

Kotzebue

Long Range Transportation Plan



Prepared for the:
Native Village of Kotzebue

Prepared by:

WHPacific

October 2012

Updated March 2013

Top cover photos courtesy of WHPacific photo bank

Woman walking, Josephine Sampson

Native Village of Kotzebue Long-Range Transportation Plan

Prepared for

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October 2012

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A special thanks to all those that provided input to the plan through interviews and by public meeting participation.

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Acronyms

AADT	Average Annual Daily Traffic
AASHTO	American Association of State Highway and Transportation Officials
ADOT&PF	Alaska Department of Transportation and Public Facilities
ANCSA	Alaska Native Claims Settlement Act
ARRA	American Recovery and Reinvestment Act of 2009
ATV	All Terrain Vehicle
BIA	Bureau of Indian Affairs
BIA-DOT	Bureau of Indian Affairs Division of Transportation
CDS	Coordinated Data System
CFR	Code of Federal Regulations
DMV	(State of Alaska) Division of Motor Vehicles
DOI	(US) Department of the Interior
DOT	(US) Department of Transportation
EA	Environmental Assessment
FEMA	Federal Emergency Management Agency
FHWA	Federal Highways Administration
FLHP	Federal Lands Highways Program
FTA	Federal Transit Administration
GIS	Geographic Information System
HPP	High Priority Projects
HTF	Highway Trust Fund
ICDBG	Indian Community Development Block Grant
IRA	Indian Reorganization Act
IRR	Indian Reservation Roads
IRRBP	Indian Reservation Roads Bridge Program
IRT	Innovative Readiness Training
ISDEAA	Indian Self-Determination and Education Assistance Act
ISTEA	Intermodal Surface Transportation Equity Act of 1999
JTTP	Juneau Area Transportation Plan
KEA	Kotzebue Electrical Association
KIC	Kikiktagruk Inupiat Corporation
L RTP	Long Range Transportation Plan
MAP-21	Moving Ahead for Progress in the 21 st Century
NAHASDA	Native American Housing Assistance Self Determination Act
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NIHA	Northwest Inupiat Housing Authority
NHS	National Highway System
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NTS	Nutrition, Transportation and Support Services
NWAB	Northwest Arctic Borough
PLHD	Public Lands Highway Discretionary (PLHD)
RNDF	Relative Need Distribution Factor
SAFTEA-LU	Safe, Affordable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SR	Sufficiency Rating
STIP	Statewide Transportation Improvements Program
TEA-21	Transportation Equity Act for the Twenty-first Century
TIGER	Transportation Investment Generating Economic Recovery
TRAAK	Trails and Recreational Access for Alaskans
TSF	Tribal Supplemental Funding
TTAM	Tribal Transportation Allocation Methodology
TTIP	Tribal Transportation Improvement Program
TTP	Tribal Transportation Program

1. Introduction

This Long Range Transportation Plan (LRTP) was developed in accordance with 25 Code of Federal Regulations (CFR) Part 170 for the Native Village of Kotzebue, (traditionally known as Qikiktagruk). To complete the plan, the Native Village of Kotzebue hired WHPacific with funding from the Bureau of Indian Affairs (BIA) annual Tribal Share allocation under the Indian Reservation Roads (IRR) Program. The IRR program provides funds to federally recognized Tribes to improve public transportation to and within Indian and Alaskan Native Communities.

The plan contains information on existing conditions, transportation funding sources, transportation priorities, and implementation strategies, which will serve as a guide for programming and budgeting future transportation improvements. This LRTP identifies the Tribe’s transportation infrastructure projects in the short range (1-5 years), medium range (5-10 years) and long range (beyond ten years) planning horizons. The plan should be considered flexible, adaptable to the changing needs and conditions in the community. To keep the plan current, the Tribe should review it annually, modifying the priority list as needed, and update it every five to seven years, or when major changes in land use occur.

Long Range Transportation Planning

“The purpose of long-range transportation planning is to clearly demonstrate a tribe’s transportation needs and to fulfill tribal goals by developing strategies to meet these needs. These strategies should address future land use, economic development, traffic demand, public safety and health and social needs.”

Source: 25 CFR 170.410(a)

1.1. Purpose and Scope

The objective of this LRTP is to produce a plan for providing transportation facilities for movement of vehicles, pedestrians and cyclists that will enable Tribal leaders to take advantage of desirable development opportunities, protect community resources and traditions, and enhance the use of the Tribe's land by its residents. Specifically, the purpose of this plan is to:

- Identify, evaluate and determine present and future public transportation needs.
- Provide a 20-year transportation plan, which defines those needs and is responsive to short and long range development projections.
- Develop a prioritized listing of recommended road improvement/construction projects for use by the Tribe and BIA in implementing a construction program to meet current and projected (20-year) transportation needs.
- Satisfy BIA inventory and LRTP requirements.

This transportation plan presents a strategy that is fiscally and developmentally sound and addresses the funding issues and eligibility restrictions associated with Highway Trust Fund (HTF) monies. Alaska’s

Tribes are politically and geographically diverse, and each has its own goals and objectives for its transportation system. However, several transportation goals are common to all Tribes. These include:

- To provide safe and convenient public access.
- To provide access to new and old development.
- To complement surrounding public transportation facilities as part of the area-wide public transportation system.
- To assist in the economic development of the Tribe.
- To develop a transportation system that is respectful of traditional heritage.
- To produce a plan for providing transportation facilities.

1.2. Public Involvement

In accordance with *Federal Register/Vol. 69, No. 137/Monday, July 19, 2004/Rules and Regulations*, (codified at 25 CFR Part 170), §170.413, BIA or the Tribe must solicit public involvement. Public involvement begins at the same time long-range transportation planning begins. Appendix A contains supporting information regarding the public participation process.

The Tribe solicited broad public involvement in the development of this plan. Strategies included:

- Stakeholder coordination – Interviews and discussions were held with representatives of the City of Kotzebue, the Kotzebue IRA Council, KIC, the Northwest Arctic Borough (NWAB), Alaska Department of Transportation and Public Facilities (ADOT&PF) and other interested parties.
- Kotzebue IRA Council – The Kotzebue IRA Council was kept informed and provided input during their regularly scheduled meetings and at other times. A presentation was made at the council meeting on August 21, 2012 presenting some of the findings from the LRTP.
- Public Meetings – A public meeting was held on September 28th, 2012. Flyers announcing the meeting were posted on bulletin boards, a meeting announcement was posted on the Northwest Arctic Borough’s Facebook page, emails were sent to stakeholders and the meeting was announced on KOTZ radio. A public meeting summary is included in Appendix A.
- Transportation Plan Priority Informal Survey – An informal survey was held during the public meeting where participants were asked about the transportation issues and “voted” on their top transportation priorities.

At the meetings, planners and stakeholders discussed the scope of the project, the transportation plan, transportation priorities, funding, inventory updates and transportation issues in the community.

During the course of this planning effort, WHPacific staff met with Tribal officials, Tribal staff and contacted other local, borough, and state agencies to obtain the most current information on socioeconomic conditions, Tribal needs, development trends, and traffic data. The Council identified

transportation projects to be initiated over the next 20 years and projects were ranked in order of priority to the Tribe.

The final plan was submitted to the Kotzebue IRA Council after comments were addressed, and the IRA adopted the plan through resolution.

After the completion of the plan, the Tribe intends to discuss new priorities and plan updates annually.

1.3. Transportation Issues

During the public involvement process the following issues that could impact the transportation system in Kotzebue were identified. These include economic development, health and safety, and transportation funding issues.

Economic Issues

Lack of Housing and Access to new subdivisions - There is a shortage of affordable and suitable housing in Kotzebue. Development of new housing is hampered by a shortage of suitable land and lack of reasonably priced gravel for construction of housing pads and access roads. The 2012 City of Kotzebue Comprehensive Plan referred to potential subdivision plans for areas along Ted Stevens Way and along the proposed Cape Blossom Road. Lack of parking was also identified as an issue.

Shallow coastal waters cause high shipping costs –Kotzebue is not connected to the rest of the state by roads and air freight costs are prohibitive for many items. Barges bring fuel and goods; however, the shallow coastline requires that ships anchor 12 to 15 miles southwest of Kotzebue and lighter fuel and material to the dock by using barges with a draft of no more than 5 feet. The freight is distributed within Kotzebue or to shallow-draft vessels for delivery to outlying villages. This adds significantly to the time, labor and cost required to transport freight to Kotzebue and the region.

Boat Access –Recent upgrades to Shore Avenue have reduced traditional small boat access which has made plans for development of a small boat harbor at Swan Lake a priority. Currently, boaters access Swan Lake through a lagoon and under a small bridge.

The location of a shallow channel along the shoreline used extensively by boaters may also be threatened if the ADOT&PF decides to expand the Kotzebue runway into the Sound in that area.

Health and Safety needs

Non-Motorized Transportation – While there are sidewalks along portions of 2nd Avenue, 5th Avenue, Lagoon Street, Mission Avenue, and Shore Avenue, there is support for additional sidewalks and



1950s Postcard, Kotzebue
Source: www.ebay.com

bicycle facilities for non-motorized transportation to improve safety and encourage alternate forms of transportation.

Maintenance – Several maintenance items concern local residents. Dust is a serious health concern in the summer months. In the winter, snow becomes a problem as maintenance crews struggle to remove snow, which often accumulates in large drifts due to high winds and blizzard conditions. At times, snow berms can accumulate near intersections impacting line of sight. Snow piled along walkways can force pedestrians into the streets. Drainage problems occur during high rains and at spring break-up



Snow along Shore Avenue, Kotzebue
Source: WHPacific Photo



Kotzebue snow berms
<http://www.sott.net/articles/show/180239-D>

Parking – Many parts of town, particularly near businesses, lack adequate parking. This becomes exacerbated during winter months when snow obliterates parking areas and streets become narrow due to blowing snow and inability of maintenance forces to keep up with snow removal.

Winter trail staking – Winter trails are vital to winter subsistence activities, recreation and transportation. Winter trails link Kotzebue with neighboring communities and from those communities to others throughout the region. Trails are marked across the Sound and Inlet and on rivers with sticks or branches when the ice is thick enough for travel. Some trails are also marked with tripods and reflectors. However, trails can be difficult to find in ground blizzards—a weather condition where loose snow or ice on the ground is lifted and blown by strong winds—particularly when there are limited trail markings.

Funding

Funding for transportation projects is becoming increasingly difficult to secure as funds diminish and competition for limited funds increases. The vast majority of funding for transportation projects arises from federal highway acts, which are authorized by Congress and determine transportation policy and spending levels for a set period of time. In addition to limited funding, the remoteness of Kotzebue, lack of gravel and rising construction costs make improvements to Kotzebue’s transportation challenging.

1.4. Organization of Plan

This LRTP contains four chapters:

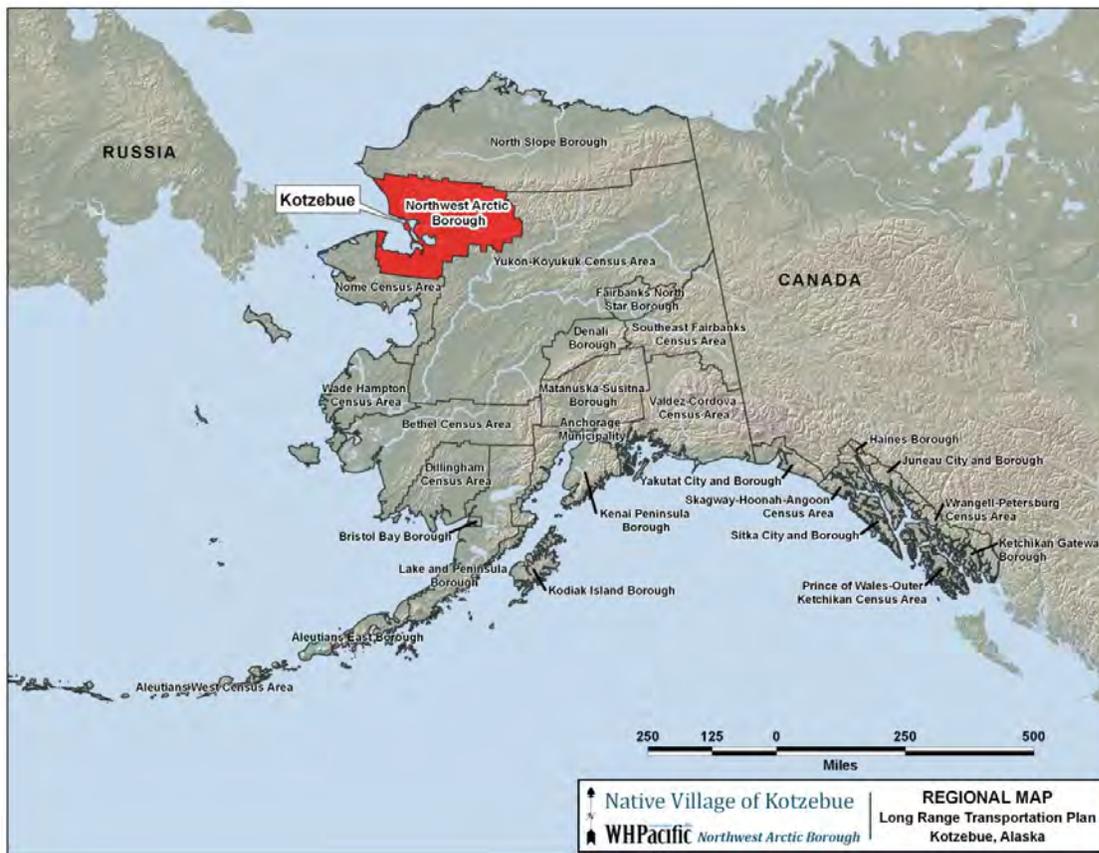
- Chapter 1: Introduction – describes the purpose of the LRTP, identifies issues to be addressed, and the methods used to obtain information and keep stakeholders informed and involved.
- Chapter 2: Background Data – provides an overview of the village’s location, culture, history, government, demographics, physical environment, and infrastructure.
- Chapter 3: Transportation System – provides a summary of the Tribe’s transportation network including roads, bridges, trails, airport, non-motorized transportation and other background information relating to transportation. It includes the major analytical work tasks of the plan; both the generation of future traffic figures based on projected land development and the development of the transportation system.
- Chapter 4: Transportation Strategy - presents transportation goals and objectives, transportation priorities, funding information and discusses implementation.

2. Background Data

2.1. Regional Context

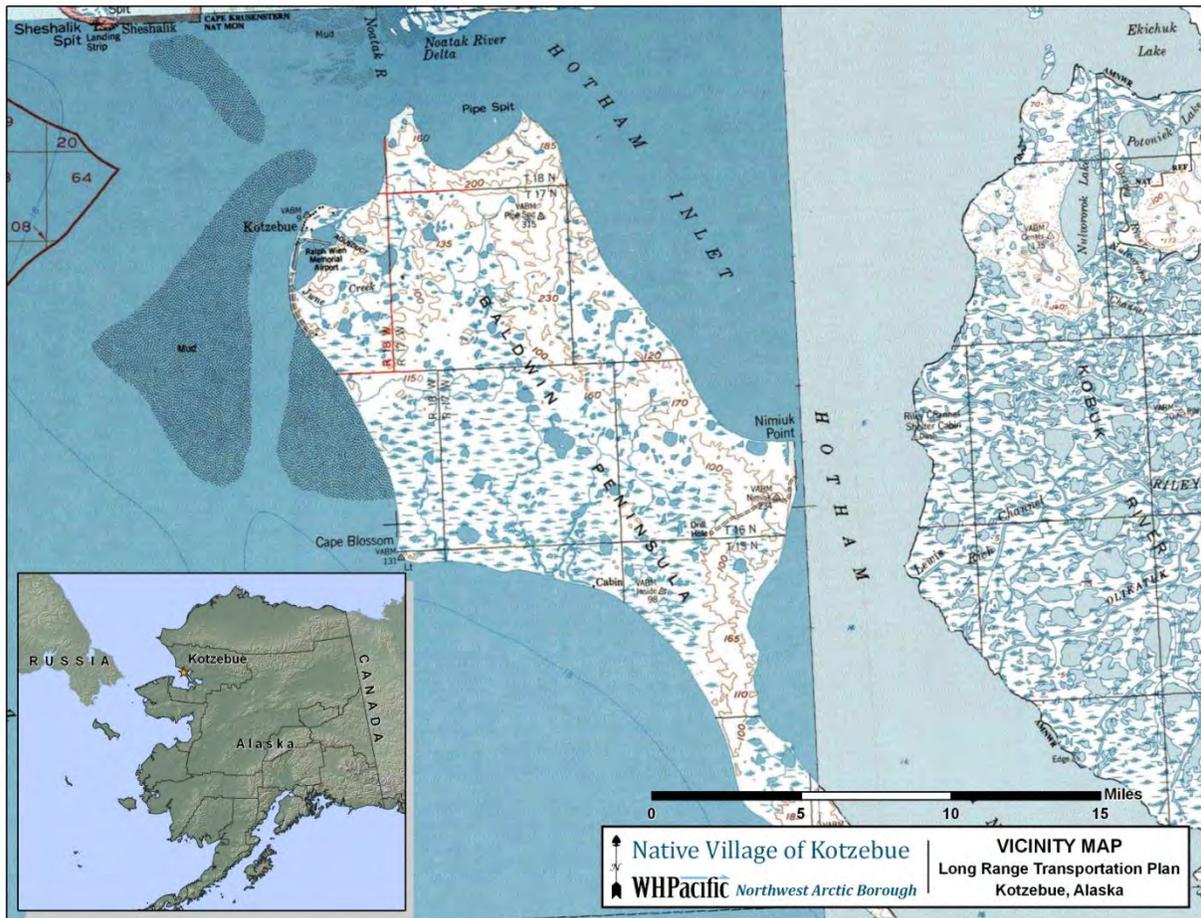
Kotzebue is on the Baldwin Peninsula in the Kotzebue Sound, on a 3-mile-long spit, which ranges in width from 1,100 to 3,600 feet. It is located near the discharges of the Kobuk, Noatak, and Selawik Rivers, 549 air miles northwest of Anchorage and 26 miles above the Arctic Circle. The community lies at approximately 66.898280° North Latitude and 162.595850° West Longitude (Sec. 03, T017N, R018W, Kateel River Meridian). The area encompasses 27.0 sq. miles of land and 1.7 sq. miles of water.¹ Other major features include mountain ranges on the mainland across from the peninsula, which are part of the Brooks Range or Minumirauq and Qipaluq. See Figure 1 for a regional map with the location of Kotzebue in relation to the State of Alaska. Figure 2 provides a topographic map of the Kotzebue vicinity.

Figure 1: Regional Map



¹ State of Alaska. Department of Community and Economic Development. *Alaska Community Database Community Information Summaries: Kotzebue*. <<http://www.commerce.state.ak.us/dca/commdb/CIS.cfm>>. 8 April 2012.

Figure 2: Vicinity Map



Kotzebue is a regional center for the 10 villages in the Northwest Arctic Borough (Noatak, Kivalina, Kiana, Noorvik, Selawik, Ambler, Shungnak, Kobuk, Buckland, and Deering) and for 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 Chukchi campus of the University of Alaska); and
- Service and goods center for the region.

Regional Development – As a regional hub, Kotzebue’s transportation system is impacted by development within the region. Regional development could increase air traffic as well as local surface transportation. Potential regional development could include shipping increases through the Chukchi Sea as more traffic uses the Northwest Passage and Northern Sea Route, potential oil,

gas and mineral exploration and development and increases in tourism due to climate changes and creation of the Transboundary area of Shared Beringian Heritage in Alaska and Chukotka, Russia.

