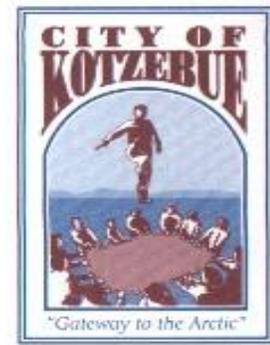


City of Kotzebue Public Review Draft Comprehensive Plan

April 16, 2012



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Copies of plan available from:

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Abbreviations

ACMP	Alaska Coastal Management Program
AD	Anno Domini
ANCSA	Alaska Native Claims Settlement Act
ARWA	Alaska Rural Water Association
ATV	All Terrain Vehicle
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
ca	Circa (about)
DMV	Division of Motor Vehicles
EMS	Emergency Medical Service
F	Fahrenheit
FAA	Federal Aviation Administration
DOTPF	Alaska Department of Transportation and Public Facilities
HDPE	High-density polyethylene
IC	Interim Conveyances
KEA	Kotzebue Electric Association
KIC	Kikiktagruk Iñupiat Corporation
KMC	Kotzebue Municipal Code
KRM	Kateel River Meridian
LHMP	Local Hazard Mitigation Plan
Lbs	Pounds
MLLW	Mean lower low water
NAHASDA	Native American Housing and Self-Sufficiency Development Act
NANA	NANA Regional Corporation
NWAB	Northwest Arctic Borough
NWABSD	Northwest Arctic Borough School District
PILT	Payment in Lieu of Taxes
PVC	Polyvinyl chloride
TRAAK	Trails and Recreational Access for Alaska Grant Program
UAF	University of Alaska Fairbanks
USGS	United States Geological Survey

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Chapter 1: Comprehensive Planning

1.1 Introduction

The Comprehensive Plan provides the most important guidance for land use and infrastructure decisions in the City of Kotzebue (City). The plan presents an opportunity for the community to review where it wants to go and how to get there. It also provides an opportunity to assess issues, set goals and take advantage of new opportunities. While the plan focusses on issues related to the City, it also addresses issues beyond City authority or responsibility that have been identified by the community. With this consideration, implementation of the plan will take a cooperative effort among agencies, organizations and residents to reach the goals and objectives of this plan,

Change constantly provides new opportunities and challenges. For a city, management of change is a vital component of what it does to improve the quality of life of its citizens.

In recognition of the importance of managing change, Title 29 of the Alaska Statutes mandates that boroughs implement planning and land use regulation. With delegation of planning powers from the Northwest Arctic Borough (Borough), the City of Kotzebue is responsible for completion of its own comprehensive plan.

A comprehensive plan provides an opportunity to analyze past development, create a vision for the community, and establish policies to guide future development. A comprehensive plan can have many uses, including provision of a forum for residents to have meaningful input into planning for Kotzebue’s future. The completed plan provides a base upon which city officials make decisions and a tool to ensure the desirable development of the city. Another important use of a comprehensive plan is to demonstrate to funding agencies that proposed infrastructure or development projects are consistent with community desires through alignment with the goals and objectives of the Comprehensive Plan.

What’s in a Comprehensive Plan?

The key elements of a comprehensive plan are summarized in Alaska Statutes (AS 29.40.030):

(a) The comprehensive plan is a compilation of policy statements, goals, standards, and maps for guiding the physical, social, and economic development, both private and public, of the first or second class borough, and may include, but is not limited to, the following:

- (1) statements of policies, goals, and standards;*
- (2) a land use plan;*
- (3) a community facilities plan;*
- (4) a transportation plan; and*
- (5) recommendations for implementation of the comprehensive plan.*

This introduction provides background information about comprehensive planning.

- Section 1.2 describes the history of city planning in Kotzebue
- Section 1.3 summarizes the process used to develop the 2012 plan revision
- Section 1.4 documents changes that have occurred since the 2000 plan
- Section 1.5 lists other plans and documents that relate to the Comprehensive Plan

When using the Comprehensive Plan, it is not necessary to read it from front to back. Instead, users may wish to consult the table of contents to locate sections of interest. Chapter 2 contains background information about the community and information that provides the basis for the goals, objectives and strategies in Chapter 3. The Comprehensive Plan is meant to be a living document, and the implementation of the plan is described in Chapter 4. The reference section provides citations for documents used in the development of the revised plan, and the appendices provide additional information that may be of use to readers.

1.2 City of Kotzebue Planning

The City of Kotzebue has a long history of planning. It has exercised certain planning powers and authorities since its incorporation in 1958. Beginning in 1975, Kotzebue has used its planning authority through enactment of ordinances, and in 1980 it established a planning commission. The Municipal Code had been regularly updated since then, including the addition of Subdivision Ordinances in 2010.

When formed in 1986, the Northwest Arctic Borough (NWAB) explored options for Kotzebue to retain planning authorities. Through a series of Borough and Kotzebue City Council ordinances, the City has been able to continue planning, platting and zoning activities.

- **NWAB Ordinance 86-2:** This ordinance included a provision to negotiate with Kotzebue regarding the relationship between Borough and City planning.
- **NWAB Ordinance 89-47:** This 1989 Borough ordinance requested continued delegation of planning and zoning powers with no timeframe for this delegation.
- **NWAB Ordinance 89-21:** This 1990 ordinance amended NWAB Code 8.12.030 to delegate planning, platting and land use regulation authority to the City of Kotzebue.
- **City of Kotzebue Ordinance 01-02:** In 2000, the City accepted delegation of planning, platting and land use regulations authority from the Borough.

Starting in 1971, a number of draft comprehensive plans were completed.³ While not officially adopted, these draft plans provided direction for the Planning Commission and the City Council. During 1999, the City conducted an extensive public involvement process that included a series of visioning sessions which led to the development of 12 issue papers.⁴ It was not until November 2000 that the City Council officially adopted the first Comprehensive Plan (Ordinance 01-03).

Although the City Code references zoning districts which were proposed in conjunction with the 1976 Comprehensive Plan, the City Council has not adopted a zoning map.

1.3 Planning Process for the 2012 Comprehensive Plan

Preparations for this Comprehensive Plan revision began with discussions at a Trilateral Meeting among the City of Kotzebue, Kikiktagruk Iñupiat Corporation (KIC), and Native Village of Kotzebue held on March 13, 2009. The group decided the City Planning Commission would take the lead on developing a new plan with the support from the Native Village of Kotzebue. Follow-up discussions

³ Draft plans were prepared in 1971, 1972, 1976, 1982, 1985, 1986, 1987, and 1994.

⁴ The 12 issue papers, included as an appendix in the 2000 plan, addressed the following topics: Community expansion, land, housing, gravel, freight, economic development, safety, transportation, infrastructure, recreation, culture/historic preservation, and energy.

between the City Planning Commission and the Native Village of Kotzebue resulted in the decision to have the City Planner develop the comprehensive plan “in house” with help from City staff.

Turnover of personnel in the City Planner’s office delayed the start of work on the plan revision. After a new City Planner was hired, plan development began in February 2010 with a letter to the public and other stakeholders announcing the start of the process and asking for their support and input in the development of the plan. A period of time was allowed for input and information gathering, and a series of Planning Commission work sessions laid the foundation for the new plan.

An official public kickoff meeting was held in August of 2010 to begin gathering input from the general public. This meeting was announced through public postings, radio announcements, and letters. Following the kickoff meeting, input was solicited during public meetings, including Planning Commission work sessions. The 2000 plan provided the basis for the new plan, and it was revised to align with the current needs of the community. An extensive review of the goals in the 2000 plan was completed to determine which goals were met, partially met or not reached (See Appendix A).

In January 2012, the City contracted with Glenn Gray and Associates to complete the final plan. Two public meetings and numerous other meetings with organizations and agencies were held to obtain input. After the Planning Commission is satisfied with the draft plan, it will pass a resolution recommending approval of the plan that will be forwarded to the Kotzebue City Council for adoption. Appendix B documents the public involvement process including public meetings and meetings with organizations and agencies.

1.4 Changes since the 2000 Comprehensive Plan

The Comprehensive Plan provides a road map for continual improvements to the community made by the City of Kotzebue and other organizations such as Maniilaq, NANA, KIC, Native Village of Kotzebue, Kotzebue Electric Association, and the Alaska Department of Transportation and Public Facilities. Substantial enhancements have been made to the City’s infrastructure since the 2000 plan as summarized in the following bullets.

- **Water System:**
 - Refurbishment of the old water storage tank
 - Construction of a new water storage tank
 - Replacement of water main loops
 - Replacement of the raw water line from Vortac Lake
- **Sewer System:**
 - Replacement of several lift stations in the sewer
 - Replacement of sewer mains
 - Expansion of the Sewer Lagoon
- **Roads:**
 - Completion of the hillside road by the Native Village of Kotzebue
 - Paving of roads within the city including 5th Avenue
 - Erosion control and improvements to Shore Avenue
 - Dust control on gravel roads
- **Airport:** State of Alaska improvements to facilities and improved safety
- **Solid Waste:** Construction of the new landfill

In addition to City infrastructure, many other changes have taken since the 2000 plan. Maniilaq completed a senior apartment complex, upgraded Emergency Medical Service (EMS) equipment, and constructed an elder care facility. The Northwest Arctic Borough moved to new offices on Lagoon Street, and the School District completed major additions to the High School/Middle School. Kotzebue Electric Association (KEA) expanded and improved its wind generation capacity. In 2011, NANA completed construction of a new 78-room hotel with a restaurant. The National Park Service also contributed to the community by construction of the 12,350 square foot Northwest Arctic Heritage Center near the airport that includes a visitor center and administrative space.

These improvements all lead to a better quality of life in the city. The table in Appendix A includes a comprehensive list of the status of goals and objectives identified in the 2000 Comprehensive Plan.

1.5 Documents Complementing the Comprehensive Plan

A number of other documents and plans complement the Comprehensive Plan. Relevant documents are cited throughout the plan with full references provided at the end of the plan. Table 1 lists plans developed by the City, Borough and State of Alaska that relate to issues in the Comprehensive Plan.

The 2000 Comprehensive Plan includes some useful information not incorporated into this plan. It provides detailed information about previous planning efforts, 12 issue papers and annotated bibliography that provides a historical context for current issues.

Table 1: Other Plans that Relate to the Comprehensive Plan

Author	Date	Plan
City of Kotzebue	2011	Sanitation Utilities Development Plan
	2008	Local Hazards Mitigation Plan
	1997	Kotzebue Transportation Plan
	1999	Utilities Master Plan
	2011	Sanitation Utilities Development Plan
	2001	Disaster Response Plan
Northwest Arctic Borough	2011	Coastal Management Plan ⁵
	2009	Multi-Jurisdictional All-Hazards Mitigation Plan
	1993	Northwest Arctic Borough Comprehensive Plan
Northwest Arctic Borough Economic Development Commission	2004	Northwest Arctic Borough Comprehensive Economic Development Strategy ⁶
NANA	2010	The Northwest Arctic Strategic Energy Plan ⁷
Maniilaq Association	2012	Strategic Operating Plan
State of Alaska – DOTPF	2004	Northwest Alaska Transportation Plan
	1998	Kotzebue Airport Master Plan

⁵ Although adopted by the Borough Assembly, this plan was not approved before the Alaska Coastal Management Program was allowed to sunset in July 2011.

⁶ The Economic Development Commission was updating this plan in 2012 and expected to focus on village economic development.

⁷ As of the spring of 2012, the Northwest Arctic Strategic Energy Plan was being updated, and the City of Kotzebue had not adopted the Kotzebue portion of the plan.

Chapter 2: Kotzebue Today

This chapter provides background information about the community that sets the stage for the goals and objectives in Chapter 3. The major subjects discussed in the chapter include:

- Section 2.1 – Natural Setting,
- Section 2.2 – Prehistory, History and Culture,
- Section 2.3 – Population and Housing,
- Section 2.4 – Kotzebue’s Economy;
- Section 2.5 – Transportation;
- Section 2.6 – Community Facilities and Infrastructure, and
- Section 2.7 – Land Use, Ownership and Planning.

2.1 Natural Setting

This section provides background information about the community’s setting and the natural physical and biological features of the area.

2.1.1 Location

Kotzebue is a community of 3,201 people located on the Baldwin Peninsula approximately 26 miles north of the Arctic Circle adjacent to the Chukchi Sea.⁸ Situated on the shores of Kotzebue Sound, the community is about 150 miles northeast of the Bering Strait and 549 air miles northwest of Anchorage. Kotzebue lies on a 3-mile long spit at the northwest end of Baldwin Peninsula that varies from about 1,100 feet in width to 3,600 feet in width. It is located at Latitude 66°, 54’ North, Longitude of 162°, 38’ West. The core of the community is located on land designated as a townsite under the Alaska Native Town Site Law of 1926 and contained in four U.S. Surveys (See Map 2: Kotzebue Core Map).



Map 1: Kotzebue Vicinity Map

2.1.2 Geology, Topography and Soils

Topography: Broad glacial moraines, rising up to 150 feet above the general surface, form the topographic backbone of the Baldwin Peninsula. Rolling hills and broad, flat expanses make up the rest of the peninsula. The rolling topography typically is bordered by coastal bluffs that rise 20-100 feet above the water. The ground is marked by large polygons formed by ice wedges with lakes that thaw in summer. The core developed area of the community and the areas south of town are composed of a series of former beach ridges.

⁸ The 2010 Census estimated the population to be 3,201 people.

Geology: The Baldwin Peninsula is composed of unconsolidated sediments deposited in the Quaternary period. These sediments are primarily eolian (wind), glacial and marine in origin. Glaciers during the Illinoian period deposited materials over marine sediments. During the retreat of the glaciers, windblown silt (loess) was deposited over the glacial sediments. The sea level rose after the glacial retreat, and marine sediments were deposited over the windblown silts in some areas.

The surface soils that cover virtually all of the Baldwin Peninsula are primarily re-transported loess and thaw-lake deposits. The glacial sediments consist primarily of silts. The oldest sediments exposed in the coastal bluffs of the peninsula are marine clays, silts and fine sands upon which the glacial sediments were deposited.

A petroleum exploration well, drilled 10 miles east of Cape Blossom near Nimiuk Point in 1974, encountered bedrock at a depth of 900 feet. The nearest bedrock outcrops at sea level are on the Choris Peninsula to the southeast, at Ekichuk Lake near Hotham Inlet to the northeast, and at Cape Krusenstern Lagoon.

Soils: Four main types of soils are located in Kotzebue (Soil Conservation Service 1971). The majority of the land is classified as “very gravely sand” that provides good drainage in higher elevations. Lower areas have a poorly drained “gravely sand.” Another type of soil, “silt loam,” is a poorly drained, non-acidic soil that includes thick mats of organic material over stratified silt and sand. The last type of soil common to this area is peat which is a poorly drained, neutral material found in areas occasionally inundated by seawater.

Ground temperatures increase during the months of May and June and start to decrease in August. At about four to six feet from the surface, ground temperatures remain at about 20° F. The surface temperatures vary from 45° F in July and August to 15° from January through April.

Permafrost: The Baldwin Peninsula is located within the zone of continuous permafrost. Aerial photographs reveal wet tundra, thaw lakes, polygonal ground, and beaded drainage which are all indicative of permafrost. A well drilled on the spit at Kotzebue 1949-1950 encountered the bottom of permafrost at a depth of 238 feet, and information from a well drilled near Nimiuk Point in 1974 found that permafrost continued to a depth of 284 feet.

