Native Village of Chefornak

Transportation Plan



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APPENDIX A PUBLIC PARTICIPATION APPENDIX B SUMMARY REPORT APPENDIX C PRIORITY LIST

Acronyms

ANCSA Alaska Native Claims Settlement Act

BIA-DOT Bureau of Indian Affairs Division of Transportation CRC Commercial Recreational Conservation (district)

GC General Conservation (district)
GIS Geographic Information System

HTF Highway Trust Fund

IRA Indian Reorganization Act
IRR Indian Reservation Roads

LRTP Long Range Transportation Plan MOA Memorandum of Agreement

NAHASDA Native American Housing Assistance Self Determination Act

NHS National Highway System

RD Resource Development (district)

SAFTEA-LU Safe, Affordable, Flexible, Efficient Transportation Equity Act: A Legacy for

Users

SC Subsistence Conservation (district)

SR Sufficiency Rating

TC Transportation Corridor (district)

ISTEA Intermodal Surface Transportation Equity Act of 1999
TEA-21 Transportation Equity Act for the Twenty-first Century

FLHP Federal Lands Highways Program

DMV (State of Alaska) Division of Motor Vehicles

STIP Statewide Transportation Improvements Program
ISDEAA Indian Self-Determination and Education Assistance Act

BIA Bureau of Indian Affairs

DOI (US) Department of the Interior
DOT (US) Department of Transportation
FHWA Federal Highways Administration

FLH Federal Lands Highways

TTAM Tribal Transportation Allocation Methodology

ADOT&PF Alaska Department of Transportation and Public Facilities

FTA Federal Transit Administration
HAS Highway Analysis System

HSIP Highway Safety Improvement Program

FARS Fatal Accident Reporting System

HPP High Priority Projects

AADT Average Annual Daily Traffic

ADT Average Daily Traffic
Vpd Vehicles per day

RNDF

Relative Need Distribution Factor

LONG RANGE TRANSPORTATION PLAN

NATIVE VILLAGE OF CHEFORNAK

1. Introduction

This Long Range Transportation Plan (LRTP) for the Native Village of Chefornak was prepared for the Tribe and BIA in accordance with Section 1B of the Memorandum of Agreement (MOA) between the BIA and the FHWA, dated May 23, 1983, which requires the BIA to carry out a transportation planning process for Indian Reservation Roads (IRR), deemed to be adequate to support their construction and improvement program similar to 23 U.S.C. 307, and 25 U.S.C.

To complete the plan, Native Village of Chefornak hired WHPacific. Native Village of Chefornak is the local non-profit organization that is assisting the Native Village of Chefornak develop their Indian Reservation Roads system.

The term Indian Reservation Road (IRR) system means public roads, including roads on the federal-aid system that are located within or provide access to an Indian Reservation, Indian trust land or restricted Indian land that is not subject to fee title alienation without the approval of the federal government, or Indian and Alaskan Native villages, groups, or communities in which Indians and Alaska Natives reside, whom the Secretary of the Interior has determined are eligible for services generally available to Indians under federal laws specifically applicable to Indians. This term includes all or part of the following systems:

Bureau of Indian Affairs Federal-Aid Roads System means those existing public highways and proposed routes that qualify as federal-aid routes pursuant to the provisions of Section 103 of 23 U.S.C. and for which the BIA has or plans to obtain right-of-way.

Bureau of Indian Affairs Reservation Development Roads System means those existing public highways and proposed routes for which the BIA has, or plans to obtain legal right-of-way and that serve the development needs of Indian Reservations and Alaskan Native Villages.

Highway Trust Fund Road System means those existing BIA routes or sections of routes that were improved with the use of highway trust funds.

Tribal Roads System means those public roads whose rights-of-way are under the jurisdiction of the tribe.

County, Township, or Borough Road System means those public roads whose rights-of-way are under the jurisdiction of a county, township, or borough.

State Highway System means those public roads whose rights-of-way are under the jurisdiction of a state.