2.2. Culture and History

This site of the community of Kotzebue has been occupied by Inupiat Eskimos for at least 600 years. "Qikiktagruk" was the hub of ancient Arctic trading routes long before European contact, due to its coastal location near a number of rivers. The German Lt. Otto Von Kotzebue "discovered" Kotzebue Sound in 1818 for Russia. The community was named after the Kotzebue Sound in 1899 when a post office was established. The City was formed in 1958. An air force base and White Alice Communications System were later constructed.

The residents of Kotzebue are primarily Inupiat Eskimos, and subsistence activities are an integral part of the lifestyle. Each summer, the North Tent City fish camp is set up to dry and smoke the season's catch. In 2009, Kotzebue became a "wet" community, allowing the sale of alcohol at the city-owned liquor store.²

2.3. Government

Kotzebue is located within the Northwest Arctic Borough in the Kotzebue Recording District. It serves as the seat of the Northwest Arctic Borough. The City of Kotzebue is a second class city and was incorporated in 1958. It is governed by a mayor, vice mayor and City Council with five members. The local IRA (Indian Reorganization Act) government is the Native Village of Kotzebue. IRAs were established as part of an Act aimed at encouraging tribes to establish a constitution, and primarily in the lower 48, to establish reservations. The Kotzebue IRA established its constitution in 1939. Village corporations were established in 1971 as part of the Alaska Native Claims Settlement Act (ANCSA), more fully discussed in Section 2.11. Kikiktagruk Inupiat Corporation (KIC) is the local village corporation. NANA Corporation is the regional native corporation, and Maniilaq Association is the regional native non-profit.

2.4. Land Ownership

Table 1 outlines lands owned and selected by various entities within the core townsite and surrounding Kotzebue.

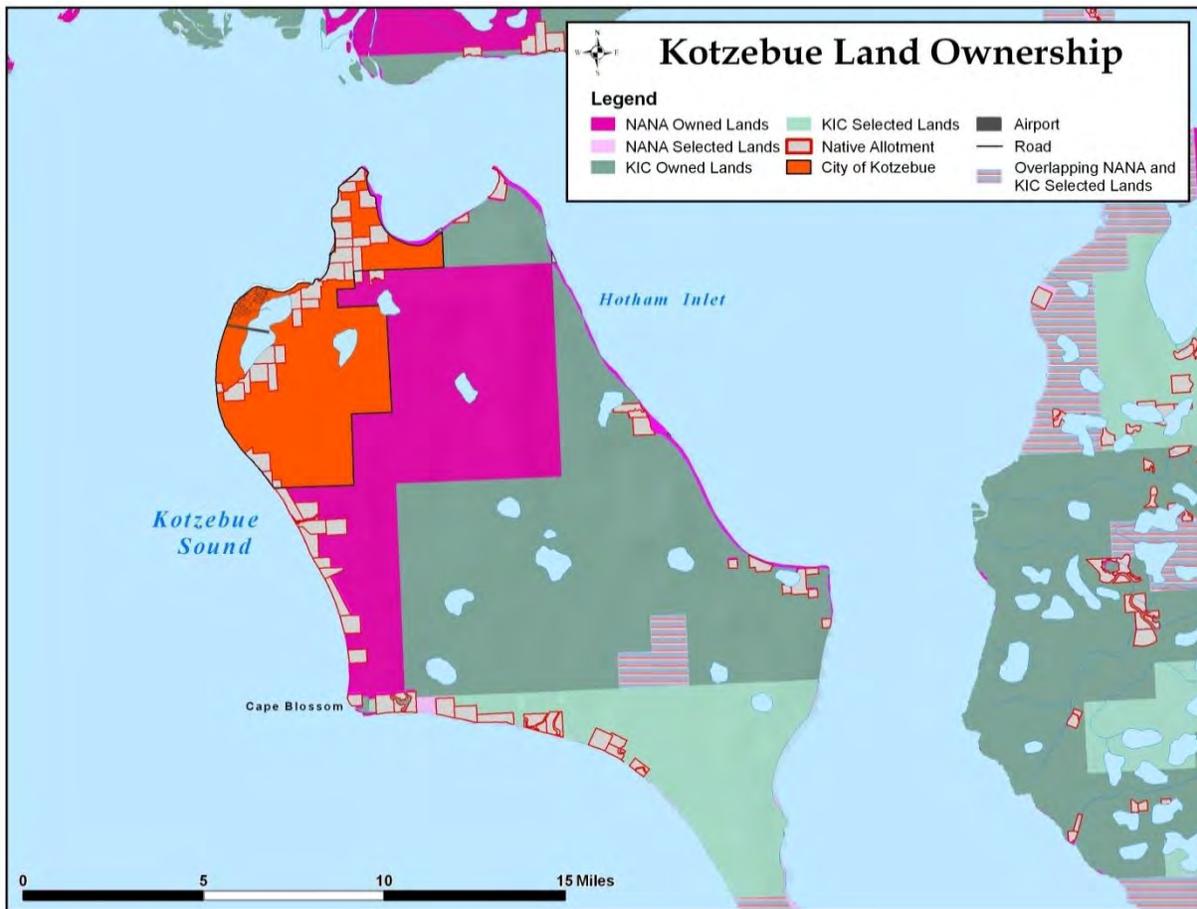
² Ibid at 1.

Table 1: Kotzebue Land Ownership and Selections

Entity	Acres
City of Kotzebue	16,988
KIC Owned	239,264
KIC Selected	448,526
NANA Owned	245,852
Native Allotments	29,575

Figure 3 shows land ownership within the Kotzebue area.

Figure 3: Kotzebue Land Ownership Map



2.5. Prior Long Range Planning

Table 2 lists prior planning efforts in Kotzebue and when they were completed.

Table 2: Kotzebue Community Plans

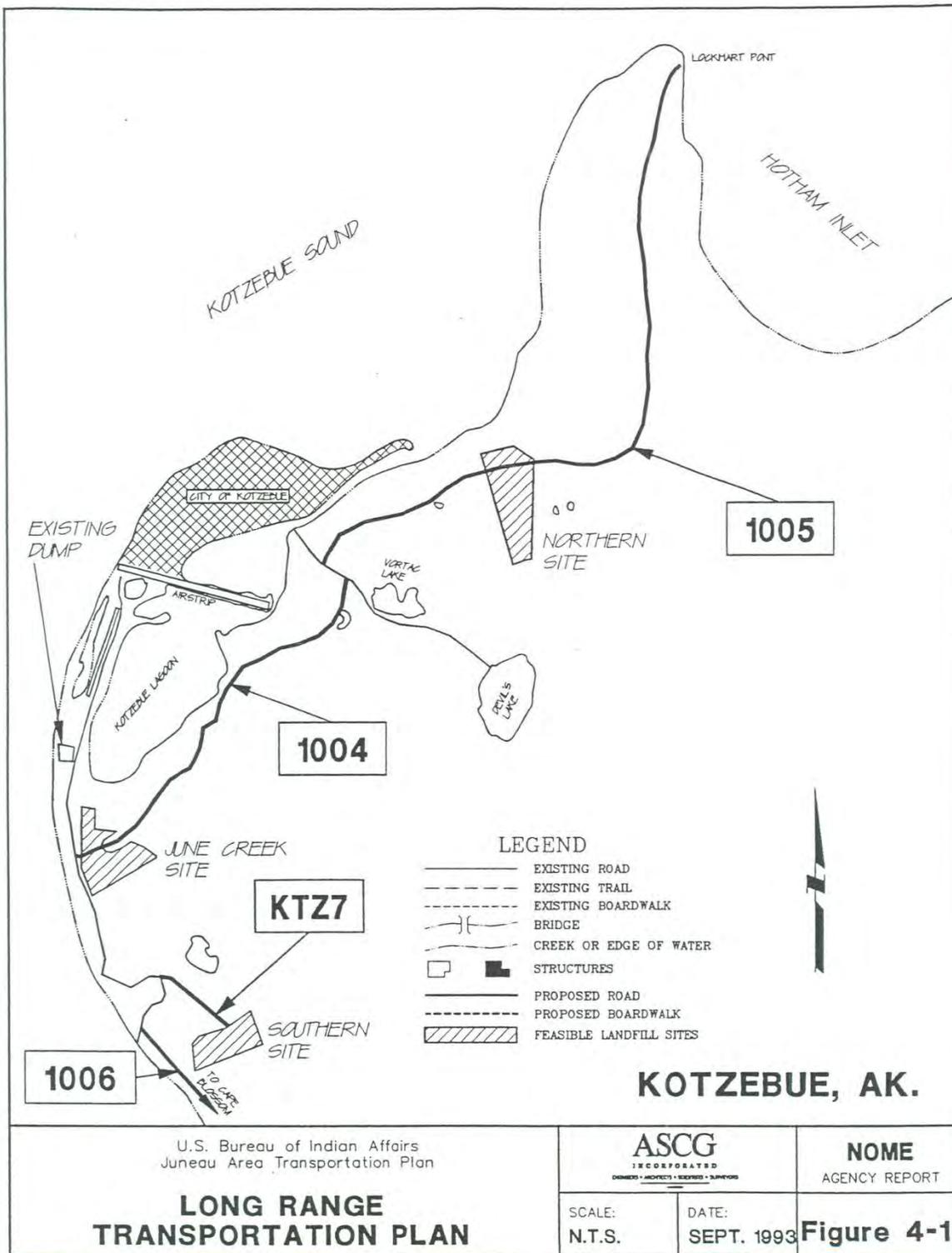
Document	Completion Date
City of Kotzebue Comprehensive Plan	1971
BIA Juneau Area Transportation Plan	1990 and 1993
Northwest Arctic Borough Comprehensive Plan	1993
Native Village of Kotzebue LRTP	April 2005
City of Kotzebue Comprehensive Plan	December 7, 2000
City of Kotzebue, Alaska: Local Hazards Mitigation Plan	March 2008
Kotzebue Airport Relocation Feasibility Study	October 2008
Strategic Plan for Economic Development Northwest Arctic Borough 2003 and Forward	2003
Northwest Alaska Transportation Plan	February 2004
Sanitation Utilities Development Plan	July 2005
Western Alaska Access Planning Study	January 2010
City of Kotzebue Comprehensive Plan	Underway – expected completion fall 2012
Kotzebue Long Range Transportation Plan	2012

City of Kotzebue Comprehensive Plan - The City of Kotzebue is currently preparing an update to the comprehensive plan last produced in 2000. The plan, prepared with the involvement of the Native Village of Kotzebue, will include updated community goals and priorities. The second of two comment periods is completed, and the document is expected to be finalized in fall 2012.

JATP Plan - The BIA Juneau Area Transportation Plan (JATP) completed in 1990 and updated in 1993, included a transportation plan for Kotzebue. The JATP lists four proposed priority transportation projects for Kotzebue; a one-mile road to a new landfill site (Route KTZ7), 2.8-mile Hillside Road (Route 1004), a 4.4-mile road to Lockhart Point (Route 1005) and an 8-mile Cape Blossom Road (Route 1006) ().

Route KTZ7 was constructed and provides access to the wind farm and Route 1004, renamed Ted Stevens Way, provides alternative access to the landfill and is used by local residents for berry picking. Lockhart Point Road (Route 1005) and Cape Blossom Road (Route 1006) have not been constructed although Cape Blossom Road is currently being studied as an access route to a proposed port at Cape Blossom.

Figure 4: 1993 BIA Transportation Plan Priority



Airport Planning - *The Kotzebue Airport Relocation Feasibility Study* was completed in 2008. The study was intended to serve as Stage 1 of a master plan update. The study indicated that relocation of the airport would cost between \$760 million and \$1.29 billion, and recommended making incremental changes to the existing facility until a longer term solution could be identified.³



*Plane landing in Kotzebue,
Source: City of Kotzebue*

Northwest Alaska Transportation Plan - The Northwest Alaska Transportation Plan was adopted in 2004 by the State of Alaska. This plan is one of six regional area plans prepared by ADOT&PF. These plans are regional, multi-modal transportation plans developed for specific areas of the state, designed to address movement between communities in the region, and from the region to points beyond. The plans incorporate economic modeling to evaluate potential projects and prioritize them to best meet state and regional goals.

The goal of the *Northwest Alaska Transportation Plan* is to improve year-round mobility and access for residents, and to broaden and diversify the region's transportation network. The Plan explored “potential road, aviation and marine transportation options and developed recommendations that would improve the movement of goods, improve connectivity between communities, and remove barriers to regional economic development.”⁴ As a 20-year strategy for transportation infrastructure, this plan guides the department’s capital development plans for the area. Most of the plan’s recommendations for the Northwest Arctic Borough subregion (one of four subregions identified in the plan) concern the smaller communities outside of Kotzebue, but the plan did identify a need for a deepwater dock and a small boat harbor in Kotzebue.

Western Access Planning Study - ADOT&PF completed the *Western Alaska Access Planning Study* in January 2010. This project examined alternative routes for a proposed road to Western Alaska. The plan identified an alignment that roughly parallels the Yukon River and terminates in Nome as the preferred route. Cost for this route is estimated to be \$2.3 to \$2.7 billion, and construction is expected to start on the east side near Manley Hot Springs and move westward in stages. A road would be expected to have major impacts to Nome and communities along the immediate project corridor in terms of passenger transportation, fuel delivery, freight and mail delivery, mining activity, and energy and power infrastructure. Impacts of such of a road on the Kotzebue area are less clear.

³ State of Alaska. Department of Transportation and Public Facilities. *Kotzebue Airport Relocation Feasibility Study*. January 2008. < http://www.dot.state.ak.us/stwdplng/projectinfo/project_pages/kotz_airport_study/>. Accessed 1 May 2012.

⁴ State of Alaska. Department of Transportation and Public Facilities. *Northwest Alaska Transportation Plan, Community Transportation Analysis: An Element of the Alaska Statewide Transportation Plan*. February 2004.

Hazard Mitigation Plan – *The Kotzebue Local Hazards Mitigation Plan* was adopted in 2008. This plan identifies risks from floods and erosion, severe weather, wildland fires and earthquakes and outlines an appropriate mitigation strategy. Primary among these hazards is the danger of flooding from severe weather. Kotzebue participates in the National Flood Insurance Program (NFIP), which allows homes and businesses access to flood insurance at a moderate cost. The plan recommended a number of projects to protect the community from hazards. Those that earned a “high” benefit cost evaluation include:

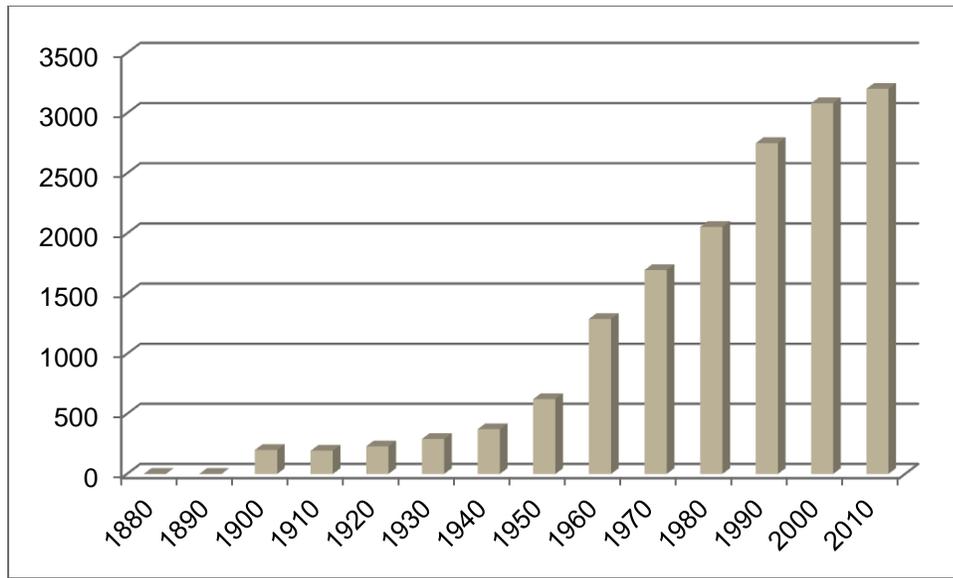
- Prepare Flood Insurance Rate mapping.
- Pursue a Federal Emergency Management Agency (FEMA) Community Rating System rating for Kotzebue to lower flood insurance rates.
- Secure flood insurance for all City structures, and continue compliance with NFIP.
- Require that new structures adhere to NFIP requirements.
- Research feasibility of participation in the National Weather Service’s “Storm Ready” program.
- Install an emergency siren.
- Conduct hazard awareness activities, including awareness of NOAA weather radio.
- Support training, equipment and firefighting vehicle acquisition by the local fire department.
- Promote fire-safe building design, siting and construction materials.
- Develop and enforce building codes and requirements for new construction.
- Enhance fire hazard awareness, especially awareness of mitigation opportunities for property owners.
- Assess earthquake vulnerability of critical community infrastructure.
- Identify community infrastructure that must be operable after an earthquake.

2.6. Population and Demographics

The 2010 population of Kotzebue was 3,201.⁵ This is approximately a 10 percent increase from 2000. Exhibit 1 shows the population for Kotzebue from 1880-2010.

⁵ United States. U.S. Census. *2010 Census Interactive Population Search*.
<<http://2010.census.gov/2010census/popmap/ipmtext.php?fl=02>>. 9 May 2012.

Exhibit 1: Kotzebue Population History, 1900-2010



Source: Division of Community and Regional Affairs, State of Alaska.
http://www.dced.state.ak.us/dca/commdb/CF_BLOCK.htm

The following data represents demographic information for Alaska (Table 3), Northwest Arctic Borough Census Area (Table 4) and the Native Village of Kotzebue (Table 5).

Table 3: Alaska Population

Geographic Area	Census 2000	Census 2010	Projections July 1, 2015	Projections July 1, 2020	Projections July 1, 2025	Projections July 1, 2030
Alaska	626,932	710,231	732,544	774,421	820,881	867,674

Source: US Census Bureau. <http://www.census.gov/>.

Table 4: Northwest Arctic Borough Census Area Population

Census Area	Population 1990	Population 2000	Population 2010	Change 1990-2000	Change 2000-2010
Northwest Arctic Borough	6,113	7,208	7,523	18%	4.4%

Source: US Census Bureau. <http://www.census.gov/>.

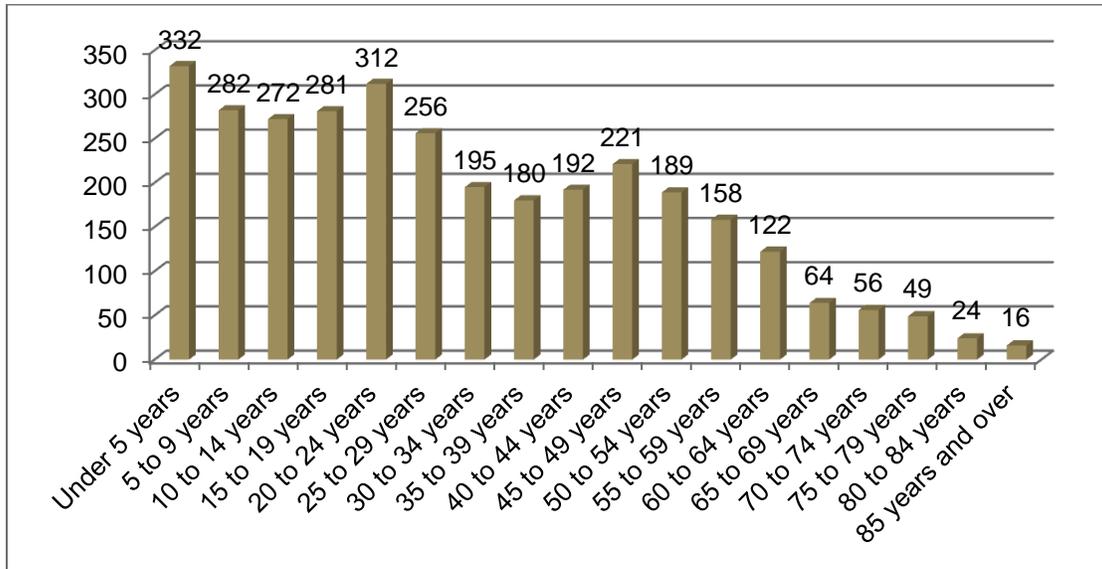
The population of Kotzebue consists of 73.6% American Indian and Alaska Native people. Table 5 illustrates the gender distribution, while Exhibit 2 shows the age distribution of Kotzebue residents.