The presence of permafrost and ice in poorly drained, fine-grained and organic soils poses potential engineering problems when the ground is disturbed. As soils thaw, the excess moisture generated by melting ice may cause the soil mass to become unstable. This may result in differential settlement, subsidence of the ground surface, and movement of the soil mass either laterally or down slope. Unstable permafrost soils can severely damage roads, buildings and other infrastructure.

During the summer, when the active 2-3 feet of soil thaws, the low bearing capacity of permafrost soils limits the ability to support structures. Further, if the surface organic mat is damaged, soil instability occurs as a result of the degradation of the underlying permafrost. During freeze up, such soils are subject to severe frost heaving caused by the build-up of large masses of segregated ice within the active layer.

2.1.3 Hydrology

The lakes that dot the Baldwin Peninsula appear to be thaw lakes that formed from the thawing of permafrost. These lakes are typically shallow and freeze to the bottom in winter (with some exceptions, such as Devil's and Vortac lakes, the community's water source). A beaded drainage pattern indicative of permafrost and ground ice is apparent at scattered locations. While the geology of the peninsula does not appear favorable to the occurrence of springs, one was discovered during a 1982-1983 field reconnaissance.

In general, the soils of the Baldwin Peninsula are saturated with water in the active 2-3 feet layer that thaws in the summer. Poor drainage is caused by a combination of fine-grained and organic soils, gentle to flat slopes, and permafrost at the base of the active layer. The flat spit area upon which Kotzebue is built is poorly drained, and when the snow melts faster than runoff, pooling and minor drainage problems occur.

2.1.4 Climate and Climate Change

Temperature: Kotzebue's transitional climate typifies tundra and marine regions. During the ice-free season, May through October, a maritime climate prevails. Skies are mostly cloudy, daily temperatures are relatively uniform, and the relative humidity is high. The average high summer temperature is about 58° F, with 85° F. being the hottest temperature recorded. When Kotzebue Sound freezes, the climate characteristics change with average cold temperatures around -15° F (an extreme low recorded at -52° F). Skies are cloudy about half the time, and relative humidity is lower than in other seasons.

Precipitation: The Kotzebue area receives only very light precipitation, with the total rainfall for a normal year being about 8 inches. More than half of the yearly precipitation occurs in July - September. The average annual snowfall is about four feet, with snowfall generally occurring in every month except July and August.

Visibility: Local visibility exceeds three miles 92% of the time and exceeds one mile 97% of the time. About 93% of the time ceilings are above 1,000 feet. Visibility is limited by heavy fog about 90 days a year, especially during the summer, and high winds and blizzards during the winter. In an average year, visibility is limited to less than one-quarter mile on approximately 20 days, and on average, roughly 60% of these days occur between April and July.

Sunlight: Since Kotzebue is located just north of the Arctic Circle, day lengths vary dramatically between summer and winter. In June and July, there are six weeks when the sun does not drop below the horizon. Conversely, in winter the days are short, with the shortest day only having about 1.7 hours of sunlight. The low angle of sunlight, especially in the winter, distributes the rays over a large area, which reduces their concentration. South facing slopes receive the most direct sun rays.

Winds: Winds in the Kotzebue area vary with the seasons. The prevailing annual wind direction is from the east (September - April), and during the summer westerly winds are dominant. The average wind speed at KEA's wind farm is 14.1 miles per hour with summer storms commonly producing wind speeds of 28 miles per hour for 6-hour periods. Winds in the winter can be even stronger. The 10-year high wind speed is estimated to be 64 mph, and winds greater than 55 miles per hour have been recorded from all directions except the north and northeast.

Storms: Storm surges occur when extremely low pressure areas combine with winds over a long distance (fetch). The U.S. Army Corps of Engineers (2010) estimates that storm surges may rise 10.56 feet above mean lower low water (MLLW) during storm with a 100-year return period (i.e., a storm that has a 1% chance of occurring in any one give year. Table 2 displays the top 10 storm surges that have occurred in Kotzebue between 1954 and 2004.

Table 2: Top 10 Kotzebue Storm Surge Events between 1954 and 2004

	Start Date	Maximum Surge above MLLW	Maximum Wind	
			Speed (mph)	Direction
1	11/26/70	9.18'	47.9	W
2	11/14/66	7.12'	49.7	SSE
3	11/10/74	6.98'	51.9	S
4	10/25/96	6.46'	30.0	SSE
5	8/29/62	6.03'	47.0	W
6	10/3/83	4.95'	25.7	ESE
7	11/8/78	4.85'	46.3	E
8	6/16/61	4.75'	28.9	S
9	10/1/60	4.72'	36.0	SSW
10	8/25/75	4.69	28.4	SSW

Source: U.S. Army Corps of Engineers 2009

Climate Change: Climate change in Alaska is occurring faster than in other latitudes. Despite year-to-year variations, overall trends indicate the climate is warming. Freeze up occurs later in the year and spring melt occurs earlier than in the past. Future changes predicted by scientists include sea level rise, warmer temperatures, increasing intensity of storms, continued melting of Arctic sea ice, melting permafrost, ocean acidification, a drier tundra that will be more susceptible to wild fires, and changes to fish, wildlife and plant communities.

2.1.5 Oceanography

Kotzebue Sound is a relatively shallow body of water that is protected from deep-water waves because of this shallowness. The Sound has a tidal range of about 1.5 feet, however, strong winds can cause sea level to rise much higher. There is little information about currents in the Kotzebue Sound, but they generally flow counterclockwise. At an average about 0.5 knots, they are not usually a problem.

Sand and gravel from the Noatak and other rivers are deposited into the Sound creating areas of shallow water depth near Kotzebue, although that same current keeps a channel open at the Kotzebue dock. The shallow waters create a shipping problem for offloading freight. Ocean-going vessels anchor about 15 miles offshore and are met by local river barges that have a shallower draft for navigating the waters in and around Kotzebue.

Ice movement during the nearly nine months of ice can create problems. Ice gouging occurs when grounded ice creates trenches as it is pushed along the ocean bottom. Ice ridging and ivus can also cause damage to offshore and onshore structures (see Section 2.2.4).

2.1.6 Vegetation, Fish and Wildlife

The area around Kotzebue supports a wide variety of plants and animals described below. The subsistence use of these species is discussed in Section 2.2.3, and commercial use of fish and wildlife is discussed in Section 2.4.3.

Vegetation: Coastal tundra makes up the predominant vegetation type on the Baldwin Peninsula. Moist tundra ecosystems usually form a complete ground cover and are extremely productive during the growing season. Ground cover varies from almost continuous cotton grass tussocks, with sparse growth of sedges and dwarf shrubs, to stands where tussocks are scarce and dwarf shrubs dominate. Few trees grow on the Baldwin Peninsula, particularly in the area near Kotzebue.

Land Mammals: Many different types of land mammals occur in the region, including big game and furbearers. Big game land mammals include moose, caribou, muskox, sheep, and bear. Fur bearers include, wolves fox, lynx, mink, marten, wolverine, land otter, beaver, and muskrat.

Marine Mammals: The waters of Kotzebue Sound and the adjacent Chukchi Sea support several species of marine mammals including bearded seal, ringed seal, walrus, beluga whale, bowhead whale, and polar bear. Polar bears rarely venture this far south but have been seen occasionally in inner Kotzebue Sound.

Birds: Most birds are present in the region only between May and September. These birds come to the area primarily to breed and nest, and many migrate from as far away as Antarctica, South America and Asia. Because of the proximity to Siberia and the effect of prevailing winds, there is an interchange between the Asiatic and North American flyways. Migration patterns vary with weather and food supplies. Thus, occasionally rare Asiatic species will appear in and around Kotzebue. Birds are categorized into four main groups: seabirds, waterfowl, shorebirds, and upland birds.

Fish: Kotzebue Sound, lakes and rivers are used for commercial and subsistence fishing. The region is an important habitat for more than 50 species of fish including Arctic Char, Whitefish, Dolly Varden, sheefish, northern pike, grayling, herring, salmon, and cod.

2.2 Prehistory, History and Culture

2.2.1 Prehistory and Archaeology

The area where Kotzebue is located is estimated to have been inhabited for at least 600 years, but older sites could be submerged below the water. The community spans a series of beach ridges, and each successive landward ridge has been found to have an earlier habitation period. Nearly all of the beach ridges have some potential for historic or pre-historic materials, however, no systematic survey of the historic and prehistoric resources in the Kotzebue town site has been undertaken.

Most archeological work in Kotzebue has traced occupancy only back to the Late Western Thule (ca 1300 AD) period. Evidence of Old Kotzebue (ca AD 1400) inhabitation has been found between the Intermediate Kotzebue area and the outskirts of the present day City, thus tracing the current Eskimo ancestry for about 600 years. The time of occupancy along the beach ridges between Isaac Lake and the shore is estimated to be from the Kotzebue Period (about 1550 AD) based on excavations undertaken by Giddings in 1940, 1941, 1947, and in the early 1960s. Mention is made by Giddings of clusters of house pits south of the FAA facility. Newell and Stern (1976) reported that a test pit

adjacent to Isaac Lake suggests the presence of earlier populations than the Kotzebue period (possibly even Denbigh or Choris).

In Cape Krusenstern, some 114 distinct beach ridges going back from the current beach front indicate semi-permanent dwellings of Early and Late Western Thule, Birnirk, Ipiutak, Choris, and Old Whaling cultures (Giddings and Anderson 1986). It's possible that same pattern exists in Kotzebue, although the extensive separate beach ridges are not the same.

Based on NANA nominations under section 14(h)(1) of ANCSA, the BIA investigated many historical places and cemetery sites in the region. Oral history tapes recorded at the time of the investigations add to the base of knowledge of the culture of the region. In addition, NANA has conducted a number of Elders Conferences in Kotzebue over the past decade. These conferences provide important information on the history and culture of the region. The Kotzebue Archaeological District (KTZ-036) covers the Baldwin Peninsula on the west side of Kotzebue Lagoon.

2.2.2 History

Qikiktagruk, the Iñupiaq name for Kotzebue means the “place that is almost an island.” The Kotzebue people are estimated to have had a population of 375 people in 1840, but many of the residents wintered south of the present community (Magdanz et al. 1995). Located near the mouths of three major rivers, Kotzebue has always provided an ideal location for harvesting both land and marine resources.

The Kotzebue people held annual trade fairs in Sisualik, an area located to the north across Kotzebue Sound. In the early 1800s, the trade fairs lasted several weeks and attracted up to 2,000 people from Wales to the south, Point Hope to the north and Russia to the east. In the 1880s, Kotzebue became the center of trade, likely because of its location near Cape Blossom where ships anchored (Georgette and Loon 1993). A devastating famine that occurred between 1882 and 1884 reduced the population of the Kotzebue people.

The city is named for Russian explorer Lieutenant Otto von Kotzebue who named the sound in 1816. The people of the region had contacts with American whalers between 1850 and 1880. Western influence resulted in significant changes beginning in 1897 when the California Society of Friends established a mission and school in Kotzebue. About 1,000 gold seekers wintered in Kotzebue between 1898 and 1908 on their way to prospects up the Noatak and Kobuk rivers. In 1899, the federal government opened a post office, a new school was constructed in 1902, the first permanent trading post was established in 1903, and a salmon cannery began business in 1912. Like other communities in this part of Alaska, a reindeer station was established to augment the local economy. A hospital was built in 1916, radio communications linked the community to the Lower 48 states in 1924, and the first airplane arrived in 1927. The community grew along Front Street which was renamed Shore Avenue when the federal government platted the Kotzebue Townsite in the early 1950s.

While several communities in the region had similar sized populations during the first few decades of the 1900s, Kotzebue's population grew dramatically after WWII. Kotzebue became the regional center with several barge companies based in the City to serve other communities, and the population doubled between 1950 and 1960. Government agencies opened offices in the community, and in the

1960s, the Air Force established a radar station just south of town.

While there have been extensive alterations to the community, the greatest concentration of older buildings are located along the northeastern part of Shore Avenue. A 2001 historic survey provides extensive documentation of the historic value of the buildings. The survey found that 29 buildings and one structure met the eligibility criteria for the National Register of Historic Places in the Front Street Historic District (KTZ-250) (Buzzell and Breiby 2003). In 2006, however, the State Historic Preservation Officer concurred with the Federal Highway Administration that the Shore Avenue Historic District was not eligible for inclusion in National Register of Historic Places (Alaska Department of Transportation and Public Facilities 2007).

2.2.3 Culture and Subsistence

Iñupiaq culture and a subsistence way of life play an important role in Kotzebue, and in 2010 almost 80% of the population was Alaska Native.⁹ In addition to providing nutrition, subsistence sustains the Iñupiaq culture. Subsistence use for Kotzebue has been documented in a number of studies (Patterson 1974, Wolfe et al. 1985, Georgette and Loon 1993, Magdanz et al. 1995, Georgette and Shiedt 2005, Whiting 2006, and Jones 2010).

While many people in the community participate in the wage economy, subsistence continues to define the way of life through harvest activities, trade and cultural identity. Compared to other communities of its size, Kotzebue subsistence use is very high.¹⁰ Subsistence studies found that the per capita harvest of Kotzebue was 638 lbs in 1972, 398 lbs in 1986 and 593 lbs in 1991 (Patterson 1974, Georgette and Loon 1993, and Magdanz et al. 1995). In 1991, over 99% of the sampled households used subsistence resources, and 95% of the households successfully harvested resources. Trade and bartering of subsistence resources is also important with 94% of households receiving subsistence resources from others in 1991.

A study about rural Alaska found that the cash economy has not replaced subsistence (Goldsmith 2007). A 2008 survey conducted in the Borough about energy, however, found that 80% of the respondents had decreased subsistence activities in recent years because of the high cost of fuel.

Table 3: Use of Subsistence Foods in 1991 in Kotzebue

Percent	Category	Per Capita	Details
30.1	Land Mammals	177.5 lbs	Caribou (141.0 lbs) and moose (34.7 lbs)
27.1	Non Salmon Fish	162.6 lbs	Sheefish (116.9 lbs)
26.8	Marine Mammals	151.7 lbs	Bearded seal (126.0 lbs)
12.7	Salmon	73.2 lbs	Almost all chum salmon
2.7	Wild plants	16.2 lbs	Berries, greens, roots, mushrooms, and wood
0.6	Birds and eggs	3.5 lbs	Upland game birds, waterfowl and eggs
<1	Invertebrates	0.1 lbs	Clams, crab, shrimp, and mussels

Source: Magdanz et al. 1995

The 1991 subsistence harvest study found that wild foods represented the main dish of most

⁹ The 2010 Census reported that 73.6% of Kotzebue’s population was American Indian of Alaska Native and an additional 6.0% were part American Indian/Alaska Native.

¹⁰ A 1987 study found that Kotzebue had the highest per capita consumption of subsistence food for communities larger than 2,500 people (Magdanz et al. 1995)

respondents with side dishes composed of store foods. Caribou, sheefish, bearded seal, salmon, and moose were the major species used for subsistence. The following bullets provide additional information about important subsistence species.

