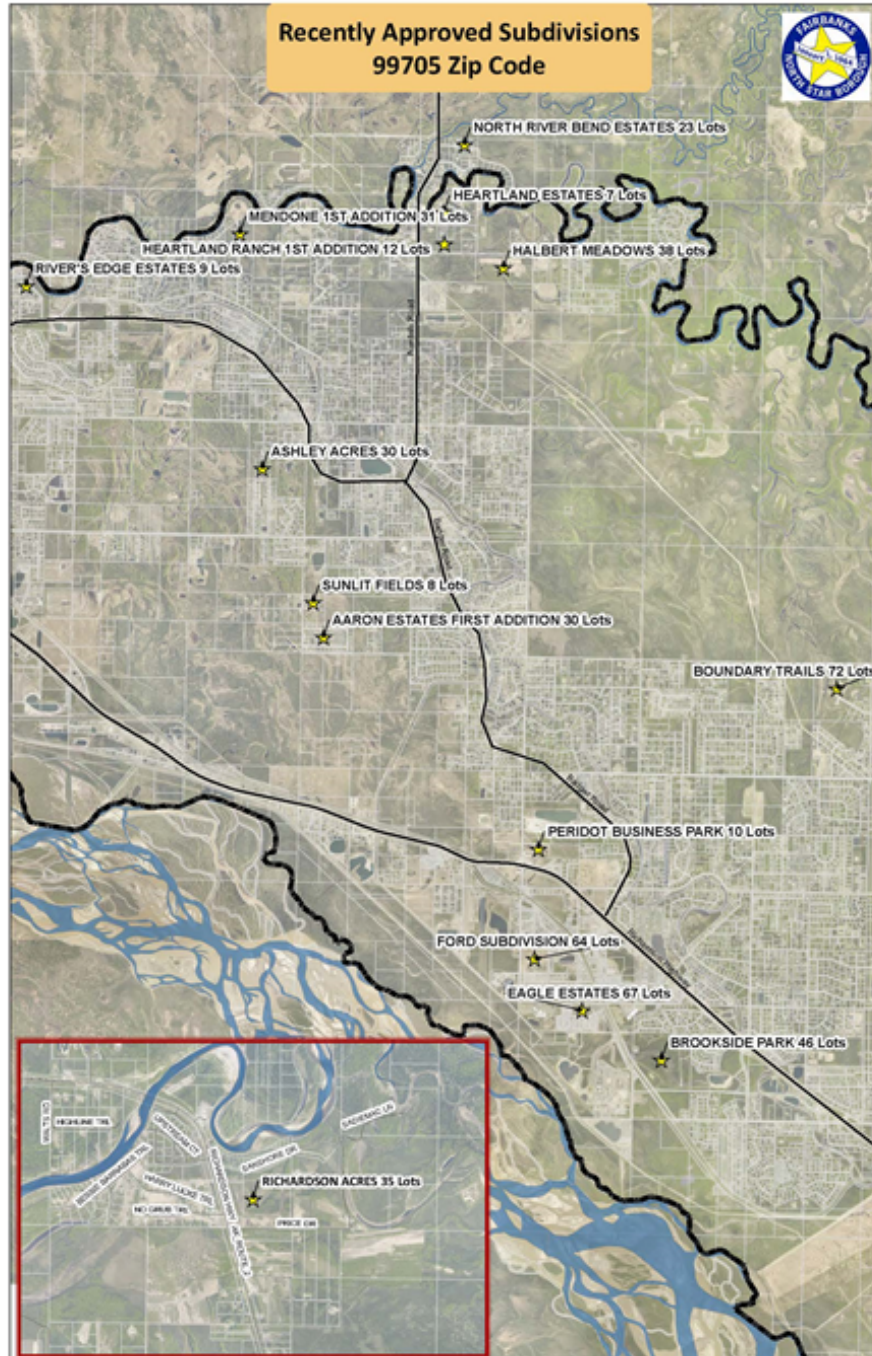


Source: FNSB/Kittelson Regional FMATS Travel Demand Analysis, 2014
 FNSB Eielson AFB Regional Growth Plan, September 2018

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 AFB⁴.
- 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.