Table 5: Population Gender Distributions, City of Kotzebue

Gender	Number
Male	1,631
Female	1,570

Source: 2010 US Census, US Census Bureau. *Profile of General Population and Housing Characteristics*, <http://2010.census.gov/2010census/data/>.

Exhibit 2: Age Distribution, City of Kotzebue, 2010



Source: United States. U.S. Census Bureau. *2010 US Census: Profile of General Population and Housing Characteristics*. 2010. <http://2010.census.gov/2010census/data/>. 24 April 2012.

Table 6 and Table 7 provide Tribal enrollment information derived from Native American Housing Assistance Self-Determination Act (NAHASDA) and Tribal membership information.

Table 6: City of Kotzebue Population Comparison

Provider	Population
NAHASDA	2,904*
Tribal Enrollment (BIA 2005 Labor Report)	2,712**

Sources: * U.S. Department of Housing and Urban Development. "Impact of Single/Multi-Race Provision on the FY 2012 IHBG Estimate Allocations: Narrative, Tribes' Formula Components, and Needs Variables," http://portal.hud.gov/hudportal/HUD?src=/program_offices/public_indian_housing/ih/codetalk/onap/ihbgformula
 **Bureau of Indian Affairs, *2005 Local Estimate of the Indian Service Population and Labor Market Information*, <http://www.bia.gov/idc/groups/public/documents/text/idc-001719.pdf>.

The Kotzebue IRA receives NAHASDA funds directly, and has responsibility to provide housing services to Tribal members directly. Their services include the following programs; Child Welfare, General Assistance, Resource, Alaska Native Youth Program, Tribal Enrollment, Native American Graves Protection and Repatriation, Environmental Protection and Traditional Resources. The Northwest Inupiat Housing Authority (NIHA) offices are located in Kotzebue. NIHA manages 67 low rent

apartments in the community, but because the Kotzebue IRA elected to take on responsibility for NAHASDA duties, NIHA’s work focuses on eight Native communities outside Kotzebue.

Table 7: Kotzebue Tribal Members Eligible for NAHASDA Services Breakdown, 2005

Age Under 16	Age 16-64	Age 65 and Over	Total
354	1,101	120	1,575

Source: Bureau of Indian Affairs, 2005 Local Estimate of the Indian Service Population and Labor Market Information,

2.7. Employment

As the Northwest Regional hub community, Kotzebue has a healthy cash economy, a growing private sector, and a stable public sector. It is the transfer point between ocean and inland shipping, and is the air transport center for the region. Activities related to oil and minerals exploration and development have contributed to the economy. The majority of income is directly or indirectly related to government employment, such as the school district, Maniilaq Association, the City, and the Borough. The Cominco Alaska Red Dog Mine is a significant regional employer. Commercial fishing for chum salmon provides some seasonal employment. In 2010, 115 residents held commercial fishing permits. Most residents rely on subsistence to supplement income.⁶ Table 8 and Table 9 list employment characteristics for the Native Village of Kotzebue.



Cranberries

Source: www.merchantcircle.com

Table 8: City of Kotzebue - Profile of Selected Economic Characteristics

	Number	Percent
Population 16 years and over	2,271	70.9
In labor force	1,607	70.8
Civilian Labor force	1,607	70.8
Employed	1,274	79.3
Unemployed	333	20.7
Armed Forces	0	0.0
Not in Labor Force	664	29.2

Source: U.S. Census Bureau, 2006-2010 American Community Survey 5-Year Estimates: Selected Economic Characteristics. http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_10_5YR_DP03&prodType=table.

⁶ Ibid at 1.

Table 9: Employed Civilian Population 16 Years and Over

	Number	Percent
Management, business, science and arts occupations	473	37.1
Service occupations	205	16.1
Sales and office occupations	302	23.7
Natural resources, construction, and maintenance occupations	189	14.8
Production, transportation, and material moving occupations	105	8.2

Source: U.S. Census Bureau, *2006-2010 American Community Survey 5-Year Estimates: Selected Economic Characteristics*.
http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_10_5YR_DP03&prodType=table.

In 2008, data for Alaska Native unemployment was gathered. It showed that the unemployment rate for Alaska Native females is 16.7% and for Alaska Native males is 29.2%, significantly higher than the 7.9% general unemployment rate throughout Alaska, at that time. Therefore, the percentage of Alaska Natives in Kotzebue living below the poverty level is likely to be disproportionately high, as well.

According to the Census Bureau, Kotzebue’s estimated poverty rate between 2006 and 2010 was 15.3%, 61% higher than the statewide poverty rate.

2.8. Climate

Kotzebue is located in the transitional climate zone, which is characterized by long, cold winters and cool summers. The average low temperature during January is -9.5 °F; the average high during July is 59.2 °F. Temperature extremes have been measured from -52 to 85°F. Annual snowfall averages 54 inches, with total precipitation of 9.9⁷ inches per year. Kotzebue Sound is ice-free from early July until early October. Exhibit 3 shows the annual temperature profile for Kotzebue.



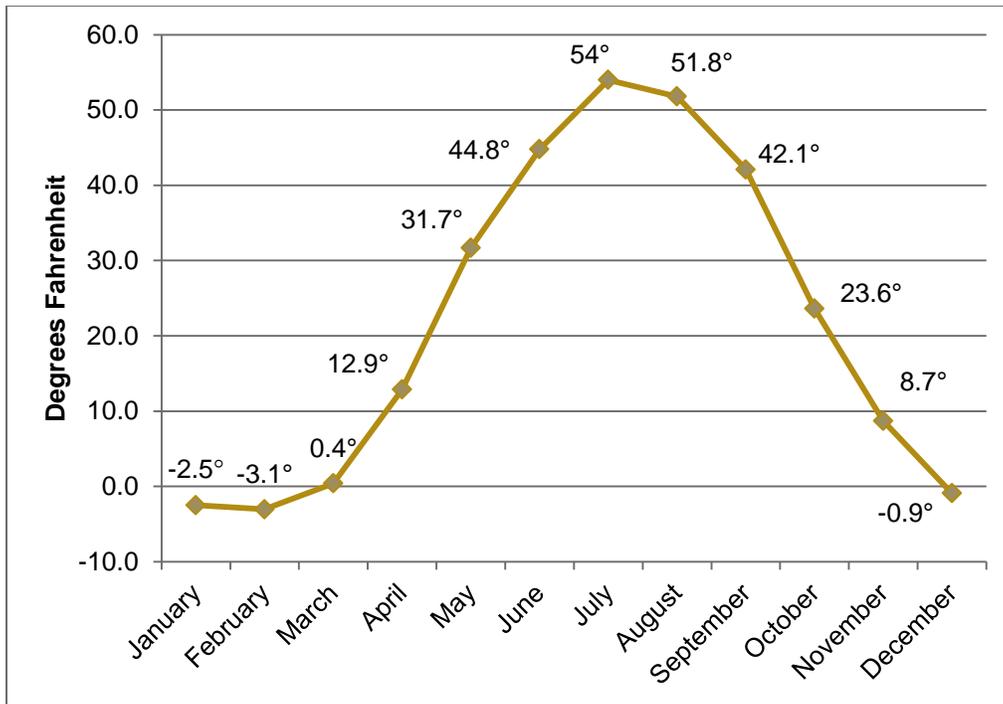
Ground Blizzard in Kotzebue

Source:

<http://americanholocaustcoming.blogspot.com/2011/11/november-10-updates-on-epic-winter.html>

⁷ Western Regional Climate Center. *Kotzebue Monthly Climate Summary*. 2012. <<http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ak5076>>. 25 April 2012.

Exhibit 3: City of Kotzebue Annual Temperature Profile



Source: Western Regional Climate Center, <http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ak5076>.

2.9. Soils and Topography

Kotzebue is located on the northern end of the Baldwin Peninsula. The community lies at an elevation of twenty feet. The northern portion of the Peninsula is bordered by saltwater – Kotzebue Sound to the west and Hotham Inlet to the east. The Noatak River delta lies north of Kotzebue, and the Kobuk and Selawik river deltas lie to the southeast. Baldwin Peninsula and the surrounding terrain are primarily lowlands dotted with many lakes.⁸



Shore Ice in Kotzebue
Photo courtesy of City of Kotzebue

Soil types near Kotzebue include gravelly sand, silt loam, and peat, with continuous permafrost throughout the Baldwin Peninsula.⁹ Generally, the seaward side of the peninsula is underlain by a gravel

⁸ United States. U.S. Geological Survey. *Overview of Environmental and Hydrogeological Conditions at Kotzebue, Alaska*. 1995. <<http://www.dggs.dnr.state.ak.us/webpubs/usgs/of/text/of95-0349.PDF>>. 25 April 2012.

⁹ United States. Soil Conservation Service. *Soils of the City of Kotzebue*. By Clarence Fubush. 1971.

bench, while the east side is underlain by gravel covered by silts and very fine sand.¹⁰ The active layer, within which permafrost thaws during the summer and refreezes in the winter, is approximately one meter deep.¹¹ Permafrost must be a central consideration of any construction in the area to avoid ground subsidence due to thawing of soil.

2.10. Construction Material Sites

There are currently several existing material sources that have been used on the Baldwin Peninsula for past projects. Isaac Lake near the airport is one such site from which gravel has been successfully extracted, but recent operations have indicated that the usable gravel from the lake is becoming very limited. Nimiuk Point, located on the east side of the Baldwin Peninsula, approximately 18 miles southeast of Kotzebue (25 miles by barge) is another source of construction material. Shallow draft barges are used to transport the material from Nimiuk Point. Beach material has also been used in the past for construction projects, but this material is limited in quantity and quality, and is not considered a reliable source for large capital works projects.¹²



*Gravel extraction at Nimiuk Point
Photo: Alaska DOT&PF*

There are other known, or previously considered, material sites in the region. Table 10 summarizes seven potential areas which may contain significant volumes of material suitable for road building. Field exploration is needed to confirm the quality and quantity of the material.¹³

¹⁰ United States. Bureau of Indian Affairs. *Juneau Area Transportation Plan: Kotzebue*. Anchorage: 1993. Print.

¹¹ *Ibid* at 8.

¹² Cape Blossom Reconnaissance Study, Alaska Department of Transportation and Public Facilities, 2008, page 16.

¹³ *Ibid*.

Table 10: Potential Material Source Areas, Kotzebue Sound Region

Areas of Interest	Type of Materials Likely Present	Potential to Produce Significant Quantities
Baldwin Peninsula		
Cape Blossom Beach Sand	Gravel and silt	Poor
Northeast Coast	Sand, gravel and silt	Poor (to High?)
Other Kotzebue Sound Areas		
Lower Noatak River	Sand, gravel and bedrock	High
Deering-Candle	Bedrock	High
Candle-Buckland	Bedrock	Moderate to High
Noorvik-Kiana	Sand, gravel and bedrock	High
Lower Baldwin Peninsula	Sand and gravel	Poor to Moderate

2.11. Environmental Considerations

It is important to consider the environmental impacts when developing any transportation system. The following information is intended to assist in the analysis of priority transportation projects.

Flood and Wetland Information – Storm surge flooding, wave and slough erosion, sea ice, and melting permafrost are the main flood and erosion concerns in Kotzebue. Climate change may cause flooding in coastal areas. As the sea level rises and the offshore ice pack retreats, more coastal flooding can be expected.

Flooding in Kotzebue is also caused by ice jams, snowmelt, and rainfall. Major flooding events occurred in Kotzebue in 1990, 1994, 2002, 2004 and 2005.¹⁴

Wildlife – Many kinds of wildlife are present around Kotzebue including caribou, moose, bear, and wolverine. Fish found in the area include salmon, sheefish, whitefish, northern pike and arctic grayling.



Caribou on Road. Photo courtesy of Joe Mills-Bain

¹⁴ City of Kotzebue. *City of Kotzebue Alaska Local Hazards Mitigation Plan*. Kotzebue: March 18, 2008.

Kotzebue lies across Hotham Inlet from the western border of the Selawik National Wildlife Refuge, a 2.15 million acre refuge established in 1980. The park was established in order to provide refuge for the Western Arctic Caribou Herd, waterfowl, shorebirds and other migratory birds, salmon and sheefish.

Species listed as threatened or endangered by the United State Fish and Wildlife Service that are known or believed to occur in a range that includes Kotzebue are:¹⁵

- Steller's eider (*Polysticta stelleri*) (threatened)
- Spectacled eider (*Somateria fischeri*)(threatened)
- Polar bear (*Ursus maritimus*) (threatened)
- Eskimo curlew (*Numenius borealis*)(endangered)

Species listed as candidate species include:

- Kittlitz's murrelet (*Brachyramphus brevirostris*)
- Yellow-billed loon (*Gavia adamsii*)
- Pacific walrus (*Odobenus rosmarus ssp. divergens*)

In addition, the waters surrounding Kotzebue are within the range of the endangered bowhead whale (*Balaena mysticetus*). The bowhead whale listing is under the National Marine Fisheries Service's (NMFS) jurisdiction. NMFS indicates that the bearded seal (*Erignathus barbatus nauticus*) and ringed seal (*Phoca hispida hispida*) are proposed for listing, and both of these species range in areas near Kotzebue.

No wildlife sanctuaries are listed in the areas surrounding Kotzebue.



Grasses with Wind Turbines in background
Source: University of Alaska, Fairbanks

Vegetation – The primary vegetation in the area consists of sedges, willows, and dwarf birch, along with areas of grasses and moss.¹⁶

Historic Preservation – Transportation developments in Kotzebue may impact historical properties. Further coordination with the State Historical Preservation Office will be necessary to confirm this once a specific project location is identified.

Wild and Scenic River Status – There are no designated Wild and Scenic Rivers near the community.

¹⁵ United States. National Oceanic and Atmospheric Administration. *Endangered, Threatened, Proposed, Candidate and Delisted Species in Alaska*. <http://www.alaskafisheries.noaa.gov/protectedresources/esa/ak_specieslst.pdf>. 16 April 2012.

¹⁶ Ibid. 5.

Coastal Zone Management – Although the State of Alaska’s Coastal Zone Management Program ended in July 2011, in historical planning documents regarding coastal zone management, Kotzebue was designated as part of the Northwest Arctic Coastal District.

Parkland – As indicated above, Kotzebue lies across Hotham Inlet from the western border of the Selawik National Wildlife Refuge.

Safe Drinking Water – The current sanitation system includes a full water and sewer system. The 2010 Census indicates that 99% of residences have complete plumbing facilities.¹⁷ Kotzebue’s water treatment plant operates well within customary drinking water standards, but the community is seeking funds to replace the water treatment plant in order to comply with recent, more stringent regulations regarding disinfection byproducts.

Land Ownership –ANCSA resolved Alaska Native claims to land by transferring titles to thirteen Alaska Native regional corporations. Land and resource rights were settled through ANCSA, as well. As shown in Table 11, the local village corporation, KIC, received 161,260 acres from the federal government through ANCSA. KIC also received 3,104 acres from the Regional Native Corporation, NANA Corporation. ANCSA required village corporations to provide land for present needs and future expansion of the community, and this process of transferring land is outlined in 14(c)(3) of the Act. KIC has nearly completed the 14(c)3 land conveyance to the city of Kotzebue. The Corporation and the City are in agreement about lands to be conveyed and documents were submitted to BLM in 2008. The process cannot be finalized until BLM surveys the lands to be conveyed. FAA has also delayed the process, due to a pending legal action regarding the conveyance.¹⁸

Ownership of land in and around Kotzebue was illustrated on Figure 3 in section 2.4.

¹⁷ United States. U.S. Census Bureau. *Selected Housing Characteristics: 2010 American Community Survey 1-Year Estimates*. <http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_10_1YR_DP04&prodType=table> 17 April 2012.

¹⁸ City of Kotzebue. *City of Kotzebue Draft Comprehensive Plan*. 16 February 2012.

Table 11: Alaska Native Claims Settlement Act – Land Status

ANCSA Land Entitlement	
Village Corporation	KIC
12(a) Land Entitlement*	161,260 acres
12(b) Land Entitlement**	3,104 acres
14(c)(3) Land Status	
14(c)(3) Status***	Nearly completed
14(c)(3) Agreement Signed	Not yet signed
Map of Boundaries done	Yes
Date Plat Filed	2008
Recording District	Kotzebue
Municipal Land Trust	No
Authorized Village Entity Type	n/a

Source: Division of Community and Regional Affairs, State of Alaska. Retrieved April 16, 2012.
http://www.dced.state.ak.us/dca/commdb/CF_BLOCK.htm

* ANCSA 12(a) land entitlement to village corp. from federal government

** ANCSA 12 (b) land reallocated to village corp. from Reg. Native Corp.

*** Under ANCSA 14(c)(3), villages must re-convey surface estates to the local city government to provide for community use and expansion

2.12. Existing Infrastructure and Future Land Use

Kotzebue is the largest community in the northwest region, and its community infrastructure reflects its status as a regional transportation and service hub. Figure 5 shows community facility locations in Kotzebue.

Figure 5: Community Facilities Map



Electricity – Kotzebue Electric Association provides power for the community. The community gets a Power Cost Equalization subsidy, bringing the cost per kWh to 30.53 cents in 2010. Wind turbines supplement power generation from diesel fuel.

Fuel – Crowley Marine Services Tank Farm has the largest fuel storage tank within Kotzebue, at 6.2 million gallons. Bering Air maintains a 20,000 gallon fuel tank, and the Air National Guard has a 17,000 gallon tank.¹⁹



Crowley Marine Services facilities, Kotzebue

Water – Water supply for the community comes from two lakes east of town. The primary supply comes from Devil’s Lake, about 2.8 miles from town. The backup water supply source is Vortac Lake, just 1.6 miles from town and considerably smaller than Devil’s Lake. In most years, the backup supply is not needed. Water is pumped in an 8-inch, aboveground, HDPE arctic pipeline from Devil’s Lake to a heat-add building located at Vortac Lake. The water is heated there only if there is a risk of the line to town freezing. The lake water flows in a new buried 8-inch HDPE arctic pipeline from Vortac Lake to the water treatment plant located near the high school.

The water is treated with chemicals to oxidize unwanted iron, manganese and dissolved organics. Then the water is further treated in a traditional coagulation, flocculation, sedimentation, and rapid sand filtration plant, followed by chlorine disinfection. The water treatment plant consists of two separate process trains, so that one train can be taken out of service for maintenance without impacting treatment capacity. The water treatment plant is old and will soon be due for replacement.

Treated water is stored in two one-million-gallon storage tanks. The potable water is distributed throughout the city in six water loops. Water is pumped through the loops continuously, and the water returning to the distribution pumps is warmed with heat recovered from the Kotzebue Electric Association’s diesel power plant. Individual water services are kept warm by hydraulically circulated water from the main to the house and back to the main, using pit orifices at the connection to the main. Most of the water mains have been recently replaced with new piping. Of the six loops, only two more require replacement. Approximately 98% of the community’s buildings are connected to the water system, with the remaining dozen or so buildings not connected due to a lack of plumbing.