- **Land Mammals:** Big game is used for both clothing and food for the residents of the region. Caribou is the main species targeted with some use of moose, sheep and bear. Boats and snow machines are used to access land mammals. Fur bearers are used for sale or trade, clothing and for subsistence foods.
- **Fish:** Sheefish and chum salmon represent the most harvested species of fish with use of other species to a lesser extent, including char, whitefish, saffron cod, smelt, northern pike, Arctic grayling, burbot, and Pacific herring. Fish are usually dried or frozen and sometimes used for dog food, although this is less common than in the past. Fish are caught by set nets, seining, hooking techniques, or sport fishing. Six species of whitefish present in Kotzebue Sound include sheefish, broad whitefish, humpback whitefish, least cisco, Bering cisco, and round whitefish (Georgette 2005). Kotzebue has a more diverse harvest pattern for whitefish than other villages in the Borough, and the harvest area includes Noatak flats, lower Noatak River drainage, ocean beaches, and coastal lagoons.
- **Marine Mammals:** While oogrük (bearded seal) is a major subsistence species, other species of marine mammals include bearded seal, ringed seal, and beluga whales. Marine mammals are protected by the Marine Mammal Protection Act, but Alaska Natives are allowed to take them for customary and traditional purposes. Co-management agreements with federal agencies give subsistence users a strong role in marine mammal management (e.g., Alaska Eskimo Whaling Commission, the Alaska Beluga Whale Committee, Alaska Eskimo Walrus Commission, Alaska Nanuq Commission, and Ice Seal Committee).
- **Plants:** Over 40 plants have been identified for use in the region, including berries, greens, roots, and mushrooms.
- **Birds and Eggs:** Waterfowl constitute an important subsistence food during spring, and to a lesser extent, fall. Other types of birds harvested include upland game birds such as grouse and ptarmigan. The Migratory Bird Treaty Act and the Russian and Canadian protocols require the protection of some migratory waterfowl species when they become endangered (e.g., spectacled eider and black brant).

2.2.4 Hazards and Emergency Planning

A number of natural and manmade hazards pose risks to the community. This section begins with a discussion of natural hazards followed by manmade hazards. Additional information may be found in the hazard and emergency plans prepared by the Borough and the City.

Natural Hazards: The Local Hazards Mitigation Plan (LHMP) provides a risk assessment of natural hazards facing the community and measure to mitigate future losses (City of Kotzebue 2008). The following bullets summarize the primary natural hazards.

- **Severe Weather:** Storms are a major cause of flooding and erosion, and there is evidence that the later freeze up of marine waters is leading to increased damage from fall storms in Northwest Alaska. Severe storms that align with extreme low pressure events and high winds lead to storm surges where the water rises much higher than normal (see Section 2.1.4). During recent years, severe storms have caused damage in Kotzebue during 1990, 1994, 2002, 2004, and 2005.
- **Floods:** Areas within the City of Kotzebue have been flooded in the past, and the City participates in the National Flood Insurance Program which makes homeowners and

businesses eligible to receive flood insurance at a reasonable cost. Flood prone areas are divided into three main categories: Zone A (areas within the 100-year frequency of occurrence including Shore Avenue, Swan Lake and the Lagoon), Zone B (areas located within the 500-year frequency of occurrence) and Zone C (area with minimal flooding). The 1990 flood event was estimated to be a 100-year event. Table 4 provides estimates of flood levels for different frequencies of occurrence.

- **Erosion:** Erosion is considered to be a high risk in Kotzebue. For example, until extensive modifications were made to Shore Avenue in 2011, the beach was subject to periodic erosion.
- **Ice:** Ice hazards include ice ridging, ice gouging, ice pileup, and ice storms. Ice ridging generally occurs in waters deeper than 33 feet where large ice masses collide. Ice gouging occurs when grounded ice digs deep trenches in the ocean bottom. Ice pile up or ice override, also known as an ivu in Iñupiaq, occurs when piles of ice are forced ashore. While some of these hazards may occur outside of the City boundaries, residents conducting subsistence uses may encounter them. Trends of a later freeze up and early thaw also pose hazards for subsistence users traveling over ice.
- **Melting Permafrost:** Kotzebue is located in the area of continuous permafrost although the top layer of soil thaws during the summer. Melting permafrost provides a hazard when ocean or stream banks collapse or when ground subsides. It is especially a problem in areas where soils have ice lenses. A large slump on the Selawik River was caused by melting permafrost.
- **Wild Fires:** While there have been no wild fires reported in the Kotzebue area, the risk of tundra fires in the future may increase due to a drying trend associated with climate change.
- **Earthquake:** Earthquake risk in Kotzebue is considered moderate, and there has been no major damage reported from an earthquake. An earthquake of a magnitude of 3.8, however, occurred 16 miles west-northwest of Ambler on March 3, 2012 (USGS 2012).

Table 4: Estimated Frequency of Occurrence of Storm Surge Levels

	Frequency of Occurrence ¹¹						
Return Period (years)	5	10	15	20	25	50	100
Surge level (above MLLW)	4.06'	5.05'	5.9'	6.46'	6.85'	8.69'	10.56'

Source: U.S. Army Corps of Engineers 2009

Human-Caused Hazards: Manmade hazards and emergencies could result from a number of factors such as spills of oil or hazardous waste or a disruption in air traffic.

- **Small Spills:** Intentional or accidental releases of oil or other hazardous materials are human-caused hazards. Hazards may enter the environment through accidents or intentionally such as improper disposal of household or industrial materials.
- **Large Oil Spills:** Large oil spills can result from oil exploration or drilling or from an accidental discharge from a large ship or oil tanker. A tanker accident occurring south of Kotzebue would have the greatest effect because the Alaska coastal current flows northward through the Bering Strait. Recent interest in oil and gas prospects in the Chukchi Sea involve tracts located approximately 275 air miles north of Kotzebue, so while an oil spill would not likely reach the community, it could impact migratory subsistence species. Currently, the most likely cause of a large oil spill affecting Kotzebue would be from one of the large ships traveling through the southern Chukchi Sea. In 2010, the number of vessels traveling through the Bering Strait nearly doubled over the previous year (U.S. Coast Guard 2012).

¹¹ Frequency of occurrence is the estimated probability a storm surge would occur during a specific time period. For instance, a return period of 100 years means there is a 1% chance of such a storm occurring in any given year.

According to the Arctic Council (2009), accidental or intentional releases of oil pose the most significant impacts from increased Arctic shipping.

- **Oil Spill Response:** In response to this new risk from vessel spills, the community may wish to prepare for a possible spill by offering oil spill response training to residents as is currently done in North Slope Borough villages.
- **Emergency Plans:** Both the Borough and the City maintain emergency response plans. The Northwest Arctic Local Emergency Planning Committee handles public requests for information about hazardous substances and develops an “All Hazards” Emergency Operations Plan (Northwest Arctic Borough 2012). The plan identifies natural hazards in the Borough, facilities containing hazardous substances and emergency response procedures natural and manmade disasters. The City was in the process of updating its 2001 Disaster Response Plan in spring 2012.

2.3 Population and Housing

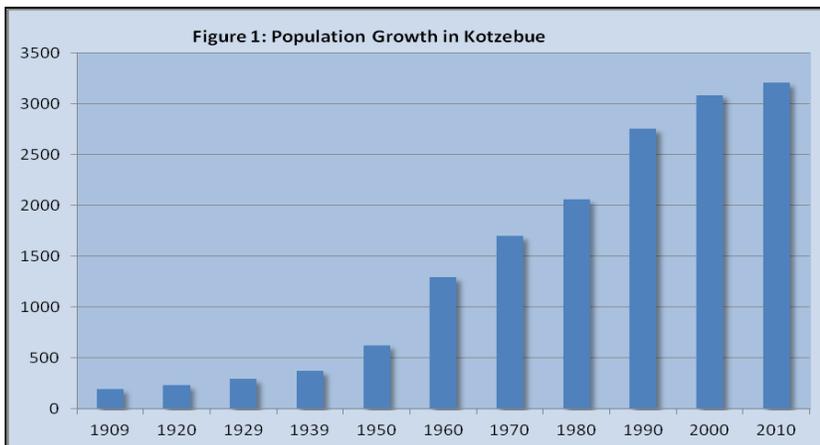
2.3.1 Population Analysis

Northwest Alaska has been inhabited for many thousands of years, but the 1909 population of 193 people is the first recorded population record for Kotzebue. Since 1909, Kotzebue has grown to a population of 3,201 people according to the 2010 U.S. Census. This census also showed a population almost evenly split between male (51%) and female (49%), with 46.2% below the age of 25, 32.6% between 25 and 50 years of age and 21.0% over 50 years old. The population was 79.6% Native American (including 6% mixed race).

As illustrated in Table 5 and Figure 1, population growth in Kotzebue has varied throughout time. The growth rate was initially slow, but between 1950 and 1960, the population doubled. The population then grew steadily through 1990, and in recent years slowed dramatically. During the period between 2000 and 2011, the population was estimated to be a low of 3,082 in 2000 and a high of

Table 5: Population for Selected Years

Year	Population	Increase
1909	193	
1920	230	19.17%
1929	291	26.52%
1939	372	27.84%
1950	623	67.47%
1960	1290	107.06%
1970	1696	31.47%
1980	2054	21.11%
1990	2751	33.93%
2000	3082	12.03%
2010	3201	3.86%



3,331 in 2009 (Alaska Department of Labor and Workforce Development 2012). In 2010, Kotzebue’s population was younger than the statewide average; it had a median age of 27.2 while the statewide median was 33.8. The average household size in 2010 was 3.31 people, and the average family size was 3.93 people.

Because the Comprehensive Plan

guides community development, it is useful to estimate future growth. Since planning involves decisions about long-term community infrastructure, a 30-year timeframe was used for this plan. Making accurate predictions about future population levels is difficult, so rather than make a single prediction, two population estimates were made using the 10- and 20-year average annual growth rates. Assuming the 10-year average annual growth for the period 2000-2010 (0.386%) will continue, the population in 2040 would be 3,593. Using the 20-year average annual growth rate (0.82%), the population in 2040 would be 4,087.¹²

2.3.2 Housing

Affordable and suitable housing is a major problem in Kotzebue according to planning participants, employers, new hires, and new residents. The lack of suitable housing has been cited as a problem for recruiting and retaining skilled professionals in the community. A shortage of land and infrastructure for new housing and the need for reasonably priced gravel for construction provide obstacles for development of new housing. More housing options would likely lead to an increase in population and reduce outmigration from Kotzebue.

Table 6 compares housing statistics between 2000 and 2010. In 2010, there were 153 more housing units than in 2000, the average household size slightly declined, and the vacancy rate was about 6% higher. It should be noted that in 2010, the homeowner vacancy rate was 0.0% and the rental vacancy rate was 6.1%.¹³ The difference between these vacancy rates and

Subject	2000	2010
Number of housing units	1,007	1,160
Housing units occupied	889	954
Housing units vacant	118	206
Vacancy rate	11.7%	17.8%
Average household size	3.93	3.31

Source: U.S. Census Bureau 2012

the total vacancy rate (17.8%) is due to units that are rented and not occupied (10), units for seasonal use (96) and other vacant property (62). The “other vacant property” category includes units that are neither for rent nor for sale, but some of these units may be suitable for future housing.

The Native Village of Kotzebue now has tribal housing responsibility under the Native American Housing and Self-Sufficiency Development Act (NAHASDA). The Northwest Inupiaq Housing Authority has some retained responsibility and authority for housing and property management of previously constructed projects. Maniilaq recently completed a 38-unit complex for short term residents, but there is still a demand for new housing to retain professionals needed for the hospital and other healthcare programs. KIC manages a number of housing units including both a 29-unit and 41-unit apartment complexes, and it is considering building additional rental properties.

2.4 Kotzebue’s Economy

This section provides an overview of Kotzebue’s economy which includes a mix of cash income, subsistence and bartering. Detailed statistics about rural economies like Kotzebue’s are unavailable

¹² The Alaska Department of Labor and Workforce Development estimates a 1% growth projection for the region from 2009 thru 2034 as documented in the December 2010 issue of *Alaska Economic Trends* magazine.

¹³ The homeowner vacancy rate considers only homes that are for sale, and the rental vacancy rate considers only units that are for rent.

because it is difficult to quantify barter, unreported cash transactions, and the economic value of subsistence resources¹⁴

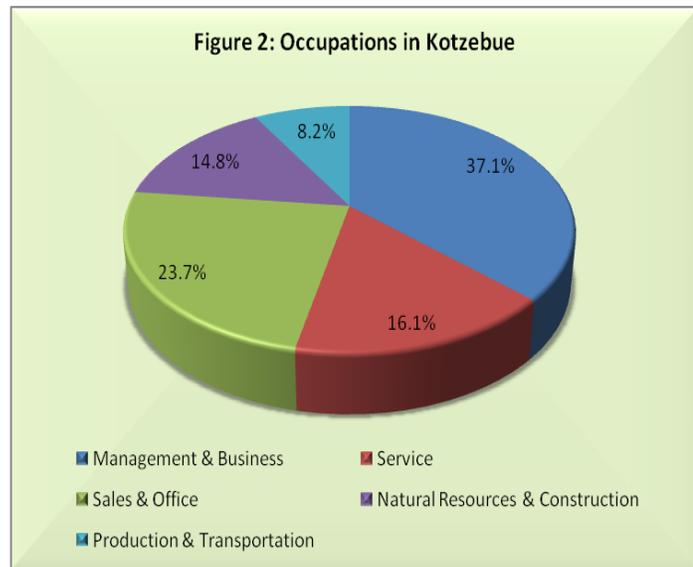
The rest of this section begins with a summary of employment and income statistics and continues with a discussion of factors affecting the economy, major components of the economy, and opportunities to expand the economy. It concludes with a discussion of how to make the community’s economy more sustainable.

2.4.1 Employment and Income Statistics

In 2010, 70% of residents were employed with 66% employed during all 4 quarters (Alaska Department of Labor 2012). Most workers were employed in the private sector (72%), 23% were employed by local government and 5% were employed in state government.

Employment: While employment information for Kotzebue is limited, the Alaska Department of Labor and Workforce Development reports employment rates for the Northwest Arctic Borough on a monthly basis. The employment rate varies throughout the year due to seasonal employment. The U.S. Census Bureau estimated the 5-year average unemployment rate (2006-2010) for Kotzebue to be 20.7%. The Alaska Department of Labor and Workforce Development estimated that the February 2012 unemployment rate for the Northwest Arctic Borough was 15.7%.¹⁵

Of those employed in 2010, 59.3% were private wage and salary workers, 36.5% were federal, state, or local government workers, and 3.8% were self-employed (U.S. Census 2012). This employment generated a total of \$58,402,938 in wages in (Alaska Department of Labor and Workforce Development 2012).



Occupations and Industries: Figure 2 illustrates that the largest occupations in Kotzebue during 2010 were management and business, sales and office, and service jobs (U.S. Census 2012). The major industries employing Kotzebue residents were education and health services, local government, and trade, transportation and warehousing.

Employers: Most of the 17 employers in the region that employ more than 25 employees are located or headquartered in Kotzebue. During 2010, Maniilaq Association Inc. was the largest employer followed by Northwest Arctic Borough School District, Alaska Commercial Company, City of Kotzebue, Tech Alaska, Inc., Native Village of Kotzebue, State of Alaska, Northwest Iñupiat

¹⁴ Most economic indicators are inappropriate for rural Alaska because they are designed for the cash economy (Goldsmith 2007).