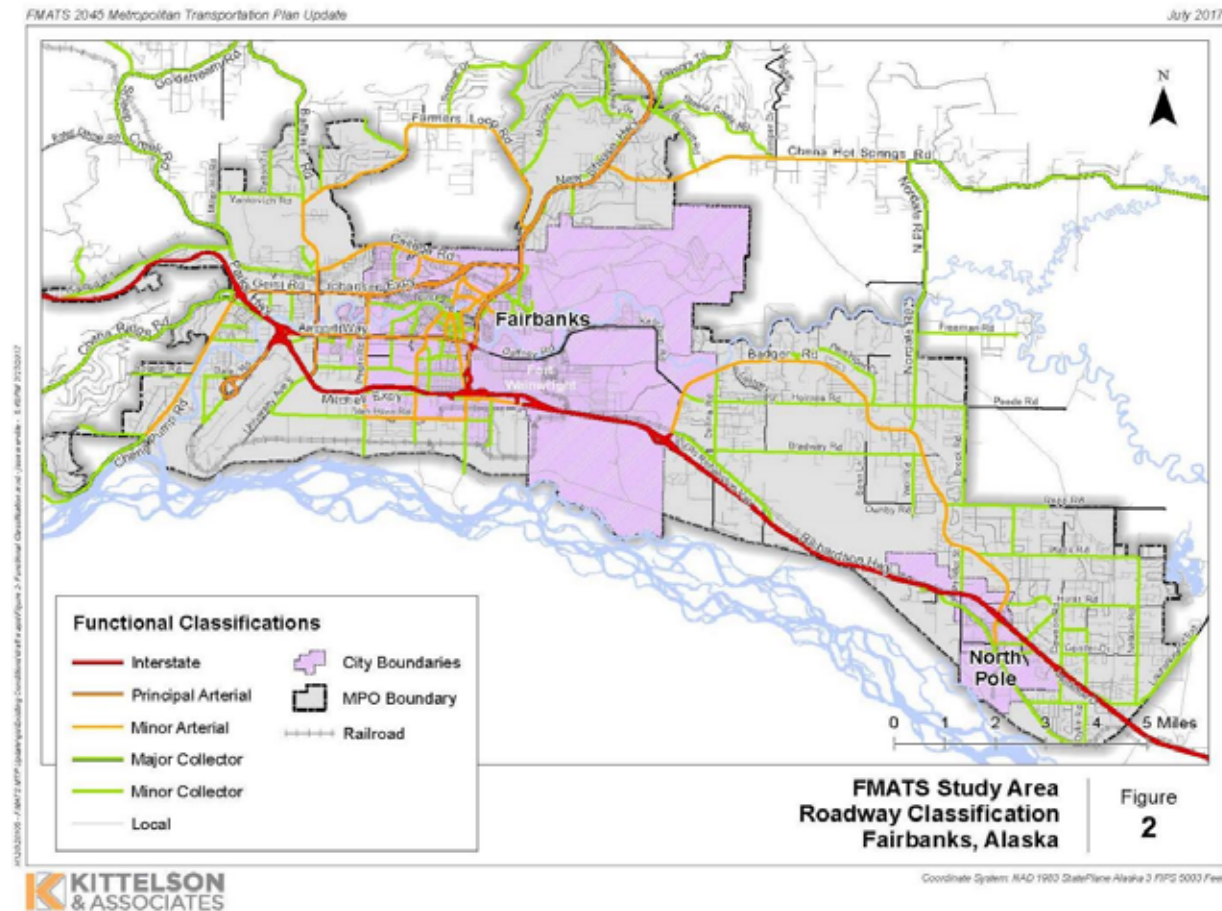
⁴ A Military Noise Overlay was adopted by the Borough in 2015. The revised EAFB Air Installation Compatible Use Zone (AICUZ) is now available. There are some changes, such as new contours that extend over the Moose Creek area. Ft. Wainwright had a new ICUZ study completed December 2017.