Sewage – Figures from the 2010 Census indicate that over 99% of homes in Kotzebue have complete plumbing.²⁰ This may be slightly optimistic, as there are reported to be about a dozen homes without plumbing. This would result in a figure of 98% of residences with complete plumbing. Sewage is collected from the entire community through individual buildings connects flowing into gravity sewers. Thirteen sewage pump stations transport the sewage from the community to a three-cell treatment

¹⁹ Ibid at 1.

²⁰ Ibid at 12.

pond system along the coast south of town. The pond treatment system is a no discharge system due to adequate seepage into the ground. The gravity sewage system provides a reasonably reliable sewage collection system, provided spare pumps and supplies are kept on hand for the emergencies which tend to occur during the winter months.

Trash – Garbage is collected once weekly in Kotzebue, and processed in the City’s Baler Building. A Class 2 permitted landfill lies south of the airport. The Kotzebue Refuse Department provides hazardous waste disposal. No recycling program is in place, but the City is considering developing one.

Telecommunications – OTZ Telephone Co-op Incorporated provides the local phone service. Long distance phone is also available through OTZ Telephone, along with AT&T and GCI. GCI provides cable and ACS, GCI, and OTZ offer internet service.

Education – The Northwest Arctic Borough School District operates the June Nelson Elementary School, which serves students from preschool to fifth grade. The school currently serves 387 students. The District also operates Kotzebue Middle/High School, which serves students in grades six through twelve. This school currently serves 307 students.



June Nelson Elementary School
Photo: Courtesy of City of Kotzebue

Public Safety – Kotzebue’s police department was formed in 1969. The police department operates the Kotzebue Regional Jail, a state contract jail. Kotzebue’s Emergency Dispatch Center is located within the jail. The Kotzebue Fire Department provides fire prevention and suppression, emergency medical, and rescue services to the community.²¹

Church – Baptist, Catholic, Assembly of God, Baha’i, Mormon, Friends, Episcopal and Church of God worship services are available in Kotzebue.

Services and Retail – Kotzebue serves as a hub for goods and services in Northwest Alaska. In addition to businesses that support this important role, retail opportunities available in the community include grocery, automotive, gift, and hardware stores. Services include a hotel, hair salon, automotive repair shop, restaurants, chiropractic office, taxi service, the US Post Office and a bank.

Housing – Table 12 represents the distribution of the housing available in the community.

²¹ City of Kotzebue. *City of Kotzebue: Gateway to the Arctic*. <<http://www.cityofkotzebue.com/>>. 16 April 2012.

Table 12: Housing Characteristics

Total Housing Units	1,160	Pop. Living in Households	3,201
Occupied Housing (Households)	954	Total Occupied Housing Units	954
Vacant Housing	206	Family Households	674
Vacant Due to Seasonal Use	96	Non-Family Households	280
Owner – Occupied Housing	411	Avg. Household Size	3.31
Renter – Occupied Housing	543	Avg. Family Household Size	3.00

Source: State of Alaska. Department of Commerce, Community and Economic Development. *Alaska Community Database Community Information Summaries: Kotzebue*. <<http://www.commerce.state.ak.us/dca/commdb/CIS.cfm>>. 9 April 2012.

Health Care – Kotzebue residents are served by the Maniilaq Health Center, which offers an emergency room, an ambulatory care clinic, dental and eye care, a pharmacy, a specialty clinic, and an inpatient care section.²²

Future Land Use – The Draft Comprehensive Plan for the City of Kotzebue identifies a number of land use strategies that could impact transportation²³, including:

- Work with KIC to finalize re-conveyance.
- Consider completing zoning requirements to designate use areas.
- Develop platting standards to support development.
- Develop a watershed protection plan that includes rerouting of a snow-machine trail.
- Pursue an expansion of municipal boundaries to incorporate lands between the original townsite and the possible port facilities at Cape Blossom. These lands could support additional housing and business growth spurred by a new port.
- Support efforts to fund a port at Cape Blossom and consider City ownership of port facility lands.
- Encourage owners of underused properties to make the parcels available for community expansion.
- Construct a road connecting Kotzebue with Kiana and Selawik.
- Relocate the airport.

The plan also indicates that federal agencies (FAA and the Air Force) own three sites within the municipality, and these could eventually serve as developable land if they are no longer used by the agencies.

²² Maniilaq Association. *Maniilaq Association Health Center*. <http://www.maniilaq.org/healthCenter.html>. 16 April 2012.

²³ City of Kotzebue. Public Review Draft: Comprehensive Plan. April 16, 2012. <http://www.cityofkotzebue.com/vertical/sites/%7BA001CDF5-7F45-4E0C-9DFC-D296959501D1%7D/uploads/KotzebueComprehensive_Plan_4-6-12.pdf>. Accessed 1 May 2012.

3. Transportation System

To understand how the transportation system functions in Kotzebue, an inventory of those elements that make up the existing system was conducted. Conducting this inventory was an important step of the planning process in order to identify areas in need of improvement over the 20-year planning period. This inventory used data compiled by the BIA, Tribe, and State; data available through Geographic Information Systems (GIS); and information gathered through supplemental field data collection efforts.

This section describes the transportation system as it presently exists. The emphasis is on the road system, but this section also addresses the trails, air and water transportation, transit and related transportation systems. This section begins with an overview of the road classification systems in use by ADOT&PF and BIA, and then proceeds with a description of Kotzebue's transportation network.

3.1. Existing Roadway System

Without any roads connecting Kotzebue to other nearby communities, a viable network of local roads takes on even more importance than it might in a community with easy access to goods and services in other communities. Shore Avenue is likely the busiest local road, offering access to a number of local businesses. Other main routes are Third and Fifth Avenues. Figure 6 shows Kotzebue's road network.

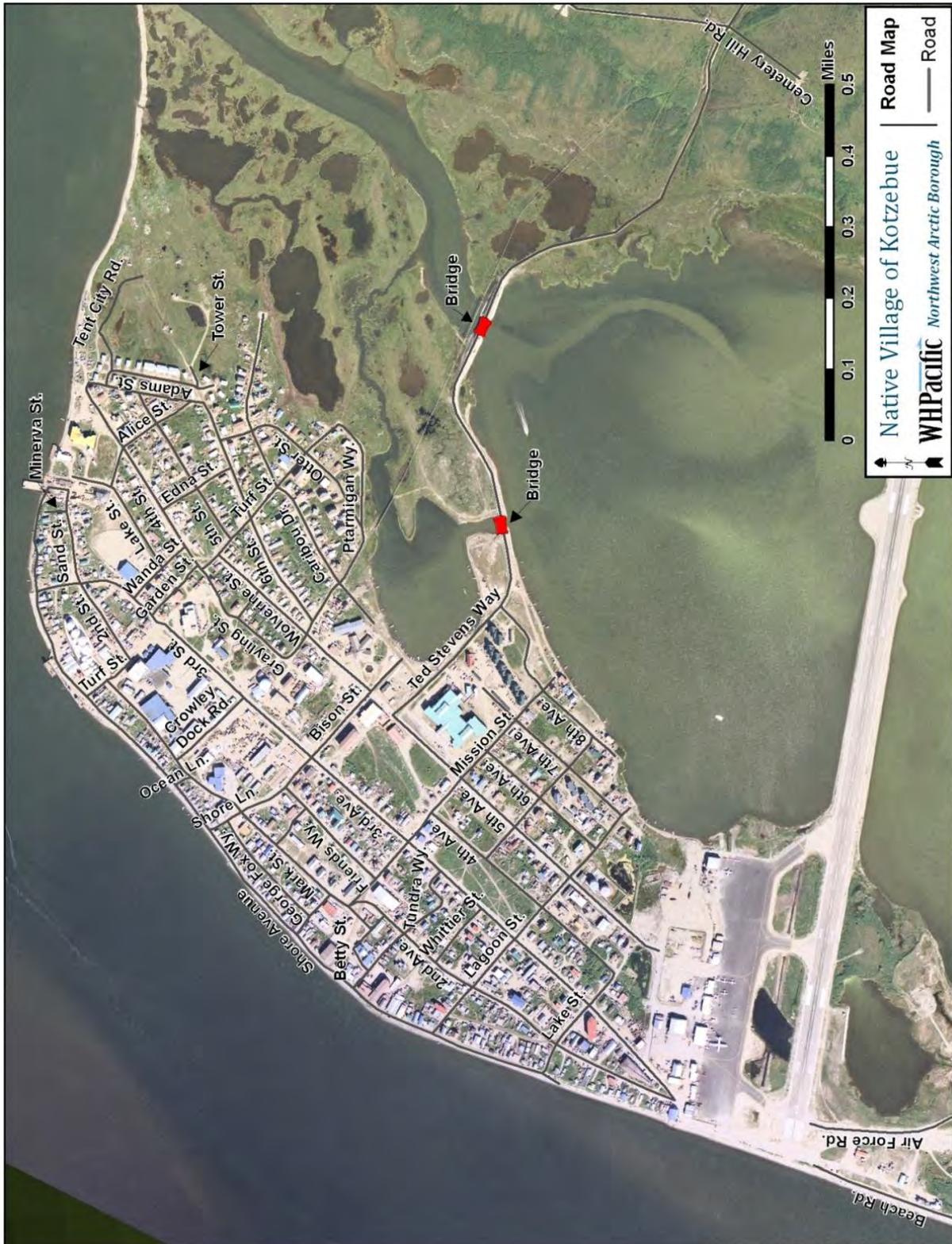


Figure 6: Roadway Map

Kotzebue’s Road Network

According to ADOT&PF’s Coordinated Data System (CDS) Road Database, ADOT&PF owns and maintains 1.33 miles of roadway in Kotzebue: Third Avenue, Airport Terminal Road, and Airport Lane.²⁴ ADOT&PF operates a maintenance station in Kotzebue. The CDS indicates that the City of Kotzebue maintains just over 25 miles of local roads.

The BIA Division of Transportation (BIA-DOT) *Summary Report* dated April 2012, found in Appendix C, recorded 116.8 miles of routes on the IRR system for the Kotzebue IRA. Table 13 summarizes the surface types, ownership, and lengths (in miles) of all public roads on the IRR Inventory in the community. Routes on the IRR system include roads with varying surface types, trails and proposed roads. The BIA inventory figures presented in the table are based on the BIA-DOT *Summary Report*. Figure 7 and Figure 8 depict the location of each road. Recommended revisions to the *Summary Report* are subject to the approval of the Kotzebue IRA Council and the BIA.

Table 13: Road Mileage by Surface Type and Owner, based on BIA IRR Inventory

Jurisdiction	Road Mileage by Surface Type						Total Miles
	Paved	Gravel	Concrete	Earth	Primitive /Trail	Proposed	
BIA Roads	0.0	0.0	0.0	0.0	0.0	0.0	0.0
State Roads	0.0	0.0	0.0	0.0	0.0	1.0	1.0
County Road	0.0	0.0	0.0	78.9	0.0	0.0	78.9
Tribal Road	0.0	5	0.0	3.8	12.4	0.0	21.2
Urban Roads	6.3	9.4	0.0	0.0	0.0	0.0	15.7
<i>TOTAL</i>	<i>6.3</i>	<i>14.4</i>	<i>0.0</i>	<i>82.7</i>	<i>12.4</i>	<i>1.0</i>	<i>116.8</i>

Source: United States. BIA Department of Transportation. *FY 2012 Summary Report*. 17 April 2012.

²⁴ State of Alaska. Department of Transportation. *Highway Data Port*. 2012. <<http://www.dot.alaska.gov/stwdplng/transdata/highwaydataport.shtml>> 23 April 2012.



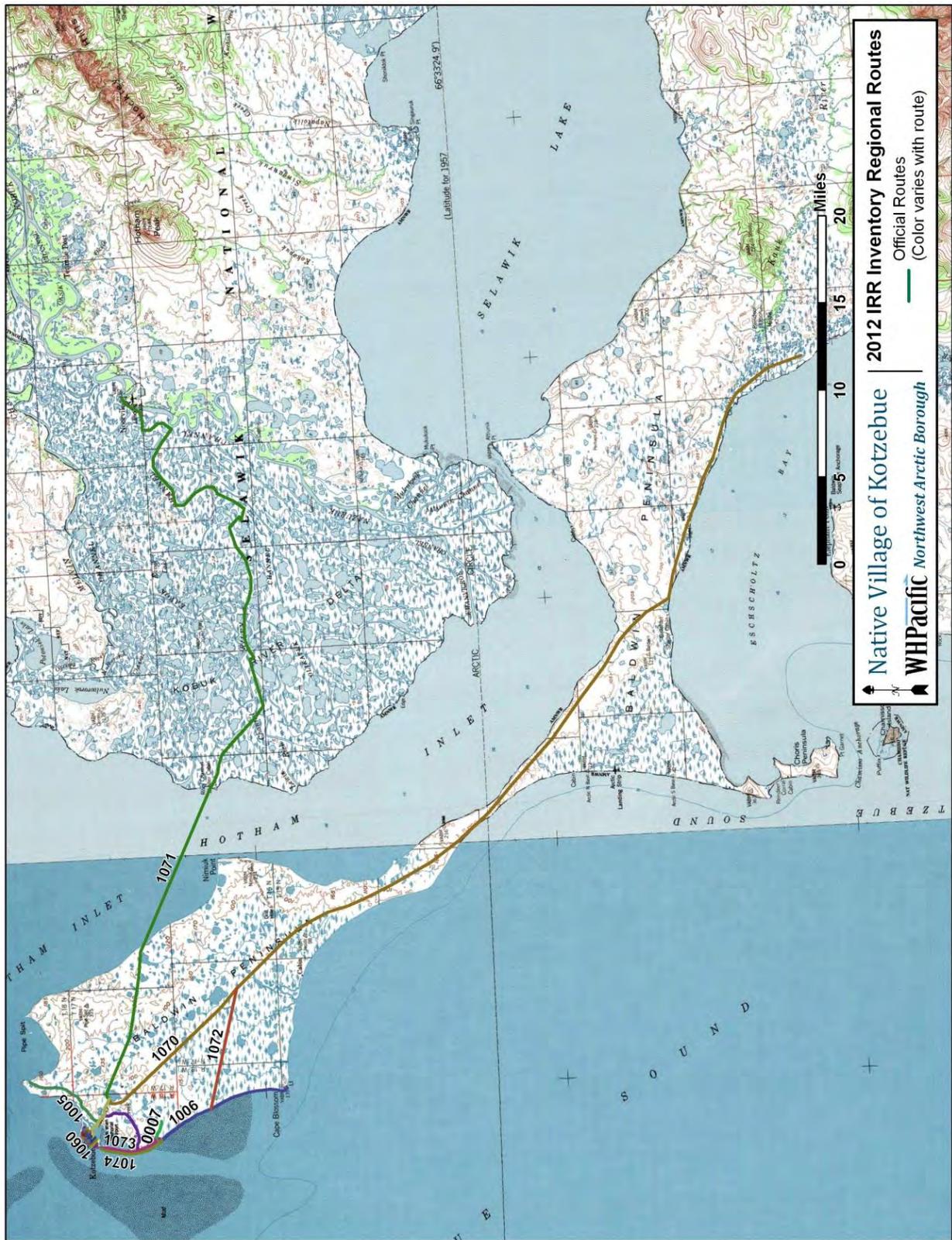


Figure 8: 2012 IRR Inventory Regional Routes

Current and Upcoming Road Projects

There is one major road project currently underway in Kotzebue, and several more planned within the next five years. The project currently underway is an enhancements project along Shore Avenue, which will be completed in the fall of 2012.

The Statewide Transportation Improvements Program (STIP) is ADOT&PF's four-year program for transportation system preservation and development. Projects in the STIP are very likely to be constructed. There are three Kotzebue projects identified in ADOT&PF's 2012-2015 STIP:²⁵ Cape Blossom Road, Ted Stevens Way Pedestrian and Bike Trail, and Swan Lake Improvements. Ted Stevens Way Pedestrian and Bike Trail is discussed in Section 3.2, and Swan Lake Improvements are discussed in 3.3. The Cape Blossom Road Project is discussed below.



Shoreline Avenue Bump Out
Source: WHPacific Photo

The Kotzebue to Cape Blossom Road

The Kotzebue to Cape Blossom Road project was first studied in the early 1980s as an access to coal resources at Chicago Creek. This study identified several alignments from Kotzebue to Coal Creek southeast through the Baldwin Peninsula. A supplemental report considered an alternate alignment specifically addressing access to Cape Blossom. In 1983, a document entitled *Feasibility Analysis: Kotzebue Deep Water Port/Airport* was prepared for the City of Kotzebue. This study concluded that the Cape Blossom site is the best location in the vicinity for development of a quality barge landing.

The ADOT&PF is preparing an Environmental Assessment (EA) in support of a proposed road from Kotzebue to Cape Blossom. The road would improve access and enhance safety between Kotzebue and the shoreline on the southwest side of the Baldwin Peninsula. The project has federal funding and must fully comply with the National Environmental Policy Act (NEPA) and other federal, state, and local regulations. At this time, the project is only partially funded.

The proposed Cape Blossom Road project includes: upgrading the existing road from Ted Stevens Way to the Kotzebue Electric Association (KEA) wind turbine farm; constructing a two-lane, unpaved gravel road from the wind turbine farm to a terminus above the tidelands at Cape Blossom with a bridge or multi-culvert crossing at Sadie Creek. The proposed road would provide access between Kotzebue and Cape Blossom, and would support the siting of a landing for barge traffic. 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. Figure 9 shows the proposed alignment for this project, along with several alternative alignments.

²⁵ State of Alaska. Department of Transportation. *2012-2015 Statewide Transportation Improvement Program: Original, Approved February 9, 2012*. <<http://www.dot.state.ak.us/stwdplng/cip/stip/index.shtml>>. 24 April 2012.

Figure 9: Cape Blossom Map



Depending on the route selected, the proposed road will be between 10.5 and 20.3 miles long. For a two-lane road, cost is expected to be approximately \$3.2 million per mile, assuming borrow sources can be developed along the route and that fine grained sand is used to construct the embankment. Costs to construct a crossing at Sadie Creek are additional to this per mile cost estimate.²⁶

The project is now in the environmental documentation and preliminary engineering stage. Design, permitting and right-of-way acquisition are expected to be completed by the summer of 2013, and environmental documents are expected to be completed by winter of 2013. ADOT&PF plans to award construction contracts in the fall of 2014. Funding for planning activities is already secured, and current funds should be available for construction of the road as far as the wind farm. The remainder of the road will be constructed as funds become available. A portion of the road may be constructed by the military as part of the Innovative Readiness Training (IRT) program.

3.1.1. Crash Data

The Alaska Highway Database Section maintains a database of reported motor vehicle traffic crashes that occurred on public roads. Motor vehicle crash information is first recorded on an accident report form by the Alaska State Troopers, local police officers, or the accident participants. Law enforcement agencies and participants forward the reports to Driver Services, Division of Motor Vehicles (DMV), Alaska Department of Administration. DMV forwards a copy of each accident report to ADOT&PF's Division of Program Development, Highway Database Section. Between 2005 and 2008, there were nine accidents involving motor vehicles in Kotzebue. Two of these crashes resulted in major injuries, four resulted in minor injuries, and three resulted in only property damage. Alcohol use was not suspected to be a factor in any of these incidents.²⁷

Kotzebue is slightly under the state average for fatal traffic accidents per 100,000 population. However, Exhibit 4 shows that between 1975 and 2009 there was a slightly higher number of pedestrian fatalities than the state average. As to be expected, the majority of the accidents occurred on the busier roads, including Shore and Third Avenues.