¹⁵ The unemployment data do not include people who are not actively looking for work, even though they may be interested in working.

Housing Authority, and Alaska Interstate Construction LLC (Alaska Department of Labor and Workforce Development 2012).

Income Levels: The Census Bureau estimates that for 5-year period 2006-2010, Kotzebue’s per capita income was \$23,067 (a 26% increase over 2000), and the median household income was \$66,908 (a 17% increase over 2000).¹⁶ Kotzebue’s estimated poverty rate for that period was 15.3%, 61% higher than the statewide poverty rate.

The Research and Analysis Division of the Alaska Department of Labor and Workforce Development maintains up-to-date employment information on its website that includes data it compiles as well as information prepared by the U.S. Census Bureau’s American Community Survey (Alaska Department of Labor and Workforce Development 2012).

2.4.2 Factors Affecting Kotzebue’s Economy

Factors that affect the economy include the role of the community as a regional center and the high cost of living. Other factors include government funding, private sector employment, and the contribution of subsistence resources. Economic trends for Kotzebue vary throughout the year due to seasonal employment, construction projects, and the varying cost of fuel and commodities.

Kotzebue faces current and future economic challenges due to the high cost of living, lower than average incomes, high unemployment rate, and high poverty rate. In 2009, Kotzebue’s cost of living was 61% higher than in Anchorage (McDowell Group 2009). For the 5-year period between 2006 and 2010:

- The statewide per capita income was 33.2% higher than for Kotzebue,
- Kotzebue’s unemployment rate was about 2.4 times higher than the statewide average, and
- The poverty rate in Kotzebue was 61% higher than the statewide average (U.S. Census Bureau 2012).

In addition, Kotzebue has a younger population than the statewide average with 46.2% under 25 compared to 33.8% for the state. This means there will be more competition for jobs in Kotzebue in the future.

How Kotzebue Compares with Statewide Averages

Simply stated, it costs more to live in Kotzebue, average cash income is lower, unemployment is higher, the poverty rate is significant, and there is a younger population. Subsistence provides an essential contribution to the economy that is not quantified under current economic indicators.

Role as a Regional Center: Kotzebue’s role as a regional center provides the backbone of the community’s economy. It is the regional center for the 10 villages in the Northwest Arctic Borough (Noatak, Kivalina, Kiana, Noorvik, Selawik, Ambler, Shungnak, Kobuk, Buckland, and Deering) and Point Hope in the North Slope Borough. As a regional center, Kotzebue serves as the:

- Transportation hub for air freight, air carriers serving area villages, and jet service to Anchorage,
- Government center for borough, state and federal agencies,
- Regional hub for the U.S. Postal Service,
- Health care center for the region,
- Education center for the region (Borough School District Headquarters, Tech Center and

¹⁶ Alaska’s per capita income over the same period was \$30,726, and the median income was \$66,521.

- Chukchi campus of the University of Alaska), and
- Service and goods center for the region.

Continuance of Kotzebue's role as a hub will depend on its ability to provide adequate services to the 11 communities in the region and on its ability to take advantage of new opportunities. New services may be needed in response to increased activity in the region resulting from climate change, including marine-based tourism, potential commercial fisheries and increased shipping. Shipping is already increasing through the Chukchi Sea as more traffic uses the Northwest Passage and the Northern Sea Route.¹⁷ In addition, potential oil and gas and new mining development in the region could lead to an expansion of Kotzebue's role as a supply and transportation center.

High Cost of Living: Kotzebue residents are concerned about how the high cost of living affects the ability of residents to maintain an acceptable quality of life as well the ability to attract new businesses and professionals. A 2009 differential cost study found that Kotzebue is the most expensive city to live in Alaska of the 12 communities surveyed with costs 61% higher than Anchorage, the base community for the study (McDowell Group 2009).

During public participation on this plan, residents identified a number of factors that cause the high cost of living, such as freight costs, expensive oil, and the lack of competition.

- **Freight:** Shipping expenses add to the costs of goods. Even though air freight costs are subsidized by the bulk mail program, it is expensive to ship merchandise by air. Marine transportation is also expensive, and as discussed in Section 2.5.1, the need to lighter goods from ships to shore results in an added expense.
- **Cost of Oil:** High oil prices have a cascading effect because businesses need to raise their prices as oil costs rise. The U.S. Army Corps of Engineers (2004) recommended consideration of a single-purchase agreement for the region as a potential alternative to reduce oil prices. The agency found that the customers were charged different prices for fuel delivered to the same community.
- **Lack of Competition:** Many people who commented on the draft plan believed that prices in Kotzebue are higher than necessary and would be reduced if there was more competition.

2.4.3 Major Components of Kotzebue's Cash Economy

The cash economy is heavily dependent on government, transportation, fishing, seasonal construction, and service industry jobs.

Federal, State and Local Government: Government funding provides a significant contribution to the local economy. Federal agencies play an important role in the economy through providing grants to tribal organizations and other groups, providing pass through money through state agencies, and through jobs at regional offices in Kotzebue. State and federal government agencies also provide funding to individuals through transfer payments.¹⁸ While Alaska ranked the highest of all states in per capita federal funding in 2010, future federal funding may decrease in response to the national economic situation.

¹⁷ The Northwest Passage route traverses Canadian waters in an easterly direction to the Atlantic, and the Northern Sea Route travels in a westerly direction above Russia.

¹⁸ Transfer payments include retirement, welfare, housing assistance, medical assistance, and Permanent Fund dividends. Other than Permanent Fund dividends, transfer payments in rural Alaska account for about 24% of personal income (Goldsmith 2008).

State funding contributes to the local economy through capital projects, education funding, grants, direct employment, and Alaska Permanent Fund distributions. In 2010, the state government was the sixth largest employer in the city, not including University of Alaska staff at the Chukchi campus. Annual Permanent Fund Dividends distributed to Alaskans also provide an important source of income to Kotzebue residents. In 2005, the dividend accounted for 3% of personal income in all rural areas of Alaska (Goldsmith 2008).

Local government also contributes to the economy. In 2010, the Northwest Arctic Borough School District was the second largest employer, and the city of Kotzebue was the 4th largest employer. The Northwest Arctic Borough had about 27 positions stationed in Kotzebue in 2012 (excluding school district employees), and the City employed 75 people. For the 2012 fiscal year beginning July 1, 2011, the City's General Fund budget was \$7.2 million. Each year, the major sources of revenue for the City come from a 6% sales tax, state revenue sharing and grant monies.¹⁹ Major expenditures include equipment purchases for City services such as fire, police, water, and sewer.

Tribal Government and Nonprofits: Tribal expenditures are an important part of Kotzebue's economy. In 2010, the Maniilaq Association, the regional Native nonprofit organization, was the community's largest employer, and the Native Village of Kotzebue was the fourth largest employer. Federal support provides the main source of funding for Maniilaq and the Native Village.

Private Sector: According to the 2010 Census, the private sector employs 72.4% of the workers in Kotzebue. The Alaska Commercial Company was the third largest employer, Teck Alaska, Inc., was the fourth largest employer, and Alaska Interstate Construction was the ninth largest employer in the community during 2010.

A number of businesses provide communication services. The nonprofit Kotzebue Broadcasting, Inc. operates KOTZ radio, the local radio station. The *Arctic Sounder* provides a weekly newspaper aimed primarily at the Northwest Arctic and North Slope boroughs. Telecommunication services are provided by OTZ Telephone Cooperative, AT&T Alascom, GCI (long distance and cable services), and Alaska Rural Communications Service, a statewide network of low-powered television stations.

The local and regional Native corporations, the mining industry and commercial fisheries are discussed separately below. Other private employers include those in the transportation sector, construction sector, hospitality sector (including several inns and bed and breakfasts), and a limited number of retail stores and service providers. Since the 2000 Comprehensive Plan, Hansen's Store closed its operations.

Native Corporations: The regional and local Native corporations, NANA and KIC, also add to the local economy through provision of jobs and dividends to shareholders. NANA provides local jobs at its corporate office, jobs at its hotel and dividends paid to shareholders.²⁰ NANA also owns the land base for the Red Dog Mine and patented mining claims at the Bornite and Ruby Creek prospects in the Ambler Mining District.

¹⁹ Kotzebue does not have a property tax.

²⁰ Many of the 12,500 NANA shareholders live in Kotzebue. NANA also contributes to the statewide economy; in 2010 NANA Management Service was the 9th largest employer in the state.

KIC currently owns the surface estate of 166,000 acres in the region with NANA owning the subsurface. KIC operates a number of local subsidiaries including Napa auto parts, Ace Hardware, a fuel delivery business, a lumber yard, a construction business, a car rental company, and a vehicle repair business.

Mining: Unlike many resource operations in rural Alaska, the Red Dog Mine contributes significantly to the local and regional economy primarily through royalties, payments in lieu of taxes (PILT) and jobs.²¹ As the landowner, the NANA Corporation received an annual average of \$103 million between 2007 and 2009.²² Under an agreement with the mine operator, the Northwest Arctic Borough received an average annual PILT payment of \$8.4 million during the same period. During December 2011, 340 NANA shareholders represented about 58% of the workforce at the mine (NANA 2012b).²³ Not all of the shareholders who work at the mine, however, live in Kotzebue.

Commercial Fisheries: The major commercial fishery in Kotzebue Sound is for chum salmon, although a small commercial fishery for sheefish exists in some years.

- **Chum Salmon:** The commercial chum salmon fishery in Kotzebue Sound has declined in importance during the past 20 years. During the period when there was a major buyer, 1982-2001, fishermen caught an average 220,720 salmon each year (Menard 2007). The 10-year average annual catch between 2001 and 2010 was 130,600 salmon with an average annual value of \$262,859. During 2002 and 2003, the lack of a significant buyer led to only 3 and 4 permit holders respectively participating in the fishery. During 2010, 67 permit holders were involved in the fishery which represented a 75% decrease in the number of permit holders that fished since a peak in 1975.
- **Sheefish:** A small winter commercial fishery for Sheefish occurs near Kotzebue in Hotham Inlet during years when there is market (Menard et al. 2010). Commercial harvest has declined in recent years, and since 1998, no more than 1,250 pounds have been reported. The highest commercial harvest occurred in 1978 with a reported catch of 26,200 pounds.

2.4.4 Community Expansion and Economic Development

During preparation of the 2012 Comprehensive Plan, many people expressed a need for community expansion and economic development that would make Kotzebue an attractive, livable community. People said they wanted their children and grandchildren to have adequate housing and employment opportunities. They also expressed a desire for more retail opportunities and services. Factors limiting growth include the high cost of living, a lack competition, limited employment opportunities, and a scarcity of housing and developable land. The lack of suitable gravel resources has been a major hindrance for community expansion.

Community Expansion: Future housing needs are difficult to predict, but using assumptions discussed in Section 2.3.1, the population of Kotzebue in 2040 would be between 3,593 and 4,087. Assuming the average household size in 2010 (3.31 persons) will continue in the future, an additional 119 – 268 housing units will be needed by 2040.

²¹ The rise in zinc prices in the mid-2000's added to income from the Red Dog Mine. It is the largest mine in Alaska and the largest zinc mine in the world.

²² Under a provision of the Alaska Native Claims Settlement Act, NANA shares a portion of its profits from production of subsurface minerals with other Alaska Native corporations.

²³ About 30% of the private jobs in the Northwest Arctic Borough came from the Red Dog Mine in 2009 (Stricker 2011). In 2001, 24% of the total payroll remained in the region (Goldsmith 2007).

The core area of the community has few areas suitable for new housing and even fewer lots of sufficient size for new commercial or industrial uses. Many vacant lots and housing units are not available for rent or for sale.²⁴

The City has identified an area for expansion east of the core community known as the “Hillside.” The principle obstacle to development of this area is the cost of expanding the sewer and water infrastructure. As of 2012, one Native allotment on the Hillside had been subdivided. The City Council passed a subdivision ordinance in 2010 that outlined requirements for new subdivisions.

As discussed in Section 2.7.1, the City is considering expanding its boundaries which would provide more areas for development. In addition, although there are no current plans to relocate the airport, more areas for community expansion would be available if the airport was moved away from the core community.

Economic Development: Expanding economic development opportunities is in the City’s interest to ensure Kotzebue remains a vibrant community. Many jobs are funded through federal grants, and it is likely that federal funding at current levels is not likely to continue. As a result, as Kotzebue’s younger population enters the work force, there will be more competition for fewer jobs.

One of the biggest challenges in improving local economies is the ability to retain benefits from economic development in the community. According to Goldsmith (2007 and 2008), most cash generated in rural areas of Alaska has little influence on the local economy.²⁵ The multiplier for job creation in a regional hub is much less than that of Anchorage; every \$1 million of household income generates about 1.9 jobs (3.4 jobs in Anchorage).

More cash could be captured in the local economy by expanding retail and service businesses. Opportunities for business ventures include retail outlets (e.g., grocery, clothing and snow machine stores), value-added businesses (e.g., local fish processing and a tannery), professional and trade services (e.g., accountants, computer services, lawyers, plumbers, electricians and mechanics), and other businesses (e.g., a bowling alley and movie theater). Currently, residents purchase many goods and services from outside the region.

Economic development efforts should consider what makes Kotzebue a desirable place to live. A 1995 subsistence study included questions related to why people choose to live in Kotzebue (Magdanz et al. 1995). The main reasons respondents said they lived in the community were job opportunities, friends, hunting and fishing opportunities, and personal freedom. Other reasons included the size of the community, recreational opportunities, relatives, educational opportunities, shopping opportunities, scenery, and the availability of health services.

The following bullets discuss some potential opportunities to expand the local economy.

²⁴ Although only a snapshot in time, the 2010 Census reported that there were 36 housing units for rent, 96 units for seasonal or occasional use, and 62 “other vacant” units. While the Census does not indicate condition of the seasonal and other vacant units, it is possible that some of them may be suitable for year-round habitation.

²⁵ Goldsmith found that in 2006, only \$2.35 billion of the \$18.5 billion that was generated in or flowed through the remote areas of Alaska entered the local economy.

- **Business Assistance:** The Borough provides limited funds to businesses in communities for startup or expansion costs. In addition it promotes sales of traditional Native arts and crafts through the Sulianjich Art Center in Kotzebue.
- **City Economic Development Initiative:** In October 2011, the Kotzebue City Council passed resolution 12-17 that authorized the City Manager to implement an economic development initiative which includes establishment of an Economic Development Committee. The committee will develop recommendations for actions that will stimulate the local economy.
- **Business Associations:** During development of the comprehensive plan, a number of people mentioned the need for a chamber of commerce or business association to encourage more local economic development. Some communities have initiated “buy local” campaigns to encourage recirculation of cash within their communities.
- **Tourism:** Tourism development could provide a feasible way to expand the local economy. In addition to attracting visitors to Kotzebue, the community could be marketed as the base for visits to the world-class parks, preserves and wildlife refuges in the region. Currently, many sport hunting and fishing visitors do not contribute much to the local economy because they use of transporters and guides based outside the region.