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

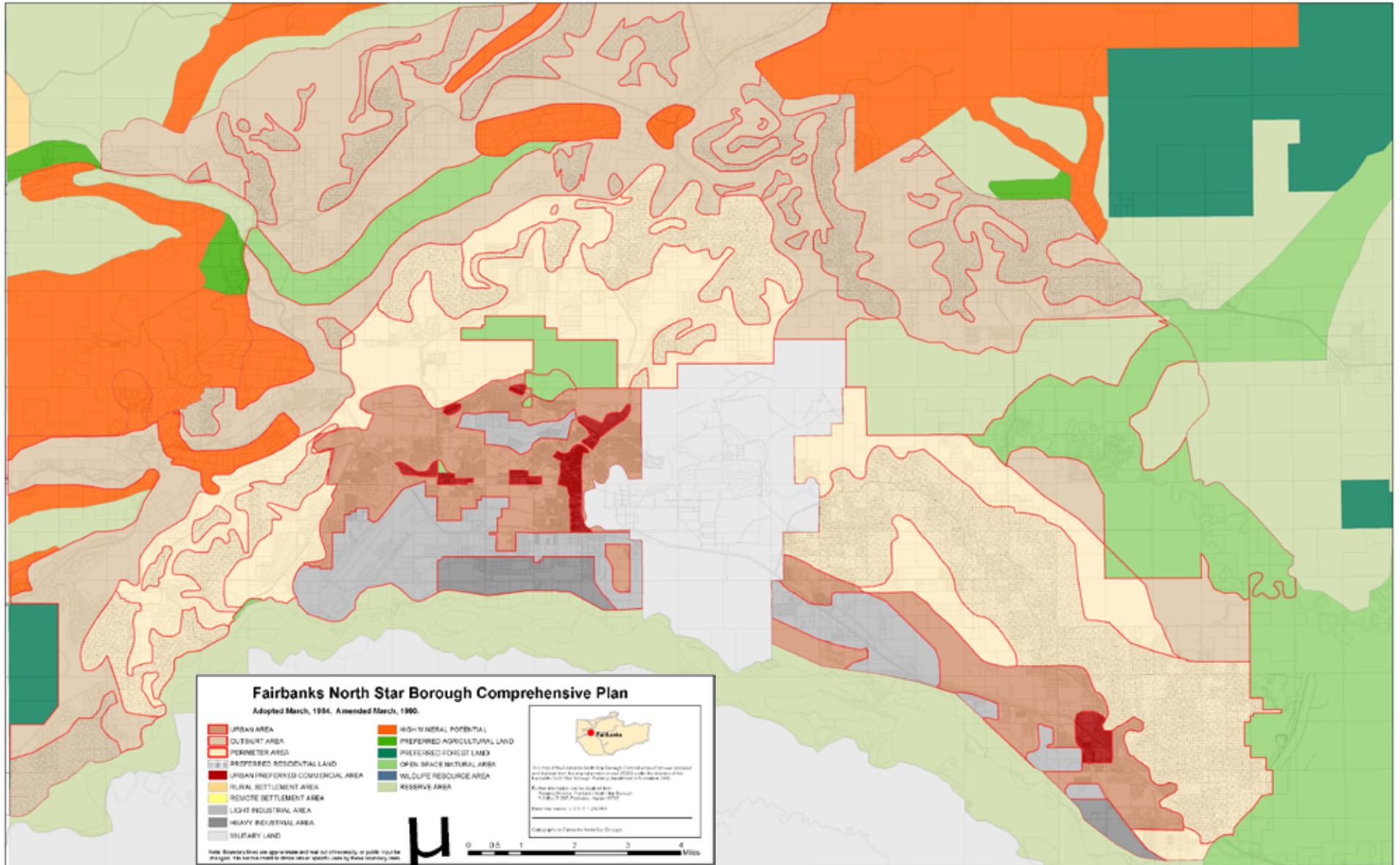


Figure 10 shows eight of 10 FNSB overlay zones, which are in addition to the zoning classifications and are used to identify unique attributes or characteristics of certain areas, such as airport noise sensitive areas, mobile home subdivision, or waterways setback.

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
TOTAL		1,053,584	1,294,821	545,670	66,969	834,034	1,154,212	17,006
OVERLAY								
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			
OVERLAY TOTAL		0	21,311	10,106	25,087	15,091	821	6,058
* 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, 2010⁵

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

⁵ 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 partners⁶ 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.

⁶ 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