Although no statistical data exists, conflicts between ATVs or snow machines and cars, trucks and pedestrians are a concern. This is particularly evident when snow machines exit from the ice over the beach and onto the road at the high rates of speeds needed to make it up the steep banks. When roads are cleared of snow, there are no areas for the snow machines to cross. Near the hotel and store, pedestrians, ATVs (or snow machines in winter) and vehicles share the same transportation corridors and the potential for collisions is high.

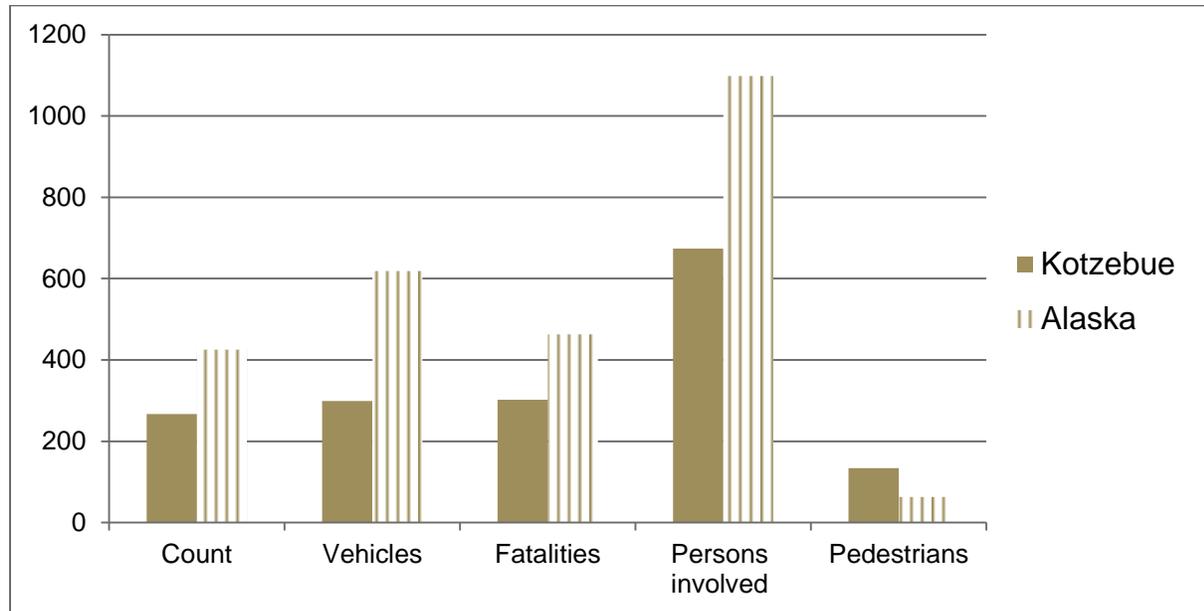
²⁶ State of Alaska. Department of Transportation. *Kotzebue to Cape Blossom Road – Reconnaissance Study*. February 2011.

²⁷ State of Alaska. Department of Transportation and Public Facilities. *2008 Crash Data*.

<<http://www.dot.alaska.gov/stwdplng/transdata/crash.shtml>>. 18 April 2012.

In 2012, the State of Alaska began to require residents within the City of Kotzebue’s to obtain vehicular insurance and registration.

Exhibit 4: Kotzebue Fatal Road traffic accidents 1975-2009 (per 100,000 population)



3.1.2. Existing Traffic Volume

The primary mode of travel used by residents in Kotzebue is dependent on the time of year. During the winter months, both passenger vehicles and snow machines are used in Kotzebue. During the short summer season, passenger vehicles and ATVs are the primary modes of travel. Travel by foot is also common in Kotzebue.

Table 14 outlines Kotzebue vehicle registrations on record at the Alaska DMV.

Table 14: 2011 Kotzebue Vehicle Registrations

Passenger	Motorcycle	Comm. Trailer	Trailer	Comm. Truck	Pickup	Bus	Snow machine	All Vehicles
333	14	6	36	101	291	0	254	1,035

Source: State of Alaska. Division of Motor Vehicles. *2011 Currently Registered Vehicles*. <<http://doa.alaska.gov/dmv/research/curreg11.htm>>. 25 April 2012.

The measurement of traffic volumes is one of the most basic functions of roadway planning and management. Traffic volume counts are the most common measure of roadway use, and they are needed as input to most traffic engineering analysis. The objectives of a traffic volume study are to estimate the Annual Average Daily Traffic volumes (AADT) and peak-hour traffic on any routes affecting traffic within the reservation and other public roads within the IRR system. This data is used to update the road inventory files, determine capacity deficiencies, and identify potential roadway improvement projects. In the current funding formula, higher AADTs contribute to additional annual Tribal shares.



*Traffic Counter in Kotzebue, August 2012
Source: WHPacific photo*

Although no traffic counts were taken during this LRTP update, historical AADT data is available for selected routes. The following tables are based on counts taken in 2002 and reported in the BIA IRR Inventory.

Table 15: 2002 Average Daily Traffic Counts

Road	2002 AADT
2 nd Avenue	650
3 rd Avenue	3201
8 th Avenue	118
Caribou Dr.	793
Lagoon St.	1499
Ted Stevens Way	407
Ptarmigan	440
Turf St.	1458
Shore Ave.	1707

Source: IRR Program Official Indian Reservation Road Inventory. *Kotzebue*. <
<https://www.itims.doi.gov/invreports/Alaska.PDF>>. Accessed May 1, 2012.

In August 2012, ADOT&PF placed several traffic counters on roads in Kotzebue. Results from those traffic counts are expected in early 2013.

If AADT data is not submitted with IRR routes, then the default value is used. The default value varies by route class as shown in Table 16.

Table 16: Default AADT Values

Class	Default AADT
1	(No default value)
2	25
3	50
4	50
5	50
6	50
7	50
8	20
9	NA
10	NA
11	NA

3.1.4. Trip Generation

There are no roads extending outside of Kotzebue, although residents do travel to neighboring communities using snow machines in winter or boats in summer. Subsistence pursuits also generate travel outside of Kotzebue. The vast majority of trips by Kotzebue residents are completed within the developed townsite. The main traffic generators within the townsite include the post office, schools, bank, grocery stores, NIHA, NWAB, City Public Works, Crowley Fuel Distribution, Airport, Hospital, Alaska Courts System, Hotel and the Maniilaq Medical Center.

The most reliable way to estimate the traffic generated by a proposed development is to use the trip generation rates observed at an existing development of similar land use and building type. For this purpose, the accepted source document of trip generation rates (*Trip Generation, Sixth Edition* - Washington, D.C., Institute of Transportation Engineers, 1997) was used. Table 17 illustrates typical land use categories on Indian Reservations and corresponding AADT rates.

Table 17: Trip Generation Rates Typical Indian Reservation Land and Use Categories

Land Use	AADT Rate
Residential	10 trips/day/dwelling
Community Center	22.88 trips/day/1000 sq. ft.
Light Industrial	6.97 trips/day/1000 sq. ft
Commercial (Shopping Center)	42.92 trips/day/1000 sq. ft.
Commercial (Convenience Market)	737.99 trips/day/1000 sq. ft.

Land Use	AADT Rate
Commercial (Fast Food Rest.)	496.12 trips/day/1000 sq. ft.
Health Clinic	31.45 trips/day/1000sq. ft.
Campground/RV Park	74 trips/day/acre
Community Park	12.14 trips/day/acre
Elementary School	12.03 trips/day/1000 sq. ft.
High School	13.27 trips/day/1000 sq. ft.

Source: Trip Generation, 6th Edition, Institute of Transportation Engineers (ITE), 1997

3.1.5. Road Classification Systems

As a means of tracking road infrastructure in communities, both the state and the Tribal/BIA systems use a functional classification system. A road's classification is based on the function the road performs with regard to the movement of traffic and access to property. Routes in the IRR Inventory are classified using the BIA/Tribal road classifications.

The issue of road classifications and designations is confusing because there are two different mechanisms for labeling and identifying Alaska's Public Roads. Functional Classifications serve to identify the purpose of the road. State Highway designations serve to identify which entity is responsible for maintaining roads. Both – functional classifications and designations – apply to all public roads in Alaska. The two terms are also linked within State law – the functional classification of a road is supposed to relate directly to its designation. BIA uses a third system to classify roadways, and these class designations have an impact on the amount of funding each road generates for a tribe.

Functional Classification Definitions

Functional classification, as used by ADOT&PF, is the grouping of roads, streets and highways into integrated systems, each ranked by its relative importance and the function it is intended to serve, relative to mobility and land access. The functional classification framework also identifies the role each street or highway should play in channeling the flow of traffic through a rural and/or urban environment in a logical and efficient manner. The three general functional classification categories are Arterial, Collector and Local Roads. At one extreme, the Arterial's function is to move through-traffic at high speed over long distances with limited land access to adjacent property; cross-traffic is discouraged. By contrast, Local Roads allow shorter trips at lower speeds and are intended to accommodate cross-traffic. Definitions of these general functional classifications, along with desirable characteristics, are given below.

Freeways and Expressways primarily serve long distance travel between major communities. Freeways provide the greatest mobility, with strictly controlled access allowed only at interchanges. No direct property access is allowed. Expressways also serve regional traffic, and access is allowed primarily at major intersections, although interchanges can be built for particularly high volume intersections. Occasionally direct property access is allowed when there is no other way to provide access.

Arterials carry relatively large volumes of traffic through the state and to major trip destinations such as employment or commercial centers. Arterials fall into two categories; principal and minor. Principal (Major) Arterials include United States and Interstate highways, and state highways that serve all urban areas with a population greater than 50,000. Minor Arterials are routes that provide interstate and inter-county service to cities and towns with populations of less than 25,000 and other traffic generators capable of attracting travel over long distances. Principal arterials usually have four traffic lanes (two lanes in each direction), provide storage for left turns at most intersections, and are separated by a median or continuous left turn lane. Minor arterials may only have two traffic lanes and should include a storage lane for left turns at major intersections. A minimum right-of-way width of 60 to 100 feet is needed for roads with more than four lanes. However, right-of-way should be based on preferable dimensions of each roadway element.

Collectors generally serve travel of primarily intra-county and regional importance rather than statewide importance and have shorter travel distances than arterials. They also provide a balance between mobility and land access by customarily permitting access to all abutting properties. Like Arterials, there are two categories of collectors; major and minor. Major Collectors provide service to any county seat or community not served by an arterial road, and serve other traffic generators of intra-county importance such as: regional parks, consolidated schools, agricultural areas, shipping points, etc. Minor Collectors are spaced at intervals consistent with population density, collect traffic from local roads, and provide access to all developed areas within a reasonable distance of a major collector or higher classified road. A minimum right-of-way width of 80 to 100 feet is desirable for a collector.

Local Roads comprise the balance of the road network and carry low volume, low-speed traffic. The primary function of a local road is to provide access to individual parcels of property. Local roads usually serve residential areas and may also serve scattered business and industry sites that generate modest traffic. A minimum right-of-way of 60 to 80 feet is desirable for a local road.

State Highway Designations

State Highway Designations supplement functional classifications. The functional classification of roads has been used by state highway departments for many years for a variety of important highway functions such as: assigning jurisdictional responsibility, determining cost allocations, allocating funds to local units of government, and establishing appropriate design standards. Prior to the enactment of the *Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA)*, it became apparent that the federally mandated functional classifications completed nearly 20 years ago, although routinely updated by the states, were no longer consistent among the states and needed to be reclassified before the

establishment of a National Highway System (NHS). As a result, Congress included Section 1006 (c) in *ISTEA*, which required the states to reclassify roads and streets within the state, under the oversight of the FHWA, by September 20, 1996. The latest update to functional classifications for Alaska's roads occurred between 2007 and 2011.

State highway designations include the following categories:

State Highways include routes within a system of connected main highways throughout the state that primarily serve arterials or through traffic. With the exception of compact areas, the ADOT&PF maintains state highways.

State Aid Highways are part of a system of highways which are not included in the system of state highways, and which primarily serve as collectors and feeder routes connecting local service roads to the arterial State Highway System. Generally, state aid roads are maintained by ADOT&PF in the summer and by towns in the winter.

Town Ways are all other highways not included in the State Highway or State Aid classifications that are maintained by municipalities or boroughs and primarily serve as local service roads providing access to adjacent land. All other roads they identify as Local Roads, as shown in Figure 10.

Figure 10: DOT&PF Functional Classification

DOT&PF Functional Classification Update Project

Northern Region

Kotzebue (1)

Final Functional Classification 2011

Map 57
January 2011



Source: State of Alaska, DOT. <http://www.dot.state.ak.us/stwdplng/fclass/Final_northern.shtml>. 25 April 2012.

BIA Road Classifications

The BIA has its own system of classifying routes, and a route's classification largely determines how much funding the route generates within the IRR system. Within the BIA, functional classification means an analysis of a specific transportation facility taking into account current and future traffic generators, and their relationship to connecting or adjacent BIA, state, county, Federal, and/or local roads and other intermodal facilities. Functional classification is used to delineate the difference between the various road and/or intermodal transportation facility standards eligible for funding under the IRR program. As part of the IRR system management, all transportation facilities included in or added to the IRR inventory must be classified according to the following functional classification system:

Class 1. Major arterial roads providing an integrated network with characteristics for serving traffic between large population centers, generally without stub connections and having average daily traffic volumes of 10,000 vehicles per day or more with more than two lanes of traffic.

Class 2. Rural minor arterial roads providing an integrated network having the characteristics for serving traffic between large population centers, generally without stub connections. May also link smaller towns and communities to major resort areas that attract travel over long distances and generally provide for relatively high overall travel speeds with minimum interference to through traffic movement. Generally provide for at least inter-county or inter-state service and are spaced at intervals consistent with population density. This class of road will have less than 10,000 vehicles per day.

Class 3. Streets located within communities serving residential areas.

Class 4. Rural major collector roads are collectors to rural local roads.

Class 5. Rural local road that is either a section line and/or stub type roads, make connections within the grid of the IRR system. This class of road may serve areas around villages, into farming areas, to schools, tourist attractions, or various small enterprises. Also included are roads and motorized trails for administration of forests, grazing, mining, oil, recreation, or other use purposes.

Class 6. City minor arterial streets that are located within communities and serve as access to major arterials.

Class 7. City collector streets that are located within communities and serve as collectors to the city local streets.

Class 8. This class encompasses all non-road projects such as paths, trails, walkways, or other designated types of routes for public use by foot traffic, bicycles, trail bikes, snowmobiles, all terrain vehicles, or other uses to provide for the general access of non-vehicular traffic.

Class 9. This classification encompasses other transportation facilities such as public parking facilities adjacent to IRR routes and scenic byways, rest areas, and other scenic pullouts, ferry boat terminals, and transit terminals.

Class 10. This classification encompasses airstrips that are within the boundaries of the IRR system grid and are open to the public. These airstrips are included for inventory and maintenance purposes only.

Class 11. This classification indicates an overlapping or previously inventoried section or sections of a route and is used to indicate that it is not to be used for accumulating needs data. This class is used for reporting and identification purposes only.

In accordance with *Federal Register/Vol. 69, No. 137/Monday, July 19, 2004/Rules and Regulations*, (codified at 25 Code of Federal Regulations (CFR) Part 170), the transportation plan must identify the classification for each road on the IRR Inventory.

3.1.6. Drainage and Bridges

Even though their primary function is for the movement of traffic, roads and streets need to be designed with drainage in mind. The drainage facilities associated with a designed street network offer one of the most economical and expedient means of conveying storm water through a developed area. Continuing improvement to the Tribe's street and road system will provide great benefits. It will be important for the two systems, drainage and road improvements, to evolve concurrently.

Drainage

Due to the presence of permafrost and wetlands, proven arctic engineering practices must be used in the design of roadways. Inadequate roads and bridges will hamper economic development, hinder tourism, and pose safety threats.

According to the BIA Inventory, there are 6.3 miles of paved roads in Kotzebue, while the remaining miles are surfaced with gravel. Roadway drainage is accomplished through open ditches, which vary in depth between zero and three feet, and through the use of culverts.

Bridges

The U.S. DOT Federal Highways Administration (FHWA) IRR Program – Transportation Planning Activity Guidelines provide information on the IRR Bridge Inventory as follows.

IRR Bridge Inventory: This activity involves the gathering, maintaining, and distribution of all information as required for the national bridge inventory database. This includes information such as route number,



*Culverts along Ted Stevens Way
Source: WHPacific photo*



*Poor drainage on Kotzebue Street, August 2012
Source: WHPacific photo*

bridge location and type, length, width, surface type, bridge sufficiency ratings, bridge number, etc. This database is an important tool in identifying those existing bridges that have the highest need for repair and/or replacement.

FHWA, in consultation with the States, has assigned a sufficiency rating (SR) to each bridge (greater than 20 ft.) inventoried. Formula SR factors are as outlined in the current "*Recording and Coding Guide for Structures Inventory and Appraisal (SI&A) of the Reservation's Bridges.*"

Per FHWA: "A Structurally Deficient (SD) bridge is one that (1) has been restricted to light vehicles only, (2) is closed, and/or (3) requires immediate rehabilitation to remain open. A Functionally Obsolete (FO) bridge is one in which the deck geometry, load carrying capacity (comparison of the original design load to the State legal load), clearance, or approach roadway alignment no longer meets the usual criteria for the system of which it is an integral part."

According to the BIA's IRR Inventory, two bridges are located on Ted Stevens Way. One is thirty feet long (E001), and the other is 120 feet long (E002).²⁸

3.1.7. Right-of-Way Status

The definition of a BIA System Road states that it is a road "for which the BIA has, or plans to obtain legal right-of-way." Rights-of-way over and across tribal land, individually owned land and government land may be granted as per those requirements in 25 CFR Part 169: "Except as otherwise provided in § 1.2 of this chapter, the regulations in this Part 169 prescribe the procedures, terms and conditions under which rights-of-way over and across tribal land, individually owned land and Government owned land may be granted." Present roads and trails within the town site of Kotzebue are owned by the State of Alaska or the City of Kotzebue.

²⁸ United States. BIA Department of Transportation. *FY 2012 Summary Report*. 17 April 2012.

3.1.8. Traffic Control

Traffic control devices are all signs, signals, markings, and devices placed on or adjacent to a street or highway by a public body having authority to regulate, warn, or guide traffic.

The *Manual on Uniform Traffic Control Devices* is the publication that sets forth the basic principles which govern the design and usage of traffic control devices. The manual was prepared by a national committee which included state, township, and municipal representation.

Currently Kotzebue does not have any stop lights, but there are stop signs along major roads.



3.2. Existing Trail and Path System

While pedestrian and biking trails are increasingly a part of new road facilities, few of these amenities are in place in Kotzebue. However, there is a wide sidewalk along one side of 5rd Avenue which is heavily used and there are also sidewalks along portions of 2nd Avenue, Lagoon Street, Mission Avenue, and Shore Avenue. Elsewhere in town, most residents walk in the roadway. A network of trails outside of Kotzebue is heavily used for berry picking, hunting, and travel to other communities as described in the following paragraphs.



*Signs in Kotzebue, 2012
Source: WHPacific photos*

Local Trails

ADOT&PF plans to construct a pedestrian and bike trail along the north side of Ted Stevens Way from the fairgrounds located near Swan Lake towards Nanuaq Way. The facility will include signage depicting Kotzebue's history and other significant events. The Trails and Recreational Access for Alaskans (TRAAK) project is slated for funding in 2014 and 2015.