Since the 2000 plan, NANA closed its Tour Arctic business and the NANA museum. In 2010, however, the National Park Service opened the Northwest Arctic Heritage Center, and in 2011 NANA opened a new 78-room hotel. Several small inns and bed and breakfasts also serve travelers.

Completion of a tourism study would be a first step to investigating how Kotzebue could benefit from Alaska’s lucrative tourism business. It may also be useful to explore how Kotzebue could collaborate with other communities such as Barrow and Nome to develop a marketing effort.²⁶ Existing sources of information include a needs assessment (Northwest Arctic Borough and the State of Alaska 1997) and a list tourism funding sources prepared by the Alaska Department of Community and Economic Development (2002).

2.4.5 Sustainability

The high cost of oil, freight and local goods and services provides an incentive to explore how Kotzebue can reduce costs and remain a sustainable community. Kotzebue residents are beginning to discuss, and in some cases implement, measures that will increase its sustainability.

- **Alternative Energy:** The greatest threat to sustainability in the region is the cost of energy (NANA 2010). KEA has pioneered in the use of wind turbines in Arctic conditions, and in 2006, wind provided 3.38% of the community’s energy. The Northwest Arctic Borough hired an energy coordinator to support energy conservation and alternative energy projects, including solar, wind and propane demonstration projects. The Northwest Arctic Strategic Energy Plan identifies renewable energy resources in the region (solar, wind, geothermal, and biomass) and nonrenewable resources (coal and natural gas) (NANA 2010).
- **Energy Conservation:** Reduction of energy use can lead to significant savings and make the community more sustainable. The Alaska Energy Authority (2004) estimates that a comprehensive energy efficiency program would have a positive benefit-cost ratio for rural

²⁶ The *Northwest Alaska Transportation Plan* includes a tourism study for Nome that might provide a model for Kotzebue (Alaska Department of Transportation and Public Facilities 2004). This plan includes a recommendation for collaboration with Kotzebue and Barrow for tourism marketing.

communities. Actions include replacement of incandescent lights with compact florescent bulbs or LED lights and replacement of old water heaters and appliances with energy efficient models. Another example of reduction of use occurred when the City worked with KEA to reuse waste heat from the electric generation plant to heat the water system.²⁷ Also, the Borough funded a pilot program in 2012 to purchase energy meters so residents could determine energy usage of appliances.

- **Building Retrofits:** Programs to weatherize buildings also contribute to a community's sustainability. These programs typically involve energy audits that identify measures that can be taken to reduce energy usage (e.g., addition of new insulation and replacement of inefficient heating systems).
- **Energy Efficient Buildings:** Communities in Alaska and in other states are initiating programs to encourage best practices in new construction. The Cold Climate Housing Research Center (2012), a nonprofit corporation located in Fairbanks, promotes energy-efficient buildings and has constructed demonstration homes in a number of communities, including a proposed home in Buckland. Another program, known as Leadership in Energy and Environmental Design (LEED), provides information on green building design (U.S. Green Building Council 2012).
- **Assistance:** The International Council for Local Government Initiatives (ICLEI) provides assistance to communities in planning for sustainability. Several Alaska communities belong to this organization.
- **Local Foods:** An interest in increasing the amount of locally-produced food has led to a nationwide movement to expand local gardening and composting opportunities. Kotzebue residents initiated a community garden demonstration project in recent years.
- **Alternative Sewer and Water Systems:** Alternative sewer and water systems, such as composting toilets, may be practical for areas within the community not currently served by City services.
- **Recycling:** Limited recycling opportunities existed in 2012, but the City has expressed interest in exploring options to expand recycling (see Section 2.6.3).
- **Gravel Resources:** Abundant, inexpensive and suitable gravel is needed.

2.5 Transportation

This section describes the major forms of transportation within the region, including water, air, and land transportation.

2.5.1 Water Transportation

Water provides an important means of transporting fuel and supplies within the region. As well, Kotzebue residents depend on water transportation to gather subsistence foods, and some residents of other communities travel by boat to Kotzebue during the ice-free months.

Freight Delivery: The marine waters near Kotzebue are quite shallow due to sediments deposited from the three rivers draining into the Sound: the Noatak, Kobuk, and Selawik rivers. Currents maintain a channel along the community including the area near the community's dock. As a result of the shallow water, ships must anchor 12-15 miles southwest of Kotzebue and then lighter fuel and materials to the dock by using barges with a draft of no more than 5 feet. It takes 1.5–3 days to

²⁷ The waste recovery project has been in operation since 2005 with an estimated annual savings of 60,000 gallons of diesel.

unload and transfer fuel to Kotzebue.

Three freight lightering businesses operate in Kotzebue from outside destinations. Northland Services, Alaska Logistics LLC and Bowhead Transportation Services offer transportation of goods and supplies to Kotzebue and surrounding communities. Crowley provides lightering services to their fuel distribution terminal on Kotzebue which is composed of a small sheet pile dock and beached barge. Two tugs and 4 barges are stationed in the community.

In spite of the difficult situation for unloading fuel and freight, Kotzebue has long been the trading and supply center for the region. The communities of Kivalina, Deering, Selawik, Noorvik, and Kiana receive fuel shipments by barge from Kotzebue.²⁸

Small Boat Transportation: Because of Kotzebue's location on Kotzebue Sound near the mouths of three rivers, boats play a big role in getting to and from subsistence camps and in the harvest of subsistence resources.²⁹

Small boats currently anchor in Swan Lake which is accessed through a lagoon and under a small bridge. The City has identified development of a small boat harbor at Swan Lake as a priority, especially since recent improvements to Shore Avenue have reduced traditional boat storage and access areas. A geotechnical investigation for improvements to the boat harbor was completed in 2011, and the City is seeking additional funding for the improvements (URS 2011).



Figure 3: Swan Lake Small Boat Harbor

Cape Blossom Port: In an effort to reduce freight costs associated with lightering, Kotzebue has been discussing development of a port at Cape Blossom since the early 1980s. A proposed expansion of the City boundaries would include this area (See Section 2.7.1). In recent years, the idea of a port has been gaining momentum as discussed in the following bullets.

- In May 2011, the Alaska Department of Transportation and Public Facilities (DOTPF) and the U.S. Army Corps of Engineers held a meeting in Anchorage to initiate a 3-year study on development of an Arctic port. The study is expected to consider Cape Blossom.
- DOTPF has completed preliminary alignments for a road to Cape Blossom, and in 2012, it was conducting an environmental study for the road. Construction of this road could make the airport relocation more feasible.
- The U.S. Army Corps of Engineers (2004) completed an economic analysis of potential fuel savings from establishing a tank farm at Cape Blossom. It found that none of the options considered had a sufficient benefit-to-cost ratio but a tank farm could be feasible if the shipments of fuel were doubled from current levels.

²⁸ In recent years fuel has been flown into Noatak, Ambler, Shungnak, and Kobuk because the rivers were too shallow for barges to reach the communities.

²⁹ Some subsistence sites are reached through air travel or by snow machine when there is sufficient ice.

2.5.2 Air Transportation

Kotzebue originally became a regional transportation hub because of its location and the ability to transport goods between deep water and rivers during the 3-4 ice-free months. With introduction of the bypass mail program in 1972, Kotzebue's role as an air hub grew in importance.³⁰

The Ralph Wien Memorial Airport has a 5,900-foot paved runway that extends into the lagoon, and a 3,800-foot gravel crosswind runway. In 2010, there were 62,177 enplanements in Kotzebue, an 8.2% increase over the previous year. In 2009, almost 30 million pounds of mail passed through Kotzebue. Also in 2009, onsite operations contributed 210 jobs (direct, indirect and induced) and \$37.8 million in leaseholder and airport operation expenditures (Northern Economics 2009).

One major passenger carrier, Alaska Airlines, and two regional carriers serve Kotzebue (Era and Bering Air). Air cargo carriers with scheduled service in Kotzebue include Northern Air Cargo, Everts Air Cargo, Ryan Air, and Lynden Transport. Additional companies provide charter services, especially during the summer and fall hunting and fishing season. Numerous charter carriers and fish and game guides maintain small aircraft in Kotzebue during the summer season.

The paved runway does not meet requirements for the 737-200 aircraft that serve the airport, and it does not meet FAA safety recommendations. In addition, air carriers and general aviation users need more land for new buildings and storage. Airport upgrades planned for 2012 include construction of a new apron, resurfacing taxiways, and extension of the runway about 100 feet into the sound and towards the hillside on the east side of the airport.

The most recent Airport Master Plan was completed in 1998, and in 2008 the first state of the Master Plan update began with an airport relocation feasibility study. The 2008 study found that it would cost too much to relocate the airport (\$760 million - \$1.2 billion) and that expanding the existing facility to meet safety requirements would cost \$560 million (PDC Inc. Engineers 2008). The State deemed the cost of a new airport and associated road to be too high given the associated activity, population and enplanement estimates.

2.5.3 Roads and Trails

Kotzebue's surface transportation system consists of paved roads, gravel roads, winter ice roads, and winter trails. The City supports improvements to the road system including ice roads, permanent roads, and roads to resource areas such as the Iggy Hill gravel deposit.

Current Road System: Kotzebue's 28-mile road system includes 7 miles of paved road and 21 miles of gravel roads that are not connected to any other community. Paved roads consist of several north-south through streets and several cross connectors. Ted Stevens Way, which is also paved, crosses the lagoon and continues to the Vortac Lake water supply site and to Devil's Lake water supply access road. It also connects to the Hillside Road. The Shore Avenue project, completed in 2011, added approximately 2 miles of paved road.

The "Base Road" to the old Air Force Base crosses the airport and continues past the sewage lagoon to the City's landfill ending at KEA's wind generation facilities. The Hillside Road runs from the

³⁰ The Bypass Mail Program provides subsidized air freight service to rural Alaska for shipments that are at least 1,000 pounds. Goods are shipped directly by the shipper at rates that average less than the Parcel Post rate.

Base Road on the east side of the lagoon along the hillside to Ted Stevens Way (see Map 3). Part of the rationale for the Hillside Road was to reduce the use of the road that crosses the airstrip. The Native Village of Kotzebue accepted the right-of-way for the Hillside Road from KIC, and it is responsible for maintenance. The Hillside Road will open up areas for development, even if basic infrastructure is not yet in place.

Road System Expansion and Improvements: Proposed roads are under consideration for a route to Cape Blossom and a route from Cape Blossom to Nimiuk Point. Initial work has begun for design and environmental assessment for the proposed road from Kotzebue to Cape Blossom. This road would open areas up for development and provide access to a proposed deep water port at Cape Blossom (see Map 4). Another proposed road between Cape Blossom and Nimiuk Point would provide access to a gravel source used by KIC and to a potential terminal site. Discussions have been initiated about construction of a barge landing site at Nimiuk Point and an associated tank farm to serve the upper Kobuk communities. This proposed facility could lower costs for supplying fuel and commodities for villages served by barges. Additional potential road projects and improvements include a continuation of the Shore Avenue project and improvements to Ted Stevens Way. The City of Kotzebue is proposing to extend its municipal boundaries to accommodate road system expansion and improvements.

Trails: Winter trails provide important transportation links to subsistence sites and between Kotzebue and other villages. Trail easements for winter access through state, federal and private lands have been secured.³¹ Winter trails are marked across Kotzebue Sound and Inlet and on the rivers with sticks or branches when the ice reaches a safe thickness for travel.

The Northwest Alaska Transportation acknowledges the need to mark and map trails in the region (DOTPF 2004). Winter trails link Kotzebue with other communities including Kivalina (85 miles), Noatak (50 miles), Kiana (50 miles), Noorvik (50 miles). Trails from those communities link with other Borough communities.

Off-road travel includes use by snow machines, all-terrain vehicles (ATVs), and other vehicles that travel over the ice in the winter. Residents access a few summer trails with ATVs. Safety issues have been identified in areas where off-road vehicles cross the road system.

Non-Motorized Travel: Since the 2000 Comprehensive Plan, the City has constructed over 11,500 feet of sidewalks along portions of 2nd Avenue, 5th Avenue, Lagoon Street, Mission Avenue, and Shore Avenue. Public comments received during preparation of the 2012 plan encouraged improvements that would support more transportation by bicycle, such as a route from the airport along Shore Avenue to the small boat harbor at Swan Lake. A Third Avenue sidewalk, especially for students going to and from school, is also needed. Previously, residents have expressed a need for separate ski trails and dog sled routes.

2.5.4 Trip Generators and Congestion

The major trip generators within the community include travel to the hospital, airport, grocery stores, post office and to city, state, tribal, and federal offices. These trips involve walking, 4-wheelers,

³¹ The trail that crosses KIC's land and the Devil's Lake water supply includes a 25-foot easement. A 60-foot easement also exists for the road south of town to the airport and from the airport property to the northern boundary of Section 28, T 17 N, R 18 W, KRM.

snow machines, automobiles, or taxis. Extensive traffic counts were conducted at 34 sites as a part of preparation of the 1997 Transportation Plan (City of Kotzebue 1997). These counts showed a peak use from around 7:00 p.m. to midnight, and they were used to prioritize road improvements.

A review of traffic counts revealed some heavy use areas during the lunch hour and evening hours at the post office, grocery stores and bank. Many of the roads are too narrow for the traffic, and on street parking. Summer traffic is significantly greater than in the winter, and there is a slight increase during the commuting hours to work and home from work.

There are conflicts between off-road vehicles with cars and trucks and pedestrians. In winter, snow machines come off of the ice over the beach and onto the road at high speeds in order to make it up the steep banks. When roads are cleared of snow, there are no places for the snow machines to cross. It is particularly congested near the hotel and store with pedestrians, snow machines or ATV's (depending on the season) and vehicles.

In 2012, the State of Alaska removed the City of Kotzebue's exemption from vehicular insurance and registration compliance with Alaska Division of Motor Vehicles (DMV) requirements. While this may reduce some of the traffic, it also may add burdens to village elders who do not have a driver's license.

The lack of size limits causes some deterioration of poorly constructed roads during the spring thaw and during the occasional rainstorm. Freight transported from the dock and airport moves through town on trucks where limited street size or visibility is a major problem. There are no commercial loading or unloading zones or alleys for those purposes. In addition, there is a conflict between vehicular traffic across the airstrip and airport use.

2.5.5 Public Transportation

Currently the city has no public transportation, but two cab companies operate year round out of the owners' homes. A ride costs \$6 per person to any location in town. Since Kotzebue is over a mile long and almost a mile wide, walking may not always be feasible, especially in inclement weather and for the elderly. If the community expands to the Hillside, the need for transportation will increase. A Transit Development Study completed in 1981 analyzed a possible bus system, but it found that the fees would need to be nearly as high as those charged for taxis (Alaska Transportation Consultants 1981).

Public comments received during preparation of this plan revision identified the need for low-cost transportation for elders. The lack of suitable vehicles for transporting people with disabilities requires use of the ambulance. As mentioned above, new requirements for registration of 4-wheelers also inconveniences elders who do not have a license.

2.6 Community Facilities and Infrastructure

The City of Kotzebue has responsibility for roads, the water supply and treatment systems, the wastewater collection system, and the solid waste disposal and baler facility. A Utilities Master Plan, updated in 1999, found that most of the recommendations of the 1993 plan were implemented. Also, in May of 1999, the U.S. Army Corps of Engineers completed a special investigation of Alaska Environmental Infrastructure. These documents have been the basis for improvements and operation

of the City's Public Works Department. A Sanitation Utilities Development Plan updated in 2011 guides the City's efforts in improving its infrastructure. The 2009 *Water and Sewer Utilities Improvements Preliminary Engineering Report* addresses needed water and sewer improvements.

2.6.1 Water System

The Alaska Rural Water Association honored Kotzebue with the Water System of the Year award in 2011. This award recognized efforts by City staff to submit compliance monitoring reports on time. Kotzebue's water treatment plant received second place in Alaska Rural Water Association 2010 competition taste tests. Additional improvements to the system, however, are needed.

The current system has enough supply for the projected population through 2020. It has been improved by implementing changes to the water intake area at Devil's Lake. Compressed air is injected below the surface to keep the area around the pump house free of ice. Problems with a lack of recharge at Devil's Lake have been addressed through pumping of water from Vortac Lake to Devil's Lake.

Supply System: A new raw water line into town from Devil's lake, completed in 2010, greatly improved delivery efficiency. Several actions are needed to ensure continued protection of the watershed, including completion of the 14(c)(3) land conveyances from KIC, designating the area as a protected watershed, rerouting the existing trail, and developing a watershed protection plan. Improvements needed to the supply system include snow clearing equipment for improved access, a new pump control system, and repairs to the power supply at Devil's Lake. Improvements needed to back up water supply at Vortac Lake include fixing the deep water intake and repairs to the impoundment dike (DOWL HKM 2011).

Treatment System: The water treatment plant, constructed in the early 1970s, has exceeded its design life and needs replacement to meet federal and state drinking water regulations (GV Jones and Associates 2011). The existing treatment plant consists of two units capable of treating up to 300 gallon per minute which requires 24-hour operation to meet demand. The recommended replacement system would cost an estimated \$11.6 million for installation and \$560,000 in annual operation.

A new storage tank, constructed in 2004, added 1.5 million gallons of storage which was needed for emergencies and maintenance. The old 1.5-million gallon storage tank was taken offline for rehabilitation.

Water Distribution System: Water is distributed to the community in six water loops with a total length of 63,000 feet. The loops were originally built using 4-inch PVC pipe. While approximately one-half of the piping has been upgraded with larger diameter HDPE pipe, the continued replacement of the remaining undersized and deteriorated old 4-inch PVC pipelines is necessary in four of the six water loops. Leakage and breakage of the old PVC pipe is the main cause for major maintenance on the water loops. Service connections run to each customer in twin pipes which allows for circulation of the water between the pump house and the water main in order to keep the water service from freezing. Water is circulated using pit orifices installed in the water main and by circulation pumps installed in many of the homes serviced. Most of the old copper service connections are also in need of replacement. In 2010, about 43 housing units, 4.6% of the occupied housing in Kotzebue, lacked complete plumbing (U.S. Census Bureau 2012).

2.6.2 Wastewater Collection and Treatment System

The City provides sewer service throughout the community. Sewage is collected in gravity sewers which flow to a system of 13 underground pumping stations located throughout the City. The sewage is pumped to a three-cell lagoon treatment system located just south of the airport on DOTPF property leased to the City. Many of the improvements in the sewer system that were recommended in the 1993 Master Plan have been completed, including replacement of known broken pipes. Several of the original lift stations have been replaced with more modern facilities. There is still a need to replace the remaining 7 old lift stations with a design that allows for easier maintenance and improved reliability. The sewage lagoon treatment system has been upgraded by raising the dike to prevent overflows from the existing cells, and a new cell 3 is under construction to expand the treatment system capacity to accommodate future flows.

2.6.3 Solid Waste Collection and Disposal

Collection: The City runs a garbage collection service using compactor collection vehicles. The collected waste is delivered to a baler facility in the public works compound in the City. While the new baler facility is adequate, operating costs have been higher than anticipated so the City is evaluating how more efficient measures can be implemented. In 2011, the City of Kotzebue purchased a front loading garbage truck and is looking at purchasing additional dumpsters and Curotto cans that will allow automated pick up of residential trash.

The landfill, located south of the airport, has been operating adequately but suffers from high operating costs and inadequate sources of cover materials. The City is hoping to be able to use the material to be removed for the airport extension for landfill cover. Materials from demolition of the old hotel and other construction projects will reduce the life of the landfill.

Recycling and Waste Reduction: Other than a requirement for separation of hazardous waste, there are no City-sponsored recycling efforts or requirements. Maniilaq operates a recycling program that involves collection of electronic waste and aluminum cans from Kotzebue and villages in the region.

In an effort to reduce waste in the landfill, the City received an Alaska Energy Authority (AEA) grant to conduct a wood and paper waste heat feasibility study. In April 2012, the City issued a request for proposals for this study.

An expanded recycling and waste-reduction program would extend the life of the current landfill by reducing the amount of materials that enter it. A city-sponsored program would likely require employment of a fulltime person as well as an adequate place to stage materials. A waste reduction program could include a facility for separation of metals, bottles, plastics.³² “Freecycle,” an internet-based program, may be of use to the community in reducing materials entering the landfill by providing a platform for residents to give unwanted goods away to other residents.

2.6.4 Energy

Power for the community is supplied by a non-profit community cooperative, Kotzebue Electric Association (KEA). The cooperative generates over 19 million kWh of electricity per year, mostly through diesel generation. In response to the high costs of diesel, KEA has worked with the City to

³² As practiced in some other communities, bottles could be separated from the waste stream could be crushed and added to materials used to cap the landfill.

reuse waste heat, it has pioneered the Arctic application of wind generators, and it is evaluating the use of fuel cells.

The Power Cost Equalization (PCE) program, managed by the Alaska Energy Authority, subsidizes local power costs. In June 2010, the PCE reduced the actual average costs of residential from \$0.48 to \$0.17 per kWh (Alaska Energy Authority 2011).

The Northwest Arctic Borough and NANA are seeking ways to make the region more energy independent (NANA 2010). Section 2.4.5 includes additional information about energy conservation and the potential for alternative energy production.

2.6.5 City Buildings and Facilities

City buildings and facilities include City Hall, the Public Works complex, the Police Station, the Fire Station, recreational center, and the sewer and water systems discussed earlier in this plan. Most of the buildings that provide city offices and infrastructure are over 30 years old and in need of significant maintenance or replacement. For example, the community has outgrown the City Hall building and a new facility is needed that is ADA accessible.

2.6.6 Public Safety

The City of Kotzebue Police Department, City Volunteer Fire Department and Fire Training Center, Alaska State Troopers, and NANA Search and Rescue provide public safety services for the for community. The City Police Department, formed in 1969, enforces local laws, provides a state contract jail for the region, and manages the animal control program. The Kotzebue Fire Department provides firefighting and emergency medical services. In addition, there is a need for a new public safety complex that would meet accrediting standards for access and security. A new facility could also house a new jail and the fire department.

2.6.7 Other Services

Recreation: While Kotzebue has opportunities for outdoor and indoor recreation, many people who commented on the draft Comprehensive Plan noted a need for more recreation opportunities, especially for youth. One of the strategies in this plan calls for development of a recreation plan which would include an inventory of current recreation facilities and a prioritized list for future improvements.

The Family Entertainment Center, also called the Recreation Center, provides youth recreation services through the Boys and Girls Club, offers Bingo, and includes a workout room with weights, a sauna, and limited racquetball court space. This facility is in high demand, and additional space is needed for indoor recreation opportunities. In addition, there is a need for more recreation options for all age groups of youth since the Boys and Girls Club targets younger children.

The City has several parks with playground equipment, however, little funding is available to maintain or secure these locations and assure safety. The softball field provides a popular recreational opportunity, but late night games produces conflict with local residents. Other recreational pursuits include walking, bike riding, ATV and snow machine use, dog sledding, and skiing. A lack of designated trails and crossings, however, creates conflicts.

The City plans to develop a 5-acre area near the Swan Lake Boat Harbor into the Kotzebue Regional

Outdoor Recreation Center. This facility will be built on dredge spoils from Swan Lake and will include a pavilion, stage, softball field, track field, horseshoe pit, picnic area, benches, bleachers, a scenic walkway, and a parking area.

Health: There is a modern, full-service medical facility and hospital in Kotzebue that opened in 1997. It is operated by Maniilaq Association using Indian Health Service and other funding sources. Maniilaq also provides outreach services and training for village clinics in the region. Other health-related counseling, prevention and education services are also available from either Maniilaq or the Native Village of Kotzebue.

Maniilaq provides mental health and alcohol counseling, social services, women's shelter, welfare assistance, and employment assistance for outlying villages, and in some instances, for Kotzebue. The Native Village of Kotzebue provides some additional services including housing, tribal government services, subsistence protection, education, social services, and real estate service for the restricted townsite deeds and Native Allotments. Some State of Alaska social and health services are also available either directly, through Maniilaq or through the Native Village of Kotzebue.

Education and Libraries: A K-12 school complex is located in the center of town, and the school district office operates from that same area to serve the outlying communities. A recently completed middle school addition expanded the facilities. The school district has received grant funds for a Career Tech program which will add classrooms and a dormitory for technical education opportunities for area students. The Native Village of Kotzebue has also started an optional tribal school to ensure a well-rounded, culturally appropriate education for its members. The Alaska Technical Center is a vocational education facility on the north end of town providing a comprehensive curriculum including some specialized courses in conjunction with Teck Alaska. The University of Alaska Fairbanks (UAF) Chukchi Campus provides distance learning and local instruction. It is expanding the campus with the addition of a 1,345-square foot flight simulator room. NANA is working with the school district to develop a magnet school which would help students in grades 11-14 gain skills needed locally for health care, resource development and education jobs. The Chukchi Consortium Library is funded by the University of Alaska and the Borough.

2.7 Land Use, Ownership and Planning

Probably no other single factor is as critical to long-term economic development, expansion, or planning for Kotzebue as land use and ownership. Implementation of the Comprehensive Plan requires consideration of land use, ownership and zoning.

2.7.1 Municipal Boundaries and Authorities

Map 5 indicates municipal boundaries and major and ownership, and larger, more detailed maps are available at the City offices. The municipality has platting, zoning, and land use authority under Title 29 of the Alaska Statutes and by Northwest Arctic Borough Ordinances #86-2 and #89-21. Most of the current zoning ordinance in Chapter 17 of the Kotzebue Municipal Code deals with uses, setbacks and restrictions of the lots in the original and subsequent town-site surveys in the core area of Kotzebue. Chapter 18 of the city code recently added subdivision regulation.

Little use designation or control has been established for other locations outside the original town-site. This is at least partly due to the ownership and control of these lands. The airport is owned and

operated by the state of Alaska, and FAA lands are controlled by them. KIC’s interim conveyance (IC) lands are under their control. While the 14(c) re-conveyances to the City required by ANCSA have not yet been completed, they are finalized and expected to be completed in the near future. These uses, ownerships, 14(c)(3) boundaries, and Native allotment ownership are shown on Map 6.

Expansion of City Boundary: With the potential development of a Port Facility at Cape Blossom, the City of Kotzebue is investigating the possibility of filing a petition with the State Boundary Commission to expand the boundaries of the community. The annexation of new lands would encompass additional areas of the Baldwin Peninsula, including the area south to Cape Blossom on the west side to an area below Nimiuk Point on the east side of the peninsula.

2.7.2 KIC and ANCSA 14(c) Re-conveyances

Under ANCSA, KIC is eligible to receive a total of 208,000 acres of 12(a) and 12(b) selections from BLM by tentative approval, interim conveyance and patent.³³ Under the provisions of ANCSA KIC has the statutory requirement to re-convey land to existing users at the time of ANCSA under section 14 (c)(1), (2), (3), and (4). These rights include the occupants (as of 1971) of residences (e.g., subsistence campsites), businesses (e.g., reindeer husbandries), churches and the like (section 14(c)(1) and (2)). Municipalities may obtain up to 12,800 acres for expansion under Section 14(c)(3) and for existing airports under Section 14(c)(4) of ANCSA. After the land is surveyed for the 14(c)(3) lands (scheduled to occur in the summer of 2012), the Planning Commission will review the plats, the plats will be recorded, and the City will receive its selections.



Pursuant to the provisions of Section 14(c) of ANCSA (43 U.S.C. 1613 [c]), the City and KIC reached an agreement in May 1993. In accordance with the agreement and subsequent land negotiations, the City hired McClintock Land Associates to develop a *Map of Boundaries*, which has been filed with the BLM. The BLM has entered this into the public land records to officially put the public on notice. After one year of this notice, BLM will arrange to survey these tracts, and upon completion of the surveys, the village corporation will issue the deeds.

2.7.3 Native Allotments and Townsite Lots

The federal 1906 Native Allotment Act and 1926 Alaska Native Townsite Act provided local residents title to some lands within the City. Although both acts were subsequently repealed, lands already conveyed are not subject to state or local taxation or regulation. There are currently 24 restricted Native allotments and 48 restricted townsites within the Kotzebue municipal boundaries. All of these allotments were surveyed and have been transferred to the applicants or their heirs.

³³ While the village Native corporation in the 10 other communities in the Northwest Arctic Borough merged with the NANA regional corporation, KIC decided to remain a separate corporation and is therefore eligible for land selections.

Allotments and restricted townsite lots in the core townsite area are only subject to the municipal ordinances if the government finds it in the owner’s best interests to be subject to those ordinances. The Native Village of Kotzebue, under what is known as a “638 contract” with the Bureau of Indian Affairs, assists the landowners in managing their land, including use as a home site, leasing for development, gravel sales, land sales, subdivision, or use and protection for subsistence.

2.7.4 Federal and State Lands

While there are only a few pieces of federally owned property in the City of Kotzebue, these areas comprise potentially developable land (e.g., the two old FAA sites and the old Air Force/White Alice site). The FAA sites will likely continue to be used for their purposes (as redefined under section 3(e) of ANCSA). The Air Force site is prime real estate, and KIC has “top filed” for the lands in the event they are “excessed” by the federal government.

Other than tidelands and submerged lands adjacent to the community, the State of Alaska owns tidelands and submerged lands effectively giving the State management authority for areas below the mean high water mark.³⁴ The state also has selected lands south of Kotzebue along the coast of the Baldwin Peninsula, including lands adjacent to Cape Blossom. Since those uplands are top-filed over Native Corporation lands, it is not certain if any of these areas will be conveyed to the State.³⁵ The State manages most of its tidelands and submerged lands are managed for multiple uses in the vicinity of Kotzebue except for the areas adjacent to the Noatak River which are managed for habitat (Alaska Department of Natural Resources 2008). The State-selected areas around Cape Blossom are also managed for habitat. The Alaska Department of Fish and Game (2001) has identified sensitive habitats around Kotzebue for spotted seals and waterfowl.

2.7.5 Land Uses and Designations

Map 6 provides an indication of ownership and to some extent use of the lands within the Municipality of Kotzebue, but it does not indicate specific use designations or zoning districts. While the municipal code references a zoning map (KMC 17.12.010 – 17.12.020) and three zoning districts (KMC 17.16 - 17.24), the City Council never approved an official zoning map identifying zoning districts. While not approved, a zoning district map identifies which areas were proposed for designation as General Use, Commercial Use and Industrial Use zoning districts. The code provides a “grandfather” clause to allow continuation of current uses (KMC 17.32) and also discusses a historic use district or site (KMC 17.28.100).