Subsistence Trails

Subsistence is crucial to the culture and economy of Kotzebue. Berry picking and hunting trails lead to areas traditionally used for subsistence harvest. Salmonberries, blueberries, blackberries or crowberries and cranberries are collected.²⁹ Within the Kotzebue area, the subsistence harvest focuses on (in order of usable pounds): caribou, sheefish, chum salmon, bearded seal, whitefish, moose, Dolly Varden, ringed seal, and beluga whale.³⁰ A network of trails surrounds Kotzebue for subsistence harvest purposes.

Winter Trails

Winter trails are an essential means of transportation in Alaska and are used as the road system in many parts of Alaska for much of the year. Inter-community roads are very few, so during the winter, snow machines and sleds are a major means of travel. Winter trails are vital to winter subsistence activities, recreation and transportation. They link Kotzebue with neighboring communities and from those communities to others throughout the region. Trails are marked across the Sound and Inlet and on rivers with sticks or branches when the ice is thick enough for travel and some land based trails are marked with tripods and reflectors. Trail markers and GPS coordinates are useful when weather conditions such as winds and blowing snow obscure the trail. The Northwest Alaska Transportation Plan completed by the ADOT&PF and the Northwest Arctic Borough recommend tripods with reflective tape on trails located on land and temporary stakes on trails over water.

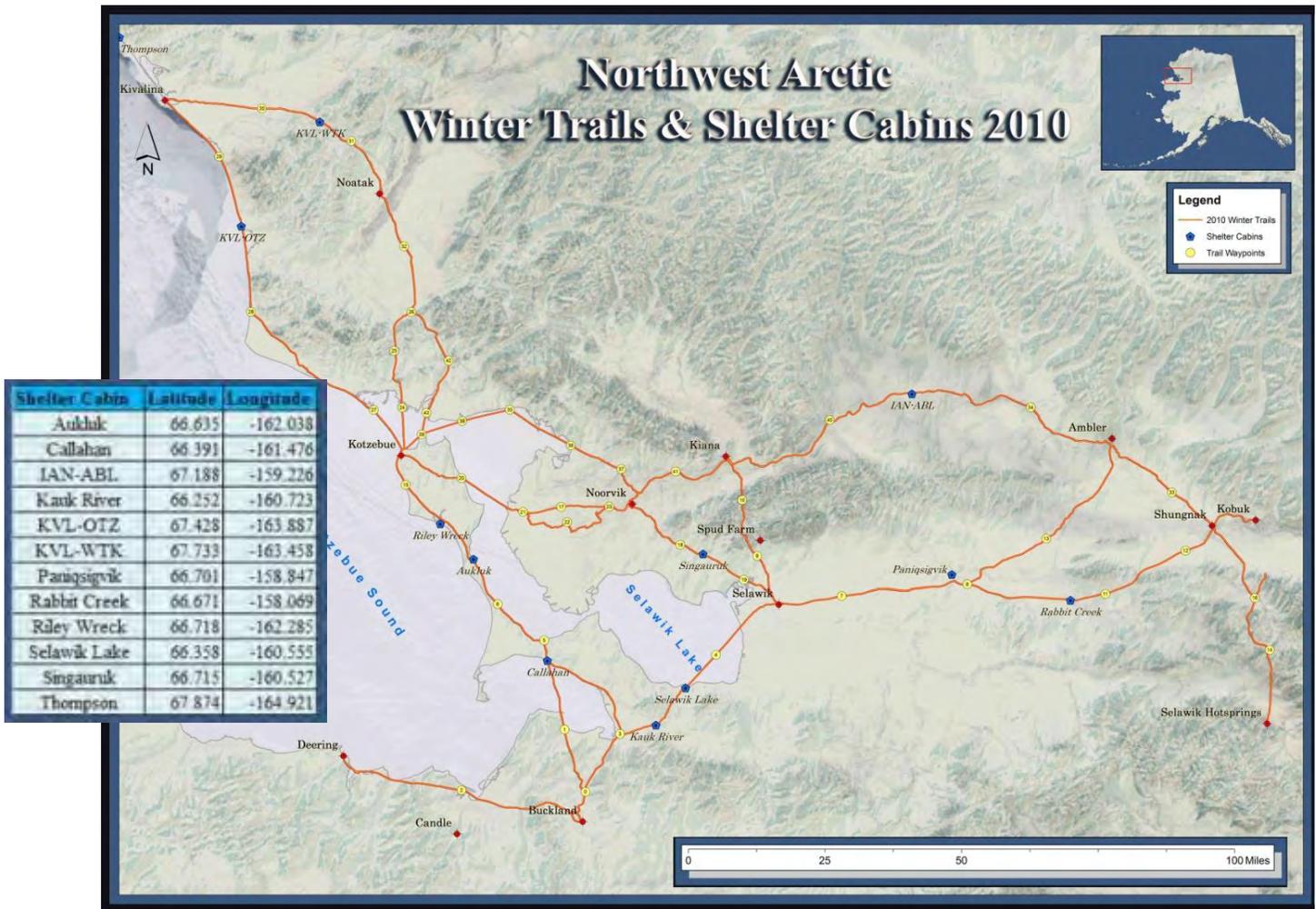


Winter Trail Tripod
Source: Northwest Arctic Borough

²⁹ State of Alaska. Department of Fish and Game. *Subsistence Use of Fish and Wildlife in Kotzebue: A Northwest Alaska Regional Center*. <<http://www.nativeknowledge.org/db/files/tp167.htm>>. 25 April 2012.

³⁰ State of Alaska. Department of Fish and Game. *Kotzebue Sound Management Area: Overview*. <<http://www.adfg.alaska.gov/index.cfm?adfg=ByAreaSubsistenceKotzSound.main>>. 1 May 2012.

Figure 11: Northwest Arctic Borough Winter Trails and Cabins



Source: Northwest Arctic Borough. <http://www.nwabor.org/images/trailwaypoints.pdf>. Accessed April 25, 2012.

Within the NWAB, there are 965 miles of winter trails, and Kotzebue serves as a hub for travel on many of these routes. NWAB maintains trail markers on winter trails in the area.³¹

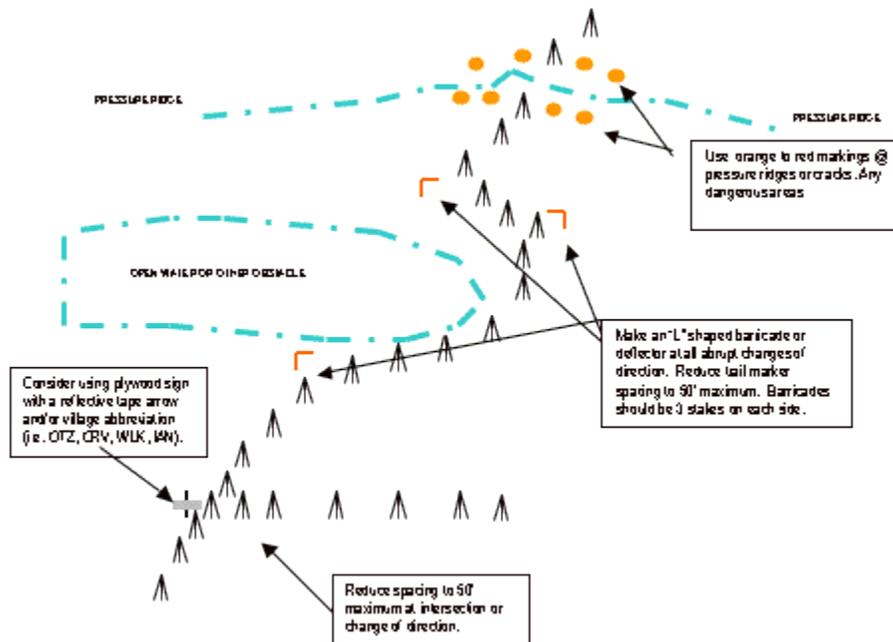
The NWAB trail staking program oversight is the responsibility of the NWAB Public Safety Department. The Department has been working on developing “minimum standards” for ice trails and overland trail staking such as the following:

Minimum Standard for Ice Trails

- Trails or trail segments should follow a straight a line, as much as possible.

³¹ State of Alaska. Department of Transportation and Public Facilities. *Northwest Alaska Transportation Plan, Community Transportation Analysis: An Element of the Alaska Statewide Transportation Plan*. February, 2004.

- Stakes must be no further than 100 feet apart, and can be as close as 50 feet, or as conditions require (i.e. up to 200 feet in confined river corridors).
- Stakes (willows) must be at least 4 feet high.
- Stakes should be securely anchored in the ice.
- Reflector tape must be applied at 36 inches or higher.
- Minimum reflector size shall be 1 ½" wide x 6" long (1 ½" x 12" folded onto itself).
- The trail should have adequate markers with reflective tape as noted:
 - White reflection marker – Main Trails
 - Orange reflection marker – Caution (Slow Down)
 - Red reflective markers – Extreme Danger
- Abrupt changes in direction, if necessary, should be marked as shown below.
- All reflective tapes must be removed from ice trails in late spring.



Trail staking information and figure source: <http://www.nwabor.org/trailstaking.html>

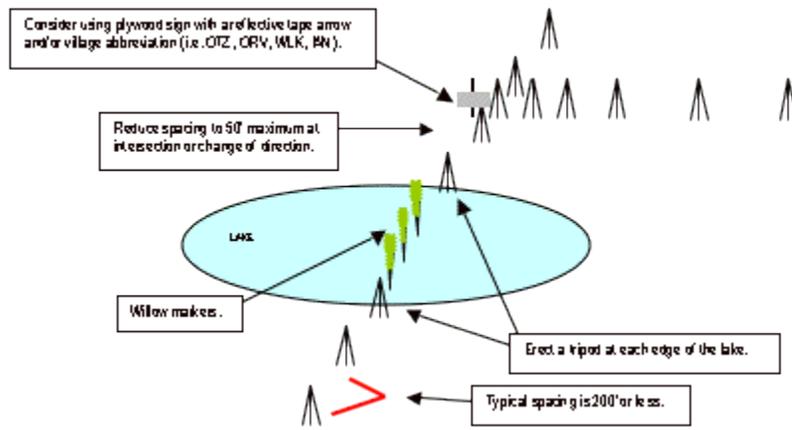
Minimum Standard for Overland Trails

- Trails or trail segments should follow a straight a line, as much as possible.
- Stakes must be no further than 200 feet apart, and can be as close as 100 feet, as preference or terrain and conditions require.
- Stakes (tripods) must be at least 6 feet high at each intersection point.
- Stakes should be un-treated round natural wooden poles as supplied by the NWAB, or used, un-treated (natural wood) poles in sound condition.
- Poles should be fastened approximately 1-foot from the tops using either 12 gauge galvanized wire as provided by the NWAB or through bolts to fasten the tripods together, again, as provided by the NWAB.

- Reflector tape must be applied at the 3-foot height on each pole, and at or near the 6-foot height. It should be wrapped fully around the pole and stapled several times with a hand stapler.

Trail maintenance should include:

- Replacing old or damaged tripods with new un-treated wood poles.
- Replacing rusted tie wire with 12 gauge galvanized wire.
- Adding new reflective tape where old tape is missing or damaged.
- Adding new tripods where tripods are missing or do not meet the minimum requirements as listed above.
- All intersections and changes of direction on trails must be marked as shown in the following diagram:
 - White reflection marker – Main Trails
 - Orange reflection marker – Caution (Slow Down)
 - Red reflective markers – Extreme Danger



Trail staking information and figure source: <http://www.nwabor.org/trailstaking.html>

3.3. School Bus and Mail Routes

Mail is delivered to post office boxes. The post office is located along Shore Avenue. There is a school bus, which provides transportation for special education students in the community.

3.4. Existing Transit System

Public transit is not available for the general population in Kotzebue. The State of Alaska does provide free van service, Monday-Friday, for use by residents sixty and older. This service is available through the Department of Health and Human Services' Nutrition, Transportation and Support Services (NTS) program. Two taxi companies operate in Kotzebue, with a typical cost of \$6.00 per person per ride.

A transit plan was developed in 1981 which outlined a possible bus system with fares almost as high as the taxis. The study only briefly reviewed operational costs. A bus barn was built and vans purchased but the system was only in existence short time.

3.5. Existing River and Coastal Transportation

Kotzebue serves as a regional distribution center for freight and fuel arriving by barge. Barges originate in Seattle and travel to Kotzebue during the limited shipping season, typically from July to early October. Because the marine waters near Kotzebue are shallow, ships must anchor 12 to 15 miles southwest of Kotzebue and



Crowley Barge

Source: <http://kotzpdweb.tripod.com/city/moving.html>

lighter fuel and other cargo to the dock using barges with a draft of no more than 5 feet. The freight is distributed within Kotzebue or to shallow-draft vessels for delivery to outlying villages.

The City is making a serious effort to develop a deep water port at Cape Blossom. This would require a road to the port and may spur additional development requiring additional transportation infrastructure. Such a port would reduce costs by eliminating the need for lightering a long distance to shore.

Three freight lightering businesses transport goods and supplies to Kotzebue and surrounding communities. Crowley Maritime Corporation 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.

Residents use small boats for travel throughout the area in summer and snow machines for travel on frozen river routes during winter. There are 321 registered boats in Kotzebue. Boats play a significant role in getting to and from subsistence camps and to harvest subsistence resources. Small boats anchor in Swan Lake which is accessed through a lagoon and under a small bridge. Further development of the small boat harbor at Swan Lake is a priority.

ADOT&PF plans to improve the Swan Lake small boat harbor. The project will improve entrance channel navigation, install boat mooring points, improve boat launch capacity, and install other improvements to expand capacity and improve operational safety in the entrance channel mooring basin. The City of Kotzebue initially prepared the design and permits, but as funding is coming through ADOT&PF, the project must go through ADOT&PF's project protocol, and an environmental document must be prepared and review completed. Despite the transition of project management, work on design is expected to start this year.

Figure 12 shows the preferred alternative for the harbor improvements.

Figure 12: Swan Lake Improvements: Preferred Alternative



Source: Denali Commission. Swan Lake – Layout Alternatives – Conceptual through preferred.
<https://www.denali.gov/dcpdb/index.cfm?fuseAction=Project.ProjectAtAGlance&project_id=6696>Accessed May 15, 2012.

3.6. Aviation Facilities

As with many communities in Alaska, aviation provides Kotzebue’s main connection to the rest of the state because there are no interconnecting roads. Air transportation services are a mixture of government and private enterprises. The Federal Aviation Administration provides for air traffic control, regulates for safety and provides funding for airports. Alaska’s size, geography, and population distribution make air transportation much more important for economic, mobility and connectivity issues than in any other state. The State provides operations and ownership to 254 airports. In addition to those operated by the State, there are 1,112 private airports, aircraft landing areas and seaplane bases throughout Alaska.



Signs near Kotzebue Airport
Source: http://www.dipity.com/ticker/Flickr_aircraft/

In Kotzebue, a state-owned airport provides scheduled air service, including daily service to Anchorage. Alaska Airlines, Era Aviation, Bering Air, Hageland Aviation Services, Frontier Flying Service, and Warbelow's Air Ventures operate out of Kotzebue’s Ralph Wien Memorial Airport. There is a 5,900-foot-long by 150-foot-wide asphalt main runway and a 3,876-foot-long by 90-foot-wide gravel crosswind runway. The airport covers 1,480 acres, and acts as an important hub for air travel to outlying villages in the area. A seaplane base also operates out of Kotzebue.

The main runway is being resurfaced in 2012, and a project is in design to extend the runway safety areas on the main runway. Development of an updated airport master plan is expected in 2013. Figure 13 shows the current Ralph Wien Memorial Airport facility.

Figure 13: Ralph Wien Memorial Airport



Source: State of Alaska, DOT. Kotzebue – Ralph Wien Memorial Airport.
www.faa.gov/about/office_org/headquarters_offices/ato/service_units/systemops/fs/alaskan/alaska/fai/arpt_photo/nswdlkob/otz/. Accessed 1 May 2012

3.1. Maintenance

Currently the Kotzebue IRA provides funding from their annual BIA transportation funds to the City to assist them with their transportation program. These funds are used primarily for snow removal and grading along routes within the community's transportation system. Currently, the Tribe owns no maintenance equipment. It can be particularly difficult to keep up with



*City grader maintaining local streets in Kotzebue
Photo Courtesy of Kotzebue Public Works department*

Weight restrictions are applied in the spring to some roads in Alaska that are susceptible to damage due to subsurface conditions (frozen subgrade below saturated soils). They are applied in order to preserve the life of the road surface. When weight restrictions are in place it means that a truck may only be able to carry 75 or 85 percent of their total legal load so the weight of the truck does not damage the weakened roadway.

There are no seasonal weight restrictions on the Kotzebue roads. In the spring, lack of limits can cause deterioration of roads during the spring thaw. During saturated soil conditions, utility pipes are also in danger of breakage due to the heavy loads.

4. Transportation Strategy

This chapter includes a section outlining guiding goals and objectives of the transportation plan, a description of priorities and project phasing, a discussion of transportation funding options, and an outline of plan implementation and updating strategies.

4.1. Transportation Goals and Objectives

Goals were developed based on issues identified during community workshops, targeted interviews, review of past planning efforts, and research. Kotzebue’s transportation goals and objectives are listed in Table 18.

Table 18: Transportation Goals and Objectives

Goals	Associated Objectives
<p>Program Management 1. Provide efficient transportation system planning, management and operation.</p>	<p>a) Update the LRTP, Tribal priority list and roads inventory. b) Train personnel to manage the transportation program. c) Attend Tribal Transportation events such as the BIA Service Providers Conference and Tribal Transportation Consortium. d) Regularly evaluate and update IRR Inventory. e) Diversify transportation funding by seeking other funding sources, High Priority Projects (HPP), STIP, Indian Community Development Block Grant (ICDBG), State Appropriations, etc.</p>
<p>Economic 2. Prioritize projects that support, protect, or enhance community economic development and subsistence viability.</p>	<p>a) Support transportation of goods within Kotzebue and to the network of villages in the region. b) Facilitate access to gravel resources when economically feasible and supported by the local community. c) Evaluate and train Tribal members for work on transportation construction projects. d) Support Cape Blossom Port and access. e) Provide access to new subdivisions to alleviate overcrowding and provide needed housing. f) Design and install enhancements that honor Kotzebue’s history and culture.</p>

Goals	Associated Objectives
<p>Health and Safety</p> <p>3. Improve the overall community transportation system to promote the health and safety of residents and visitors.</p>	<p>a) Implement dust control on local streets.</p> <p>b) Promote winter trail staking between Kotzebue and outlying villages.</p> <p>c) Support snow removal maintenance efforts.</p> <p>d) Promote projects that provide access to clean water, basic sanitation and alternative energy sources.</p> <p>e) Provide bicycle and pedestrian facilities between major trip generators.</p> <p>f) Support ADOT&PF efforts to identify solutions to aviation safety problems such as improved weather information, navigation aids and instrument approaches.</p> <p>g) Maintain routes for year-round emergency access and livability.</p> <p>h) Provide adequate parking facilities.</p>
<p>Preservation</p> <p>4. Emphasize preservation of existing transportation facilities.</p>	<p>a) Work together with City of Kotzebue and DOT&PF to support maintenance of transportation routes to improve driving surface and extend design life.</p> <p>b) Implement erosion control and drainage measures to protect the existing transportation network.</p> <p>c) Consider weight restrictions during the spring to reduce road damage.</p>

4.2. Transportation Priorities

The recommended 20-year transportation priorities for Kotzebue consist of an integrated set of roadway improvement/construction projects needed to meet current and projected economic development, housing, health and safety, preservation and program management goals within the community.