The current mix of commercial, retail business, light industrial, residential, parks, and offices has the potential for safety problems (traffic, fuel leaks, noise, dust, etc.). One of the strategies in this plan involves adoption of zoning districts by the City Council. If the Council chooses to adopt zoning districts, the proposed zoning district map prepared for the 1976 draft Comprehensive Plan will provide a starting point for designating the zoning districts.

³⁴ The City owns the tidelands and submerged lands from the centerline of the main runway to Minerva Street on the north end of town.

³⁵ While the corporations have priority over the state when there are duplicative selections, the state could receive some of these lands if they are not conveyed to the corporations.

Chapter 3: Goals, Objectives and Strategies

3.1.2 Goal Development

A series of public meetings held by the Planning Commission resulted in an initial set of goals for this update of the Comprehensive Plan. During these meetings, representatives of local organizations, city staff and the general public provide input. The first step in the process involved a meeting to determine the status of the goals from the last Comprehensive Plan (Appendix A). The goals that were still relevant were included the draft plan along with objectives and strategies. During early 2012, these goals, objectives and strategies were further refined to include input from agencies, organizations, city staff, and Kotzebue residents.

3.1.3 Issues, Goals, Objectives, and Strategies

The goals, objectives and strategies provide the backbone of the Comprehensive Plan. They guide how the plan will be implemented and ensure it will be a living document. The tables in this chapter are designed to be stand-alone documents that can be regularly updated to track the progress of implementing the plan until the next plan revision.

This plan has 4 primary subjects and associated goals, objectives and strategies:

- Land use planning,
- Economic development,
- Infrastructure, and
- Quality of life.

Definitions

Goals are broad statements that describe long-term desired outcomes.

Objectives provide more specific information of what can be done to achieve a goal.

Strategies describe specific actions that will be taken to reach an objective.

Each of the 4 subjects begins with a short discussion of related issues that set the stage for the goals objectives and strategies.

3.1.3.1 Land Use Planning

The location of the City of Kotzebue limits the amount of land available for growth. It is bounded by the Kotzebue Sound to the west and north, the lagoon to the east, and airport to the south. This limitation hinders both physical growth and economic development. Two solutions exist to this problem, growth on the other side of the lagoon and more efficient use of the land the City now occupies. Both of these solutions require land use planning to maximize the City’s potential.

Goal 1: Encourage growth through land use planning			
Objectives	Strategies	Timeframe	Responsible Agencies
#1 – Land Re-Conveyance: Finalize ANSCA 14(c)(3) re-conveyance status	Continue to work with KIC to resolve hindrances to finalization of the ANCSA re-conveyance	2 years	City, KIC

Goal 1: Encourage growth through land use planning			
Objectives	Strategies	Timeframe	Responsible Agencies
#2 – Planning: Provide for more orderly community growth through planning	Review and revise Title 17 (Zoning) of the City Code	1 year	Planning Commission
	Create a plan for management of existing City lands and tidelands and for acquisition of new lands (e.g., long-range radar site and state surplus lands)		City
	Consider completion of zoning requirements as directed in the Municipal Code, including designating areas for residential housing and industrial and commercial uses.		Planning Commission, City Council
	Develop effective platting standards for lots, public roads, utilities and sidewalks to support residential and commercial lot development		
	Work with landowners to reduce conflicts for incompatible uses that have been “grandfathered”		
	Work with the State of Alaska to update the community profile map		
	Seek funding to develop an updated Flood Insurance Rate Map		
	Develop a watershed protection plan that addresses measures needed to ensure a clean water supply, including rerouting of the snow machine trail		
	Participate with federal, state, and local agencies in planning efforts such as coastal and ocean management, natural hazard mitigation, responses to global warming, and additional planning efforts that have the potential to impact the City		
	Pursue annexation of lands to expand the City boundaries to encourage future growth. Review ordinances to ensure they will be appropriate for annexed land.		

Goal 1: Encourage growth through land use planning			
Objectives	Strategies	Timeframe	Responsible Agencies
	Consider resources that will be needed to support community expansion if a port is constructed or if the U.S. Coast Guard opens a station in the City		
	Consider measures to address vacant lands and derelict buildings in the City core and encourage redevelopment		
	Develop a plan to encourage citizens to keep yards/lands clean and orderly to a basic extent		
	Consider alternatives that would make developments not connected to water and sewer utilities more self-sustaining		
#3 – Strategies: Address issues which could have major impacts on the City strategies	Review and revise City codes related to public safety		
	Update the Hazardous Waste Plan and develop a coordinated plan for business and residential recycling of aluminum, cardboard, plastic, and e-waste		

3.1.3.2 Economic Development

There are several basic conditions that must exist for a city to prosper, one of which is the opportunity for its citizens to earn a living and another is to be able to obtain the necessities to support oneself and one’s family. A 2009 study found that Kotzebue is the most expensive city to live in Alaska of the cities surveyed (McDowell Group 2009). The 2006-2010 average unemployment for Kotzebue is estimated to have been 20.7%. Development which can provide jobs and an economical supply of goods and services is essential to ensure a sustainable community.

Goal 2: Promote economic development to increase job opportunities and to provide goods and services at economical costs			
Objectives	Strategies	Timeframe	Responsible Agencies
#1 – Jobs: Increase job opportunities through expansion of existing businesses, including small businesses, and attracting new businesses.	Develop an economic development plan that includes, but is not limited to, development of small businesses in Kotzebue		
	Establish a City Economic Development Committee and encourage local businesses to form		

Goal 2: Promote economic development to increase job opportunities and to provide goods and services at economical costs			
Objectives	Strategies	Timeframe	Responsible Agencies
	a chamber of commerce or business association		
	Support efforts to attract “green” businesses to the city and businesses that use local materials for manufacturing		
	Support tourism development initiatives, including locally-operated “boutique tourism”		
	Support local provision of aviation skills		
	Recognize that Kotzebue is a hub for the region and explore ways to improve facilities and infrastructure that support Kotzebue as a hub		
	Improve the Swan Lake Small Boat Harbor to support subsistence and commercial fishing activities		
	Consider efforts to market Kotzebue including a review of the City’s slogan		
	Support coverage of local events through local and regional newspapers and establishment of calendar of local events		
	Promote measures that encourage residents to continue to live in Kotzebue		
	Support youth employment programs		
	Encourage industries and businesses to locate in Kotzebue		
	Expand Kotzebue’s role as a regional hub, including opportunities to develop support services for oil and gas and mining exploration and development in region		
	Encourage establishment of value-added businesses that promote export of goods (e.g., fish and meat processing facility and tannery)		

Goal 2: Promote economic development to increase job opportunities and to provide goods and services at economical costs			
Objectives	Strategies	Timeframe	Responsible Agencies
	Explore options for reducing fuel costs by bulk fuel purchases		
#2 – Goods and Services: Expand availability of local goods and services and reduce the costs of existing goods and services through increased competition and the reduction of transportation costs	Actively work with stakeholders to obtain funding for the Cape Blossom Regional Port and associated road and consider options for City ownership of lands, tidelands and submerged lands for port development		
	Encourage more professional and trade services to locate in Kotzebue (e.g., accountants, computer services, dentists, lawyers, plumbers, electricians, and mechanics)		
	Encourage development of a shopping center or mall for retail sales and professional services		
	Encourage development of a private Laundromat		
	Support efforts to develop alternative and renewable energy sources including natural gas, biomass, and geothermal resources		
	Develop an Alternative Energy/Energy Conservation Plan for the City		
	Support efforts to improve high speed/higher bandwidth communications within the region and to “outside” areas		
	Support KOTZ radio station, including equipment upgrades		
	#3 – Workforce Training: Encourage workforce training to improve job skills and attract employers	Recognize education as an industry and support Borough and School District plans for a magnet school	
Support offering of more evening classes for workers who cannot attend classes during the day			
#4 – Land and Housing: Increase land available for housing and growth to make Kotzebue a more desirable	Encourage owners of undeveloped parcels or lots with abandoned buildings to make properties available for community expansion		

Goal 2: Promote economic development to increase job opportunities and to provide goods and services at economical costs			
Objectives	Strategies	Timeframe	Responsible Agencies
place to work and live	Explore options to encourage more affordable and handicap-accessible housing		
	Explore applicability of techniques used by the Cold Climate Housing Research Center and other programs such as the Living Building Challenge and the LEED program		
	Pursue “Brownfield” funding opportunities to develop future projects/housing sites		
	Support efforts to identify and develop gravel resources in the area		
	Develop a subdivision plan that addresses road and utility needs for areas along Ted Stevens Way and along the proposed Cape Blossom road		
	Support programs that support energy-efficient improvements (e.g., RuralCap, AHFC, NANA, and volunteer programs)		

3.1.3.3 Infrastructure

Background: A major function of a city is to help its citizens meet basic needs such as clean water, sanitation, and solid waste disposal. Providing the infrastructure, its maintenance, and planning for expansion also is necessary for the continued growth of a city and its economy.

Goal 3: Provide the environmental infrastructure to meet the needs of its citizens and plan for expansion to support the City’s growth			
Objectives	Strategies	Timeframe	Responsible Agencies
#1 – Expand Water and Sewer: Expand water and sewer services within the City to areas not now being served	Implement recommendations in the Water and Sewer Master Plan		
	Develop a plan for Hillside water and sewer service and establish minimum lot sizes to allow room for water and sewer infrastructure		
#2 – Upgrade Water and Sewer: Upgrade present water and	Upgrade the water and sewer infrastructure according to the Master Plan as funds become available including		

Goal 3: Provide the environmental infrastructure to meet the needs of its citizens and plan for expansion to support the City's growth			
Objectives	Strategies	Timeframe	Responsible Agencies
sewer infrastructure to allow for future growth	the water treatment plant, water mains, sewer lines, fire hydrants, and sewer lift stations		
#3 – Solid Waste Provide for future solid waste needs such as landfill capacity, recycling, and hazardous waste disposal	Develop and implement a Solid Waste Management Plan that coordinates with the other govern-mental entities issues related to solid waste disposal, recycling, hazardous waste disposal, and landfill capacity		
	Improve the refuse collection process to eliminate litter		
#4 – Transportation: Improve transportation within the City	Develop or update the Transit Plan to include improvement in parking, ATV/sno-go/bike trails, and pedestrian access/mobility		
	Complete current improvements to the airport, extension of the runway and long-term planning		
	Continue to pursue efforts to relocate the airport		
	Address house encroachments in the right of way on Third Avenue	Long term	
	Develop a plan for road improvements including fixing drainage problems, extension of road improvements to North Shore Avenue, realignment of Bison Street and construction of a sidewalk on Third Avenue		
	Continue to support winter trail staking and ice road construction to improve winter connections between Kotzebue and other communities		
	Investigate feasibility of a road connecting Kotzebue to Kiana and Selawik		
	Improve access to the new recreation site at Swan Lake		
	Construct a bike path on Ted Stevens Way over the water pipeline		
	Continue the dust abatement program by paving gravel roads		
	Investigate options for mass transit and transportation of students		

Goal 3: Provide the environmental infrastructure to meet the needs of its citizens and plan for expansion to support the City's growth			
Objectives	Strategies	Timeframe	Responsible Agencies
	Update the transit plan to include wheel chair accessible, on demand transportation		
	Ensure that plans for the runway extension will not interfere with longstanding subsistence use		
#5 – City Facilities: Upgrade city-owned buildings and facilities	Prioritize which City facilities need to be upgraded or replaced (e.g., a regional jail, new ambulance, public safety complex, & ADA-accessible City Hall) and consider feasibility of a complex that would house multiple facilities		
	Relocate baler facility out of city core, possibly near the landfill		
	Investigate feasibility of a multipurpose facility that could serve as a meeting area, cultural center, convention center, and visitor center		
	Ensure adequate lighting is available for public safety while conserving energy and preserving the night sky (e.g., use of LEDs and directional lighting)		

3.1.3.4 Quality of Life

Background: Once the basic needs for life are met, jobs are secured, and education is provided, there still exist needs which should be met also. These needs are those that make carrying out daily tasks safer and easier, provide outlets for mental and physical energies, and, in general, add to the enjoyment of life.

Goal 4: Improve the quality of life in Kotzebue			
Objectives	Strategies	Timeframe	Responsible Agencies
#1 – Recreation: Improve recreational opportunities in Kotzebue	Prepare a Recreation Plan that inventories existing facilities and evaluates needs, considers accessibility for people with disabilities of all ages, identifies funding, and plans for sustainable upkeep of facilities, including but not limited to an indoor swimming		

Goal 4: Improve the quality of life in Kotzebue			
Objectives	Strategies	Timeframe	Responsible Agencies
	pool, a skate park, sledding area, shooting range, improved playgrounds, new softball fields, and other recreational activities		
	Encourage development of a movie theater and bowling alley		
	Reestablish a teen center and other recreational opportunities for older youth		
	Seek funding for to complete recreational projects such as Swan Lake Boat Harbor, and Regional Outdoor Recreational Facility and Commemorative Park. Explore State of Alaska “TRAAK” funding opportunities		
	Explore options for bike trails (e.g., trail from airport to Front Street to back of town)		
	Complete upgrades to the Kotzebue Recreation Center including general repairs and making the facility accessible for people with disabilities. Investigate options for expanding or replacing the facility or relocating bingo activities to a different place. Seek funding to expand hours of operation.		
	Investigate options for an indoor pool that could use excess waste heat from power generation and serve multiple purposes (e.g., local use, a regional facility to teach children how to swim, and fire control)		
	Designate an outdoor place for kids to swim in the summer		
	Improve fairgrounds by resurfacing the area and adding a covered stage with a public address system		
	Consider establishment of a City recreation advisory committee		

Goal 4: Improve the quality of life in Kotzebue			
Objectives	Strategies	Timeframe	Responsible Agencies
#3 – Healthy Environment Maintain a healthful environment	Support initiatives to improve public health including but not limited to early childhood learning projects, youth development projects, mental health programs, health awareness campaigns, substance abuse programs, suicide prevention program, and dust control measures		
	Promote and support projects to improve City’s road system including sidewalks, paving for dust control, widening, lighting, and crosswalks		
	Promote beautification and sustainability efforts through agrarian activities, community gardens, composting, and planting of trees and shrubs		
	Support opportunities for affordable daycare		
	Support local facilities for day surgery, eye care and orthodontics		
#4 – Public Safety Increase public safety	Develop a Communication Plan to coordinate and improve emergency needs, and dissemination of information within the City		
	Review and update City Codes to strengthen public safety and public health		
	Support public safety efforts such as Safe School Corridors and police in schools programs domestic violence prevention programs		
	Reinstitute former practice of signaling the curfew with a siren		
	Support domestic violence prevention programs		
	Support and seek funding for an improved public safety complex that would meet accrediting standards for access and security (e.g., adequate office space,		

Goal 4: Improve the quality of life in Kotzebue			
Objectives	Strategies	Timeframe	Responsible Agencies
	evidence storage area, equipment storage, garage, interview rooms, locker rooms, secure areas, decontamination area for biohazards, workout room, kitchen, records and administration area, and an impound and evidence enclosure)		
	Improve emergency response measures, including communications with residents and use of a siren or other signal during an emergency		
	Continue to support efforts to secure a permanent base for search and rescue efforts		
	Encourage funding for a program to train local residents in oil spill response training that would prepare the community for a large oil spill from increased vessel traffic		
#5 – Education: Expand educational opportunities	Work with and support the educational community in efforts to prepare youth and adults to meet current challenges while keeping a focus on cultural values		
	Encourage schools to focus on training to provide needs of the community (e.g., accountants, plumbers, journalists, public safety, public administration, rural development, utilities management and other city employment needs)		
	Support efforts to expand community library and add more books, periodicals, and computer equipment		
	Continue to support student extracurricular activities.		
#6 – Iñupiat Culture: Promote Iñupiat language and culture	Support programs that promote Iñupiat culture such as Eskimo dancing, language training, Iñupiaq street signs, and Qatnut trade fair		

Goal 4: Improve the quality of life in Kotzebue			
Objectives	Strategies	Timeframe	Responsible Agencies
	Document and protect archaeological/historic resources		
	Document and protect subsistence use areas including north and south tent cities		
	Support reinstatement of the blanket toss		
#7 – Sister Cities: Promote exchanges with Kotzebue’s sister cities	Reinvigorate relationship with Lavrentiya, Russia and consider a new sister city relationship with a community in Nunavut Canada		
#8 -- Elder Programs: Provide support services for elders	Maintain existing services for elders and provide assistance to ease the cost of living		
	Support efforts to ensure elders have mobility by working with other organizations that provide transportation services		

Chapter 4: Implementation

The success of comprehensive planning depends on how the plan is implemented and amended throughout time to adapt to new opportunities and conditions. The Comprehensive Plan is only the beginning of an ongoing iterative process of establishing priorities by evaluating resources, opportunities and current needs. Implementation will involve a public-private partnership that takes advantage of the resources of the City, other government agencies, NANA, KIC, Maniilaq, local businesses, organizations, and volunteers. The strategies identified in Chapter 3 provide a road map for the City and its partners to reach the goals and objectives of the Comprehensive Plan.