4.2.1. Planning

Ongoing planning programs are essential to the overall program and efficiency of the transportation network. Annual appropriations of these activities should remain a high priority in the overall funding strategy. In addition to this LRTP, the Tribe should use its transportation planning funds to continue to update its inventory and LRTP, to attend transportation planning training events and other eligible planning activities. Attendance at the annual BIA Service Providers Conference and Tribal Transportation Symposium is recommended so that the Tribal interests are considered and staff is informed on program updates.

4.2.2.Maintenance

Kotzebue IRA is exercising its right to use a portion of its funds for road maintenance, turning these funds over to the City which does the road maintenance. In the winter, the roads should receive proper snow removal and in the summer, roads should be graded and potholes repaired. Selected gravel roads should be graded and receive a dust palliative (watering roads during dry periods or applying a chemical additive mixed with water). Other maintenance items that may be needed include training for maintenance personnel, drainage improvements, gravel spot resurfacing, brush removal and purchase of road maintenance equipment.

4.2.3.Preservation

An on-going program to maintain the existing transportation system and reduce the deferred maintenance is recommended. Timing of investments is important to achieve lowest life-cycle cost; an inventory of the current system is required to determine the condition of the system. The information from this inventory will be used to develop a plan to prioritize chip seals and hot mix asphalt overlays.

Culverts carry water under and along roadways. Culverts can fail due to corrosion and roadway settlement. Roadway culverts also need to be inventoried and their condition surveyed to help determine the level of future investment necessary to prevent roadways from deteriorating.

Examples of preservation projects include the following:

- Chip seal
- Hot mix asphalt (overlays)
- Drainage improvements
- Culvert Replacement

It is also recommended that the city and state be encouraged to examine potential weight restrictions during the spring months when the substrate becomes saturated to prevent road damage.

4.2.4.Reconstruction and Rehabilitation

A regular schedule of reconstruction and rehabilitation is needed to keep system elements (bridges, culverts, and roadway surfaces) usable, reduce long term maintenance costs, and to address changes in design and performance needs. Changes in design and performance needs include changes in land use, (such as a housing development), increase traffic volumes (such as a new business), or increase in vehicle loads (such as industrial port development). Whenever there is a change in design or performance needs of the route or of connector routes, the existing road should be improved to current American Association of State Highway and Transportation Officials (AASHTO) standards. The plan

recommends reviewing the need for improvements on a regular basis and prioritizing these road projects.

4.2.5. Safety Improvement Program

Residents and council members are concerned about public safety on system roadways. An annual Safety Improvement Program is recommended to develop a systematic approach for safety improvements on all routes. An initial Reservation Safety Audit is recommended as a first step in identifying safety improvements. The exact nature of the improvements would be determined with completion of this study but it is assumed that key components of the safety program would include:

Signing Program- An annual signing program should be established to enhance on-road and roadside safety. The annual signing program would include all signs to regulate, warn or guide motorists and should include new signs as well as signs that need to be replaced due to damage or wear/reflectivity.

Illumination – Many intersections remain unlit. This part of the program will include energy efficient lighting to illuminate major intersections. Due to the increased energy costs it is important that maintenance costs are considered.

Pedestrian/Bicycle Facilities Program - Accommodating pedestrians and bicyclists along major residential and employment centers is recommended.

4.2.6. Economic Development Projects

The plan recommends an on-going investment in providing or improving transportation to encourage expansion of existing or new developments such as providing access to housing, businesses, port development, airport, jobs, energy projects, etc. Additional transportation enhancement projects could be identified to include interpretive displays with cultural signage and picnic areas, such as those being developed along Shore Avenue and installing Inupiaq street signs. Investigate options for public transit, transportation of students and consider the feasibility of a wheel chair accessible, on demand transportation service.

4.3. Short, Medium and Long Term Transportation Priorities

The transportation projects were prioritized in the short, medium and long range planning horizons and include project names, descriptions, purpose, and potential funding sources. Short, medium and long term transportation projects are listed in the following table.

Table 19: Short, Medium and Long Term Transportation Projects

Type of Project	Project Name	Description	Purpose	Potential Funding Sources
Short Term 0-5 years				
Planning	Transportation Planning	Continue to update LRTP and inventory, attend IRR training and coordinate with BIA. Prepare Bicycle/Pedestrian Plan	To improve IRR program delivery	City, BIA
Maintenance	Annual Maintenance	Application of dust palliative to local gravel roads, snow removal, gravel resurfacing and other eligible routine maintenance activities	To reduce dust, improve health and safety	City BIA
Preservation	Pave Gravel Roads	Expand the dust abatement program by surfacing gravel roads	To improve the health of residents by reducing dust	City, BIA
Economic Development	Inupiaq Street Signs	Initiate and implement a process to identify and install updated Inupiaq street signs	To enhance local signage that honors traditional language and heritage	BIA
Rehabilitation	Ted Stevens Way Rehabilitation	Rehabilitate sections of a 2.1-mile road which have serious erosion and sloughing problems.	To repair driving surface and prevent further deterioration.	BIA Annual shares and HPP
Safety	Prepare Safety Management Plan	Develop a plan that outlines existing programs and policies as well as identify issues and procedures or projects that can improve transportation safety	To improve overall safety of the Kotzebue Transportation System.	BIA
Safety	Ted Stevens Way Bike Path	Construct a bike path on Ted Stevens Way over the water pipeline	Improve bicycle transportation within the city	City, State
Safety	Winter Trails	Continue to support winter trail staking and ice road construction to provide safe winter connections between Kotzebue and other communities	Improve transportation between Kotzebue and neighboring communities.	City, BIA
Economic Development	Shore Avenue Enhancements	Design and install additional interpretive signs, displays and seating enhancements along Shore Avenue	To develop cultural and historical related enhancements to educate public.	BIA
Economic Development	Boat Access Improvements	Improve access to the new recreation site at Swan Lake	Improve transportation within Kotzebue	City, State

Type of Project	Project Name	Description	Purpose	Potential Funding Sources
Economic Development	Cape Blossom Road	Provide a match to state for construction of a road to Cape Blossom Deep Water Port.	To assist in development of a deep water port to reduce freight costs to Kotzebue and outlying villages.	ADOT&PF, BIA
Economic Development	Airport Improvements	Complete current improvements to the airport, extension of the runway and long-term planning that does not interfere with subsistence activities.	Improve travel to and from the community and within the region.	ADOT&PF
Economic Development	Transit Plan Update	Update 1981 transit plan.	Improve transportation within the city.	BIA, Federal Transit Authority, City
Medium Term 5-10 years				
Planning	Planning – Inventory Update	Continue to update LRTP and inventory, attend IRR training and coordinate with BIA	To improve IRR program delivery	BIA
Maintenance	Annual Maintenance	Place dust palliative on local gravel roads, snow removal, gravel resurfacing and other eligible routine maintenance activities	Reduce dust, improve health	BIA
Preservation	Pave Gravel Roads	Continue the dust abatement program by surfacing gravel roads	Improve the health of residents by reducing dust	City, BIA
Economic Development	Bicycle/Pedestrian Facilities	Implement recommendations from Planning effort	Improve bicycle transportation.	City, State, BIA
Safety	Winter Trails	Continue to support winter trail staking and ice road construction to provide safe winter connections between Kotzebue and other communities	Improve transportation outside the city	City, BIA
Safety	Implement Safety Management Plan recommendations	Prioritize safety improvements identified in Safety Management Plan	Improve transportation safety	City, BIA
Economic Development	Winter Trails	Continue to support winter trail staking and ice road construction to provide safe winter connections between Kotzebue and other communities	Improve transportation outside the city	City, BIA

Type of Project	Project Name	Description	Purpose	Potential Funding Sources
Safety	Airport Relocation	Continue to pursue efforts to relocate the airport	Improve transportation within the city	ADOT&PF and FAA
Long Term 10-20 years				
Planning	Transportation Planning	Continue to update LRTP and inventory, attend IRR training and coordinate with BIA	To improve IRR program delivery	BIA
Maintenance	Annual Maintenance	Place dust palliative on local gravel roads, snow removal, gravel resurfacing and other eligible routine maintenance activities	Reduce dust, improve health	BIA
Preservation	3 rd Avenue Right of Way	Address house encroachments in the right of way on Third Avenue	Improve transportation within the city	City
Preservation	Pave Gravel Roads	Continue the dust abatement program by surfacing gravel roads	Improve the health of residents by reducing dust	City, BIA
Safety	Winter Trails	Continue to support winter trail staking and ice road construction to provide safe winter connections between Kotzebue and other communities	Improve transportation outside the city	City, BIA
Safety	Implement Safety Management Plan recommendations	Prioritize safety improvements identified in Safety Management Plan	Improve transportation safety	City, BIA
Economic Development	Bicycle/Pedestrian Facilities	Implement recommendations from Planning effort	Improve bicycle transportation.	City, State, BIA
Economic Development	Winter Trails	Continue to support winter trail staking and ice road construction to improve winter connections between Kotzebue and other communities	Improve transportation outside the city	City, BIA
Economic Development	Kotzebue-Kiana-Selawik Road Feasibility Study	Investigate feasibility of a road connecting Kotzebue Kiana and Selawik	Improve transportation to neighboring villages	City, BIA, ADOT&PF

4.4. Transportation Funding

Funding for transportation projects is becoming increasingly difficult to secure as funds diminish and competition for limited funds increases. The vast majority of funding for transportation projects arises from federal highway acts, which are authorized by Congress and determine transportation policy and spending levels for a set period of time. These acts determine funding for BIA, individual states, and the

Denali Commission. Funding for transportation projects can also arise from agencies whose missions are not strictly transportation-related and whose funding levels are not determined by transportation legislation. This section will discuss the current federal highway act and the funding mechanisms of the agencies under the purview of this act, and will outline funding opportunities from agencies that fund transportation projects, although transportation is not their primary function.

4.4.1. SAFETEA-LU and MAP-21

Funding for transportation projects is governed by the specifics of a Congressionally-approved spending authorization bill that is in effect for a limited period of time. The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), signed into law in 2005, is applicable until October 1, 2012. Under SAFETEA-LU, IRR funding may be provided via a funding agreement in accordance with the Indian Self-Determination and Education Assistance Act (ISDEAA). These funds can be released to a requesting tribal government that has satisfactorily demonstrated financial stability and financial management. IRR funds shall only be expended on projects identified in a transportation improvement program approved by the Secretary of the Interior.

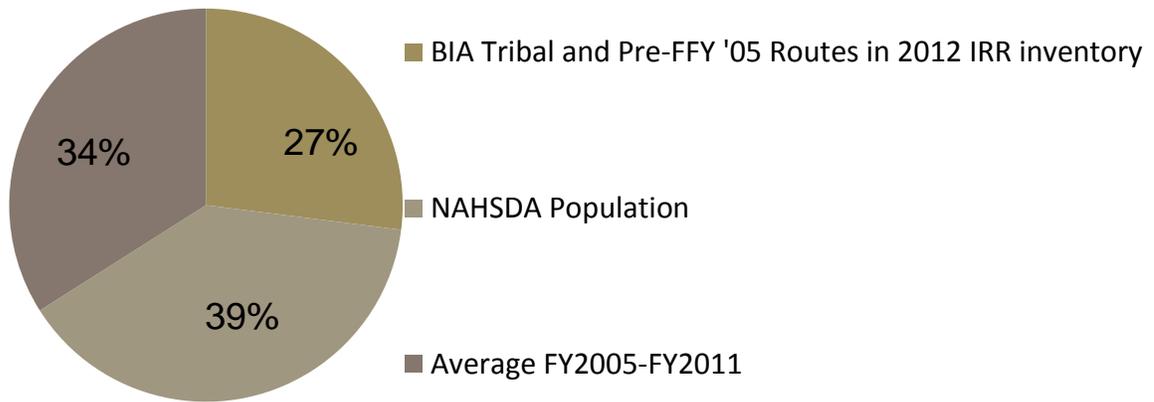
SAFETEA-LU will be replaced with the Moving Ahead for Progress in the 21st Century Act (MAP-21, PL 112-141), which was signed on July 6, 2012. It will take effect October 1, 2012 and is authorized through October 1, 2014. It will provide \$450 million for the Tribal Transportation Program (TTP; formerly the Indian Reservation Roads Program). The changes that MAP-21 will bring include:

- The Bridge and Safety program will no longer be a separate program, but will be part of the TTP.
- Funds will no longer be able to be diverted.
- The High Priority Program will now be a separate program under the General Treasury.
- Instead of being limited to 25% of tribal shares on maintenance items, tribes will now be able to use up to \$500,000 on maintenance.
- There will be a new funding formula that will be phased in.
- Tribal bridge inspection will now be mandatory instead of optional.
- The Tribal Transit program will be doubled from \$15 million to \$30 million.

BIA Transportation Funding

The new highway legislation, MAP-21 authorized a new funding formula for tribal transportation projects broken down as shown in the following chart and text that follows:

Figure 14: Tribal Transportation Funding Formula



- 27 percent will be determined by calculating the percentage of a tribe’s total “eligible road mileage” compared to the total “eligible road mileage” for all tribes shown in the 2012 inventory. Eligible road mileage includes BIA or tribally owned routes or ones added prior to October 1, 2004;
- 39 percent will be determined by calculating the percentage of a tribe’s total NAHSDA population compared to the total NAHSDA population of all American Indians and Alaska Natives; and
- 34 percent will be divided equally between the BIA Regions and then allocated by comparing a tribe’s average funding available from FYs 2005-2011 to the average total funding available to all tribes in the Region from FYs 2005-2011.

Tribal Supplemental Funding (TSF) will be available for tribes that do not receive as much funding under the new formula as they did under the Relative Need Distribution Formula (RNDF) in FY 2011. The amount of TSF available will be determined by how much total TTP funding is available. If the amount is equal to or less than \$275 million, then 30% of the TTP funds will go towards TSF. If the TTP funding amount is greater than \$275 million, then \$82.5 million plus 12.5 percent of TTP funds over \$275 million will go to TSF.

The new funding formula is to be phased in via the following schedule.

FY2013 – 80 percent via RNDF, 20 percent via new formula

FY 2014 – 60 percent via RNDF, 40 percent via new formula

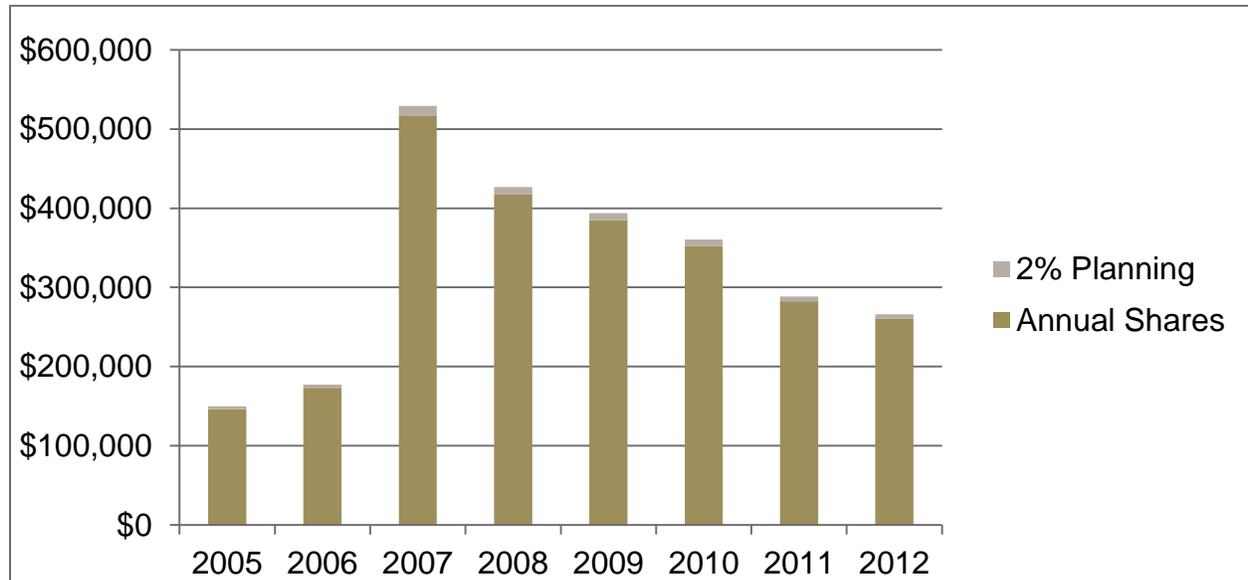
FY 2015 – 40 percent via RNDF, 60 percent via new formula

FY 2016 – 20 percent via RNDF, 80 percent via new formula

Kotzebue's IRR Funding History

Like all tribes participating in the IRR program, transportation funding for Kotzebue fluctuates annually based on the IRR inventory system across the nation and is based on the Tribal Transportation Allocation Methodology (TTAM) formula outlined in 25 CFR Part 170. Exhibit 5 illustrates Kotzebue's BIA IRR funding from FY 2005 through FY 2012. A small amount is restricted to planning-only funds, called 2% planning. In 2012, Kotzebue IRA received \$5,557 in 2% Planning funds and \$260,421 was the annual share from the BIA Tribal Transportation program.

Exhibit 5: Native Village of Kotzebue IRR Funding History 2005-2012



In addition to the annual allocation, in 2009, Kotzebue received an additional \$293,748 in one-time American Recovery and Reinvestment Act of 2009 (ARRA) funds for transportation enhancements to Shore Avenue, including benches, a guardrail, and a cultural information kiosk. The enhancements should be completed in the fall of 2012.

High Priority Projects

The High Priority Projects (HPP) is a special BIA funding pool that can be used by a tribe whose annual allocation is insufficient to complete its highest priority project or by any tribe for an emergency/disaster on any IRR transportation facility. Eligible applicants may have only one HPP application pending at any time. This includes emergency/disaster applications. The Tribe cannot use HPP funds for transportation planning, research, or routine maintenance activities. Under MAP-21, the HPP funds are no longer included in the Tribal Shares but come from the General Treasury and as such, Congress must pass the funding for the program annually.

HPP applications are ranked and funded by the following criteria.

- (a) BIA-DOT and the Federal Lands Highways Program (FLHP) office will determine eligibility and fund IRRHPP applications subject to availability of funds and the following criteria:

- (1) Existence of safety hazards with documented fatality and injury accidents;
- (2) Number of years since the Tribe's last IRR Program construction project completed;
- (3) Number of years that a proposed project has been in the IRRHPP applicant pool;
- (4) Percentage of project cost matched by other non-IRR Program funds (projects with a greater percentage of other matched funds rank ahead of lesser matches).

Table 19 shows the matrix used to score IRRHPP applications.

Table 20: IRRHPP Scoring Matrix

Score	10	5	3	1	0
Accident and fatality rate for candidate route¹	Severe	N/A	Moderate	Minimal	No accidents
Years since last IRR construction project completed.	Never	Last project more than 10 years ago	Last project 5-9 years ago	Last project within last 1 to 4 years	Currently has project
Readiness to Proceed to Construction or Indian Reservation Roads Bridge Program (IRRB) Design Need	PS&E Complete and approved	Bridge Replacement PS&E development Project	Bridge Rehabilitation PS&E development Project	Non-bridge PS&E development Project	
Percentage of Project matched by other funds	N/A	80 percent or more by other funds	20 – 79 percent by other funds	1 – 19 percent	No other funds
Amount of funds requested²	N/A	250,000 or less	250,001 – 500,000	500,001-750,000	Over 750,000
Geographic isolation	No external access to community	Substandard Primary access to community	Substandard Secondary access to community	Substandard access to tribal facility	
All weather access for: -employment -commerce -health -safety -educational resources -housing	Addresses all 6 elements	Addresses 4 or 5 elements	Addresses 3 Elements	Addresses 2 elements	Addresses 1 element

¹ National Highway Traffic Safety Board standards

² Total funds requested, including preliminary engineering, construction, and construction engineering.