The rest of this chapter addresses the timelines and action plans, conformance and coordination, day-to-day implementation, and the process for modifying and updating the plan.

4.1 Implementation Timelines and Action Plans

This section addresses the implementation schedule and the need for development of annual action plans to implement strategies in the Comprehensive Plan.

4.1.1 Schedule

The tables in Chapter 3 indicate a general timeframe for when strategies will be implemented. Actual timing of projects will depend on funding opportunities and annual priorities. Strategies may be stand-alone efforts or part of larger projects. Long-term projects may require multiple phases that require feasibility studies or other information.

4.1.2 Annual Action Plans

Under direction of the City Manager, development of annual action plans provides an opportunity for City staff to reevaluate priorities and focus on what is achievable in the coming year. The annual work plans may be prepared in association with the budget process and completion of the capital improvements plan. The tables in Chapter 3 have been designed to be stand-alone documents that can be updated as strategies are implemented.

The annual action plan should have subsections that correspond to each goal. Each strategy included in the action plan should identify the steps needed to accomplish it, the lead staff person, partners that will work with the City to accomplish the strategy, a schedule for completing the actions, and a budget. For strategies that do not have current funding, the action plan for a given year could simply address options that will be used to obtain funding.

While each strategy has a lead, most projects will involve a team effort, and some projects will require cooperation among other organizations in addition to the City. Projects involving multiple parties will require close cooperation during planning and implementation.

4.2 Conformance and Coordination

Preparation of the Comprehensive Plan involved a review of the previous comprehensive plan and other city plans. The public outreach process included public meetings, comment periods, meetings with agencies, corporations and businesses, and a thorough public review. This Comprehensive Plan conforms to all statutory and regulatory requirements under AS 29.40.20 and AS 29.40.30, and under

authority allowed by NWAB Ordinance 89-21. The Comprehensive Plan provides general guidance while the more specific City plans provide implementation details.

There may be a need for implementation of policies developed by the City Manager, actions by the Planning Commission and resolutions and ordinances passed by the City Council. This plan requires coordination with the NWAB in region-wide issues and with other public, private, and non-profit entities serving the community of Kotzebue.

4.3 Day-to-Day Implementation

Implementing the annual action plans will require a coordinated effort among City staff. While the city action plans identify lead staff, additional staff within and outside the City may be assigned to work on specific projects. Some projects will require studies or contracts that will involve funding strategies. Implementation may involve grant writing and management of contracts. The bullets below identify the roles of the city departments and sections implementing the plan.

- Capital Projects staff will be responsible for surveys, designs, engineering, contract development, and contract management to implement this Plan.
- The Public Works Department will have responsibility for developing plans for maintenance, rehabilitation, and upgrade for existing facilities and systems.
- The City Planner will work with the Planning Commission to address relevant issues as they arise. Amendments to the zoning map and code will require public involvement implemented by the Planning Commission.
- The City Council may need to pass ordinances or take other actions to implement some of the strategies.

4.4 Monitoring and Evaluation

The City Manager will be responsible for monitoring and evaluation of the Comprehensive Plan and for updating the City Council. The development of annual action plans will provide an opportunity to monitor and evaluate the implementation of the Comprehensive Plan. An effort to evaluate the implementation of the plan will be coordinated by the City Manager and involve key staff from the Planning, Capital Projects and Public Works Departments, along with the City attorney. Generally, monitoring will involve measuring the quantity and quality of expected results against the time lines to determine if the objectives have been met.

4.5 Modification and Updating

Ideally the Comprehensive Plan will be updated every 5 years. The annual work plans and monitoring and evaluation efforts will ensure the plan remains a living document in-between revisions. The City Council may choose to adopt other City plans as part of the Comprehensive Plan at any time.

Minor amendments to the plan may be made by the City Council, generally upon recommendation of City Manager and the Planning Commission. For example, it may be appropriate to adopt new strategies to meet the goals and objectives in Chapter 3 of the plan. The Planning Commission and City Planner will be involved in providing background and rationale for these minor amendments. Minor amendments to the plan can be attached to the plan along with the associated City Council resolution.

At the end of 5 years, a formal process of review and update, or extension of this plan for an additional five-year period, will take place. Major changes to the plan will require a more extensive effort that may be undertaken in house or through a contract with a planning consultant. The City Planner and Planning Commission will be involved in major and minor amendments to the Comprehensive Plan, and a public involvement process will be required.

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**City of Kotzebue 2012 Comprehensive Plan
Appendix A
Review of Progress in Reaching 2000 Comprehensive Plan Goals**

2000 Land Use & Planning Goals	
Goal	Status
Goal #1 - Planning Ordinance - Adopt an Ordinance officially assuming Borough planning and zoning powers under Ordinance 89-21 AMI by November 20, 2000.	Complete
Goal #2 - Comprehensive Plan - Adopt this Comprehensive Plan by December 31, 2000.	Complete
Goal #3 - City Planner - Recruit for and hire a City Planner by March 31, 2001.	Complete
Goal #4 - Planning Commission - Re-establish the Planning Commission by June 30, 2001.	Complete
Goal #5 - Municipal Code - Revise/update the Municipal Code (especially zoning) under the Comprehensive Plan to be started by April 30, 2001 and completed by June 30, 2003.	Worked on but not completed. This remains a need for the City.
Objective #1 - Land Use Districts - Develop updated proactive land use designations, policies, and maps by October 1, 2001.	Complete but not adopted. Zoning map not done.
Objective #2 - Hillside Expansion - Develop land use requirements for hillside expansion by December 31, 2001.	Completed. Now covered under Section 18 of KMC. Adopted January 21, 2010.
Objective #3 - Hazard Waste disposal - Develop and implement a hazard waste disposal policy by March 31, 2002.	Complete but needs to be updated.
Objective #4 - Subdivisions - Develop and implement a new subdivision code by December 31, 2002.	Complete and adopted January 21, 2010.
Objective #5 - Recycling - Implementation of a recycling policy and system by December 31, 2002.	The Borough and Maniilaq have effort underway and the City does limited recycling through the Refuse Department. City received grant to study waste to energy system but this is not complete. This remains a need for the City.
Objective #6 - Other Zoning - Develop a Coastal Zone Management Plan for Kotzebue and consider minimum parking requirements for building and developments, vehicle registration, or other safety issues by June 30, 2003.	Kotzebue participated in the Alaska Coastal Management Program (ACMP) as part of Northwest Arctic Borough (NWAB) until the ACMP ended in July 2011. Parking is included in the KMC but other safety issues remain as a need.

Goal #6 - 14 (c)(3) Conveyance - Obtain 14 (c)(3) land conveyances from KIC by December 31, 2003.	Map of Boundaries was completed by KIC and accepted by City, the MOB was submitted to BLM on May 6, 2008. BLM must now survey boundaries. The process is held up because of legal action by FAA.
Goal #7 – Watershed Protection - Negotiate a new easement to protect watershed at Devil's Lake and Vortac Lake by December 31, 2004.	Assistance from ARWA and meetings the winter of 2008, must have 14(c)(3) conveyance from KIC and permission from NANA for the East side of Devil's Lake. This need still remains an open issue for the City.
Environmental Infrastructure Goals	
Goal	Status
Goal #1 - Current projects - Continue and complete the current projects in process by December 31, 2003 (includes sewer lagoon upgrade).	The City of Kotzebue has a Master Utility Plan for water and sewer. The last Master Utility Plan was done in 2005.
Goal #2 - Sewer Study - Complete an updated sewer alternative/expansion analysis and study by May 1, 2003.	Complete
Goal #3 - Hillside sewer - complete a hillside sewer service feasibility and alternative analysis study by May 1, 2003.	Complete
Goal #4 - Waste Water System - Develop/adopt a waste water treatment/drainage system by June 30, 2004.	Planned for future grants, supposed to be surface water drainage plan or control for City of Kotzebue. This has not been completed.
Community Expansion Goals	
Goal	Status
Goal #1 - Available housing - Obtain and make available land for housing within the municipal boundaries of Kotzebue starting in 2001 and continuing.	All developable City-owned lands have been declared excess and all but one lot has been developed. KIC completed a plan for the Hillside Subdivision but has not developed it.
Goal #2 - Hillside land use policies - Develop Land use policies for the hillside areas by October 1, 2002.	Subdivision Ordinance adopted January 21, 2010.
Goal #3 - Hillside infrastructure - Plan & design infrastructure for hillside expansion by July 31, 2003 (includes hillside water).	Priority for infrastructure has been water and sewer main with lift station upgrades to meet demand within the core of the city. Hillside remains a need.
Goal #4 - Gravel supply - Work with all parties to identify and develop gravel sources starting in 2001 and completing by December 31, 2003.	Work in progress with Drake Construction and KIC.
Goal #5 - Community water supply - Develop alternatives for expanded water supply for the entire community by April 30, 2004.	Waiting on 14 (c)(3) conveyance.
Goal #6 - Airport expansion/alternatives - Investigate and designate airport expansion/alternatives locations by September 30, 2004.	Final report completed in 2008 (PDC 2008).

Goal #7 - Senior/disabled housing - Support the Native Village of Kotzebue, Maniilaq or other plans for senior/disabled, affordable, independent living facilities by December 31, 2005.	The City has supported all elder development with two recent completions of elder housing.
Economic Development Goals	
Goal	Status
Goal #1 - Freight Improvements - Proactively support freight delivery efficiency improvements while promoting Kotzebue as the regional distribution hub throughout the Plan's tenure.	Work in progress with bypass meeting 3/13/08. Seeking Cape Blossom development.
Goal #2- Alternative Energy - Support development of alternative energy sources and types starting by December 31, 2001 and continuing throughout the tenure of the Plan.	Work in Progress with NANA, KEA and KIC, KEA has completed 17 windmills. The City is conducting a study for waste to energy conversion through a grant.
Goal #3 - Manufacturing - Support the Nunavik Manufacturing plant and like clean industries starting by December 31, 2001 and continuing throughout the Plan's tenure.	Plant failed.
Goal #4 - Fisheries Development - Support development of expanded Fisheries and Added Value products so that at least two new industries are started by December 31, 2003.	Ongoing progress with the revival of the Co-op. The key to maintaining and supporting and enhancing our fishery is value added which is whether we gill and gut so we are hauling less fish out, canning, smoking, if we could do something to enhance the product here is manufacturing environment, that is going to add value here and make jobs and enhance our economy.
Goal #5 - Tourism Development - Support balanced, controlled tourism development opportunities and complete an overall tourism development plan by March 31, 2004.	New National Park Service Museum completed and opened in the spring of 2010. Tourism Development Plan not completed.
Goal #6 - Education Industry - Continue to explore and support education as an industry with a specific study of a regional high school completed by December 31, 2004.	NWABSD is developing a Career Technology School through grant funding.
Goal #7 - User Friendly Community - Continue to develop a more user-friendly community by completing a specific plan to do so by the end of December 2004.	Paving and sidewalks have been added and a park is planned for central area of town. Plans are being developed for improvements to Swan Lake. Shore Ave. will address some issues. A specific plan has not been developed.
Goal #8 - Regional Economies - Participate in regional economic endeavors to assure Kotzebue's interests are protected and enhanced while contributing to the region by entering into appropriate agreements with NANA, Cominco, NWAB and others by July 31, 2005.	City secured funding for Cape Blossom road study. DOTPF has funds towards construction and is planning the road. More funding is needed. Airport relocation study was completed. Deep Water port studies are in process.
Goal #9 - Communications and Technology - Expand on communications and information technology, participate in E-commerce, and export technical expertise by	Progress made in internet for the region and in homes. A new fiber optic cable is planned to reach Kotzebue in 2012.

December 31, 2005.	
Goal #10 - Trade Agreements & Zones - Investigate trade agreements, enterprise and free trade zones, or other avenues to open direct trade with Russia and the Far East by December 31, 2005.	NANA made attempts but there has been no success. The city has not made any attempts in this area.
Quality of Life Goals	
Goal	Status
Goal #1 - Education - Develop a proactive community-wide approach to excellence in education at all levels, including an emphasis on drug and alcohol abuse awareness.	Continuous goals of NWABSD, City donates \$50,000 a year to Student Activities and the use of half the Recreational Center to the Boys & Girls Club.
Goal #2 - Recreation - Develop a plan for increased recreation of all types, for all ages, including playground upgrading and safety and an indoor swimming pool by October 30, 2002.	Work in progress with Fairground development, Grant writing and pursuing state and federal funds for the small boat harbor. FY 2011 Operating and Capital Budget for Recreation Center was \$336,750. Recreation Plan not completed.
Goal #3 - Small Boat Harbor - Expand on capacity and security for small boat harbor and provide alternatives for winter boat storage by September 30, 2003.	Work in progress with fairground development, Grant writing and pursuing state and federal funds for the small boat Work in progress. Small Boat Harbor improvements are not in the planning stage. Dredging for harbor will provide fill for fairground development.
Goal #4 - Transit Study - Update the 1981 Transit Study for public transportation by February 15, 2005.	Asphalt roads have been secured but future road waiting on upgrades to all water and sewer lines. Recently applied for \$5.5 million for paving. Transit plan was not updated.
Goal #5 - Caregivers - Support all efforts to develop a better system of caregivers and care giving, and to provide respite care by December 31, 2005.	Ongoing Maniilaq goal with home assistance now available.

City of Kotzebue 2012 Comprehensive Plan
Appendix B
Public Participation Summary