BIA IRR Maintenance Funding

The BIA is obligated by 25 CFR, Part 170, to maintain the BIA Road System to a safe and satisfactory standard based on the availability of funds and the road's as-built condition. Road maintenance funds are appropriated by Congress and allocated to the BIA separately from the Federal Highway Trust Funds (HTF) used for initial construction. Road maintenance funds are used to provide an optimal level of road maintenance based on the road condition and the availability of funds.

Road Maintenance activities include: the preservation and repair of the road surface, blading roadway shoulders and ditches, clearing drainage structures, snow removal and the installation/replacement of traffic control, directional and street signs. If roadways funded and constructed with HTF are not properly maintained, then future HTF road construction funds can be withheld. This situation might occur if maintenance funding is limited such that adequate repairs and upkeep of the roadway are not possible.

Of the total amount of IRR funds received, the Native Village of Kotzebue may use 25% for road maintenance in 2012 and the entire amount in future years. 25% of the funds have annually been transferred to the City, and the City performs the maintenance on community roads in the official BIA inventory.

BIA 2% Transportation Planning Funds

The Native Village of Kotzebue is expected to receive 2% planning dollars for transportation planning. This is authorized by Title 23, U.S.C, Section 204(j), which states "... up to 2 percent of funds made available for IRR for each fiscal year shall be allocated to those Indian Tribal Governments applying for transportation planning pursuant to the provisions of the Indian Self-Determination and Education Assistance Act" (P.L. 93-638, as amended).

4.4.2. Funding from other agencies

BIA and ADOT&PF are the primary sources of transportation funding in Alaska, but their funding is significantly diminished from past levels. Other agencies face the same limitations, but the scarcity of funding makes it sensible for a community to explore the possibility of drawing on other funding sources to complete local transportation projects.

Alaska Department of Transportation

ADOT&PF funding is determined in large part by SAFETEA-LU. ADOT&PF provides services to Alaskans and visitors by designing, constructing, operating and maintaining the state's transportation infrastructure systems, buildings and other facilities. These include more than 5,000 miles of paved and gravel highways, more than 300 aviation facilities, including 260 airports, 43 small harbors, and a ferry system covering 3,500 nautical miles serving 33 coastal communities. The department is divided into three regions, along with the Alaska Marine Highway system. The Native Village of Kotzebue falls within the jurisdiction of the ADOT&PF, Northern Region, Fairbanks office.

The Statewide Transportation Improvements Program (STIP) is funded by the FHWA and Federal Transit Administration (FTA) and matching funds from the state and/or local sources. The Needs List is the foundation of the STIP and includes all the air, land and water transportation projects in Alaska that have been formally proposed by residents, elected officials and transportation professionals every four years. The STIP is ADOT&PF's four-year program for transportation system preservation and development.

Public Lands Highway

The Public Lands Highway Discretionary (PLHD) Program funds are available for any kind of transportation project eligible for assistance that is within, adjacent to, or provides access to Federal lands or facilities. PLHD funds are available for transportation planning, research, engineering, and construction of the highways, roads, and parkways, and of transit facilities within the Federal public lands. In 2012, Federal Lands Highway received 285 applications and funded 75 projects including four Alaskan projects. Tribal governments may apply through states as sub-recipients.

Scenic Byways

Scenic Byways funds also originate from SAFETEA-LU. SAFETEA-LU authorized a total of \$175 million through 2009 for technical assistance and grants to States and Indian tribes to develop and implement scenic byways programs. Highways of outstanding scenic, historic, cultural, natural, recreational, and archaeological qualities may be designated as National Scenic Byways, All-American Roads, America's Byways, State Scenic or Indian Tribe Scenic Byways. Additional authorization totaling \$13.5 million was provided to fund technical support and educational activities provided by the America's Byways Resource Center. Although the National Scenic Byway Program was not eliminated in MAP-21, and the designation program still exists within the Federal Highway Administration, there is no direct funding or grant program funds in the new bill for the National Scenic Byway Program. It appears there is some funding eligibility for byways under the new Transportation Alternatives Program, however, the extent of that eligibility is not currently known. It is expected that once it is more clearly worked out, decisions for use of Transportation Alternatives funds will be made at the state level.

In Alaska, designated Scenic Byways are currently limited to selected state and National highways primarily in the interior and south central part of the state. There are currently no Scenic Byways in Kotzebue or plans to apply for a Scenic Byway.

The Denali Commission

SAFETEA-LU also funded the Denali Commission. The Denali Commission serves communities in Alaska and has an annual program that went into effect on August 10, 2005, when the President signed H.R. 3, SAFETEA-LU into law. The Denali Access System Program provided the Denali Commission with about \$15 million annually for a Community Roads Program and \$10 million annually for docks and waterfront development projects. These funds were provided annually for the life of the SAFETEA-LU legislation but are no longer available under MAP-21.

TIGER funds

The Transportation Investment Generating Economic Recovery, or TIGER Discretionary Grant program, provided a unique opportunity for the U.S. Department of Transportation to invest in road, rail, transit and port projects to achieve critical national objectives. Congress dedicated \$1.5 billion for TIGER I, \$600 million for TIGER II, and \$526 million for the FY 2012 round of TIGER Grants to fund projects that have a significant impact on the Nation, a region or a metropolitan area. In 2011, the Native Village of Kotzebue submitted a TIGER grant for constructing a road to Selawik but it was unsuccessful. It is unknown if Congress will pass another round of TIGER grants.

4.5. Plan Implementation

4.5.1. Tribal Transportation Improvement Program (TTIP)

The priority projects within the five-year time frame must be shown on a TTIP. The TTIP is a multi-year, financially constrained, list of proposed transportation projects to be implemented within or providing access to Indian country during the next three to five years. It is developed from the tribal priority list found in Appendix C. The TTIP is consistent with the tribal Long-Range Transportation Plan and must contain all IRR-funded projects. It may also contain information regarding other Federal, State, township, municipal, and tribal transportation projects initiated by or developed in cooperation with the Indian Tribal Government. Only those projects approved for funding by the sponsoring governmental entity may be included in the TTIP. It is reviewed and updated as necessary. The only entity that can change the TTIP is the Indian Tribal Government.

Examples of transportation projects include, but are not limited to: new road construction; road reconstruction/resurfacing; road sealing; bridge construction; transit facilities; highway safety; etc.

The TTIP identifies the implementation year of each project. The development of the TTIP establishes tribal priorities for IRR and other transportation projects. It is the Indian Tribal Government's voice in selecting the year in which projects are programmed. It is also a useful tool for keeping track of transportation projects programmed by other government agencies i.e., Federal Transit Administration, Federal Highway Administration, Federal Aviation Administration, etc. and coordinating them with IRR transportation projects. By developing a TTIP, the Indian Tribal Government is taking a proactive role in the transportation planning process and exercising its sovereignty in controlling the programming of transportation projects on tribal land.

The regional IRR TIP is prepared by the Regional BIA Office. It is a prioritized list (by year) of IRR funded projects, selected by Indian Tribal Governments through TTIPs, or other tribal actions, that are programmed for construction in the next three to five years. The IRR projects identified on the TTIP must be included in the Region's IRR TIP without further action, subject to air quality conformity determination. The BIA Regional Office places the IRR information from TTIPs into the Regional IRR TIP unchanged.

The Regional IRR TIP is included in the STIP developed by each State Transportation Agency without further action.

The BIA Regional Office updates the IRR TIP annually for each State in its service area. The process begins by providing the projected IRR Program funding amount to each tribe. The BIA region/agency office receives a TTIP or tribal priority list from each Indian Tribal Government.

A BIA analysis of the tribal priority list results in anticipated project costs and proposed scheduling of construction activity based on the tribe's percent share of the region's IRR budget. The BIA reviews the programming of proposed projects with the Indian Tribal Government and agreed upon adjustments are made.

The BIA Regional Office then updates the region wide control schedule for its service area, to include IRR projects from TTIPs and the selected projects from the tribal priority list. The BIA Regional Office then produces an IRR TIP for each State in its service area from the area wide control schedule for signature by the Secretaries of Interior and Transportation or their designees. The revised area wide control schedule is provided to the BIA-DOT for review and comment.

The timeframe for the annual update of the IRR TIPs for each State in a BIA Regional Office's service area should be coordinated with the State Transportation Agencies within its service area. This will ensure that approved IRR TIP updates are included with the STIPs when they are printed and distributed.

4.5.2. Revisions to the IRR Inventory

The IRR inventory for Kotzebue while thorough, needs updating to reflect current conditions. The coding has changed since many of the routes were originally entered and should be updated to reflect the new codes. Specifically, the main corrections are to the functional classification, road ownership, construction need and surface type.

- Functional classification – The functional classification for existing routes must be justified in the LRTP, taking into account current and future traffic generators. Traffic generators are described earlier in Section 3.1.4 . Some of the functional classifications in the current Kotzebue IRR inventory are incorrectly identified such as collector roads when they are local or residential roads.
- Road ownership – The IRR inventory requires the entity that owns the right of way and is responsible for the maintenance of the section of road be identified. While most of the roads are correctly identified as City owned a few are shown as Borough or Tribally owned. This ownership should be reviewed. The state has also transferred ownership of several routes to the City so these routes should be reviewed and updated as needed.

- Construction need – A construction need code is assigned for each existing or proposed transportation facility and is used to calculate the costs to bring the route up to an acceptable standard. Some of the roads, when initially entered into the inventory, were in good shape but have since deteriorated, or were in poor shape and have improved. For instance, Shore Avenue was recently reconstructed and Ted Stevens Way has significantly deteriorated since initially entered.
- Surface type – All existing and proposed road entries should describe the existing surface type (wearing course) for the section being inventoried. Several winter trails are coded as having a gravel surface and other routes have obsolete codes.

To correct these errors, the route changes must be identified, strip maps revised and a resolution to make the changes must be completed. These documents need to be received by the BIA by March 15th. Should the Tribe decide to develop any additional roads, such as the route to Nimiuk Point, the new routes should be added to the inventory which will allow the Tribe to expend funds on these routes.

4.6. Transportation Plan Updates

This transportation plan reflects the current requirements for transportation facilities to satisfy the Community's needs and is based upon the existing conditions and anticipated future development within the community and on Tribal Priorities. The plan should not be thought of as a static document. It should be viewed as a dynamic document which can be modified to meet changing social and economic development demands.

It is recommended that the Native Village of Kotzebue adopt this plan and use it as the basis for programming and budgeting road construction funds. The plan should be reviewed by the Tribe and BIA regional office on an annual basis to keep up with changes in community development that may warrant a change in the project listing and/or a change in a project's priority. Changes in the project listing should be coordinated with, and accomplished within the time frames established by the funding agency so as not to hamper the implementation of the agency's road improvement program on the community. The overall LRTP should be reviewed and updated every five years, or when there are major changes in the Tribe's land use plan.

Appendix A: Public Participation

Meeting Summary

Location: Kotzebue

Date: August 21, 2012

Re: IRR program

Reporter: Nicole McCullough, WHPacific

Purpose: To inform the Kotzebue IRA Council about the Long Range Transportation Plan and ask for input. All of the council members were present except Guy Adams and Daisy Lambert who were both excused. Dennis Tiepelman, Tribal Executive Director and Nathan Hadley as well as a member of the public were also present. Representatives from the National Park Service attended and spoke at the beginning of the meeting.

Summary: Nicole introduced herself and provided a handout with general information about the BIA transportation program and the Kotzebue Long Range Transportation Plan (LRTP) Update. She explained that WHPacific had previously worked with Linda Joule, former Executive Director at the Kotzebue IRA, doing roads inventory work, program administration and grant writing. The previous LRTP was done in 2005. The roads inventory was updated at that time as well.

Nicole presented information about how Moving Ahead for Progress in the 21st Century (MAP-21) differs from the previous highway legislation; Safe, Accountable, Flexible Transportation Equity Act, A Legacy for Users (SAFTEA-LU). She also talked about the new and old funding formula and explained that it is unclear how the new formula will impact Kotzebue's funding. She also presented information about the funding amounts from 2005-2011. It showed an increase in funding after completion of the inventory but a steady decline since that time.

Margaret Hanson asked how much Kotzebue currently had in the bank for the transportation program. Dennis explained that there was about \$800,000. We talked about the need to spend the \$295,000 of ARRA funds for the bump out enhancement project along Shore Avenue as soon as possible. Nicole said she had talked to Danny Metzger at BIA and he wanted at least 90% of the funds spent by September 20. He will prepare the paperwork to close the contract so it will be ready to go on that date. He is ready to process invoices and accept drawdowns of those funds. The City and the state are working with the Tribe to get the project completed quickly.

Nicole explained that the new highway legislation allowed the Tribe to spend all of their funds on maintenance if desired. She explained in the past about \$50,000 was spent for that purpose.

There was a brief discussion about the number of miles in the inventory. Nicole explained that the current inventory was not entirely accurate; some roads have incorrect conditions or ownership. While the new funding formula is not impacted by the inventory as it used to be, she suggested updating the information to make the inventory accurate and up to date. There was a suggestion that the Housing committee be involved in the inventory discussion. There is a subdivision recently approved by the City that should be included.

Gravel availability is an issue in Kotzebue and can greatly impact road construction costs. Ted Stevens Way is not maintained in the winter and is not passable.

There was a discussion about transportation issues and priorities. Currently the Tribal Transportation Improvement Program for Kotzebue indicates that Ted Stevens Way is the highest priority. One other option that had previously been mentioned was using the BIA transportation funds as a match to the state's Cape Blossom project.

There was also mention of a road to Selawik and Nicole explained that WHPacific had filled out a grant to complete a feasibility study of that route but the study was not funded. It was also considered important that the channel in the Sound near the airport remain open. There has been discussion about DOT&PF extending the runway in that direction.

Other issues discussed included the following:

- Dust in the summer is a health hazard
- Snow berms at intersections are dangerous
- Bike trails and sidewalks are needed
- Absence of adequate drainage causes flooding
- Lack of gravel impacts cost of construction
- No longer do boats park along Shore Avenue because of the new retaining wall. Improvements at Swan Lake are needed to accommodate boat parking there.
- Bison Road has a dog leg that could be removed.
- There are long standing right of way issues along 3rd Avenue.
- There is a need to provide additional housing and road access is needed.

Meeting Summary

Location: Kotzebue

Date: September 28, 2012

Re: LRTP Public Meeting

Reporter: Nicole McCullough, WHPacific

Purpose: To present information and solicit comments on the Kotzebue IRA Long Range Transportation Plan.

Summary: The public meeting was well advertised on KTUU, the Northwest Arctic Borough Facebook, flyers posted on bulletin boards, the Arctic Sounder, announcement at the Council meeting and through emails.

Dennis Tiepelman, Executive Director of the Kotzebue IRA and Nicole McCullough, WHPacific made presentations and 13 people attended the public meeting. The sign in sheet is attached.

Judith Stein began by doing the invocation. Dennis then provided background information about the BIA transportation program. He explained that the Kotzebue IRA has about \$600,000 available to spend on transportation improvements in Kotzebue after paying for the enhancements on Shore Avenue with the ARRA funds. The Long Range Transportation Plan is intended to outline what other transportation improvements are needed. Dennis introduced Nicole who provided additional background information.

Nicole provided information about the displays that were on the easels in front of the room (see attached). She explained that the previous LRTP was done in 2005. The roads inventory was updated at that time as well. The funding for the Native Village of Kotzebue has fluctuated from a low of about \$150,000 (2005) to a high of \$395,000 (2010). The fluctuations were due to the roads inventory and available funding.

There was a brief discussion about how the funding was used to date.

- Transportation planning - road inventory, traffic counts, training and the transportation plan
- Ted Stevens Way culvert replacement
- Interpretive signs and enhancements in Shore Avenue bump out

Someone mentioned the need to support access for subdivision development such as on Hillside. We discussed a private subdivision and the KIC subdivision. Grant Hildreth, City of Kotzebue said the KIC subdivision has not been platted.

Someone said that access to Swan Lake is more critical than ever now that Shore Avenue is no longer a viable place for boat access. Alaska DOT&PF has a project to provide boat parking at Swan Lake as part of the Shore Avenue mitigation.

Gary Hildreth suggested that a review of Chapter 3 of the City's Comprehensive Plan be completed and if there are any suggested changes to send them to him. He explained that the city is getting new maintenance equipment but that additional equipment is needed. Gary also discussed the gravel sites in Iggy Hill and pointed out a route to Nimiuk Point that led to an old drilling pad. That route is not in the inventory.

Mayor Whiting said that she would like to see additional interpretive signs that highlight the historical and cultural significance of the shoreline. She also would like recognition of the location of the creeks and sloughs flowed into the shoreline. This was echoed by other members of the audience.

There was a discussion about transportation issues and priorities. Currently the Tribal Transportation Improvement Program for Kotzebue indicates that Ted Stevens Way is the highest priority. The following priorities were presented.

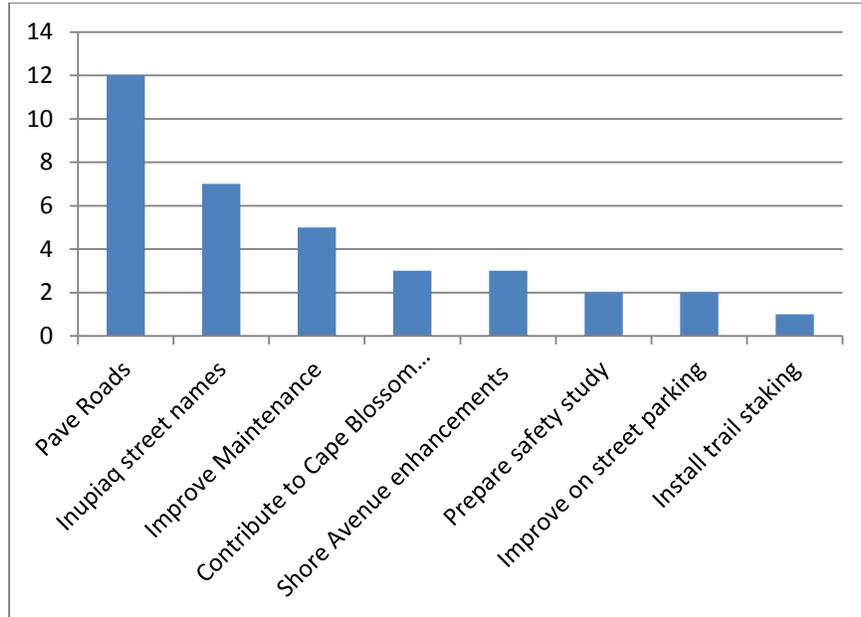
- Pave Roads
- Prepare safety study
- Improve snow removal
- Address R-O-W Conflicts
- Provide dust control
- Improve drainage
- Contribute to Cape Blossom Road
- Construct bike paths and sidewalks
- Fix erosion on Ted Stevens Way
- Improve on street parking
- Install trail staking

Other priorities discussed included the following:

- Change street names to Inupiaq names
- Construct road to Upper Kobuk
- Provide additional historical and cultural enhancements along Shore Avenue
 - Interpretive signs along fencing – Identify sloughs, discuss rich fishing history, etc.
 - Memorial to those lost at sea
 - Umiaq, Qayaq replicas
 - Whale Bone seating (could be replica)
 - Inisaqs (drying rack)

There was an information survey completed in which participants were asked to place red dots on their priority project. The voting resulted in the following:

Results of Public Meeting Informal Survey of Transportation Priorities



Dennis concluded the meeting with door prizes and a thank you to all that attended the meeting. The plan will be revised based on the input and presented at an upcoming meeting for adoption by the Council.