Other Federal Agency Roads means those public roads whose rights-of-way are under the jurisdiction of various federal agencies such as Bureau of Land Management, Forest Service, Bureau of Reclamation or National Park Service.

1.1. Purpose and Scope

The objective of this LRTP is to produce a plan for providing transportation facilities for vehicular and pedestrian traffic 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 study 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 (20year) transportation needs.

This transportation plan is intended to be fiscally and developmentally sound and to address 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 issues common to all Tribes exist. These include:

- To provide safe and convenient public access within their boundaries.
- 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 respectful of our 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 Code of Federal Regulations (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. One public meetings were held In Chefornak to discuss the Transportation Plan, the inventory and the transportation priorities. The most recent transportation planning meeting was held on January 23, 2010. Appendix A contains information regarding the public participation process.

1.3. Organization of Plan

The organization of this LRTP consists of three parts:

Part One is a summary of existing conditions which included the collection of data to be used in the analysis and development of the transportation plan.

Part Two includes the major analytical work tasks of the plan; both the generation of future traffic figures based upon projected land development and the development of transportation system alternatives. Part Two also evaluated the social and economic factors associated with transportation improvements.

Part Three, is the final phase, and presents the priority list of road construction projects and other transportation improvements.

1.4. Regional Context

Chefornak is located on the south bank of the Kinia River, at its junction with the Keguk River, in the Yukon-Kuskokwim Delta. The village lies within the Clarence Rhode National Wildlife Refuge, established for migratory waterfowl protection. Chefornak is 98 air miles southwest of Bethel and 490 miles southwest of Anchorage. The community lies at approximately 60.160000° North Latitude and -164.265830° West Longitude. (Sec. 19, T001N, R086W, Seward Meridian.) Chefornak is located in the Bethel Recording District. The area encompasses 5.7 sq. miles of land and 0.8 sq. miles of water. Chefornak is located in a marine climate. Precipitation averages 22 inches, with 43 inches of snowfall annually. Summer temperatures range from 41 to 57 °F. Winter temperatures range 6 to 24 °F.

Figure 1 and Figure 2 provide regional images with the location of Chefornak, the Northwest Arctic Borough and their relationship to the state as a whole.

Figure 1 Vicinity Map

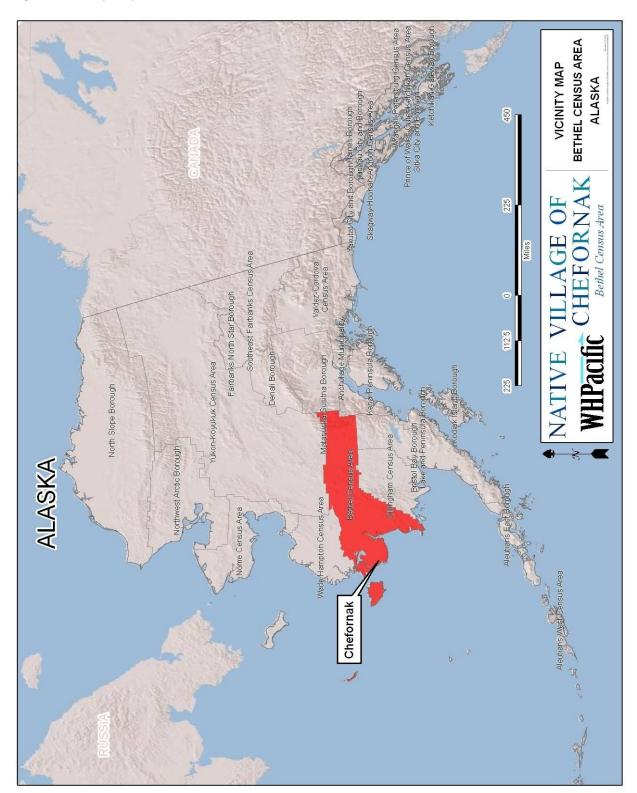
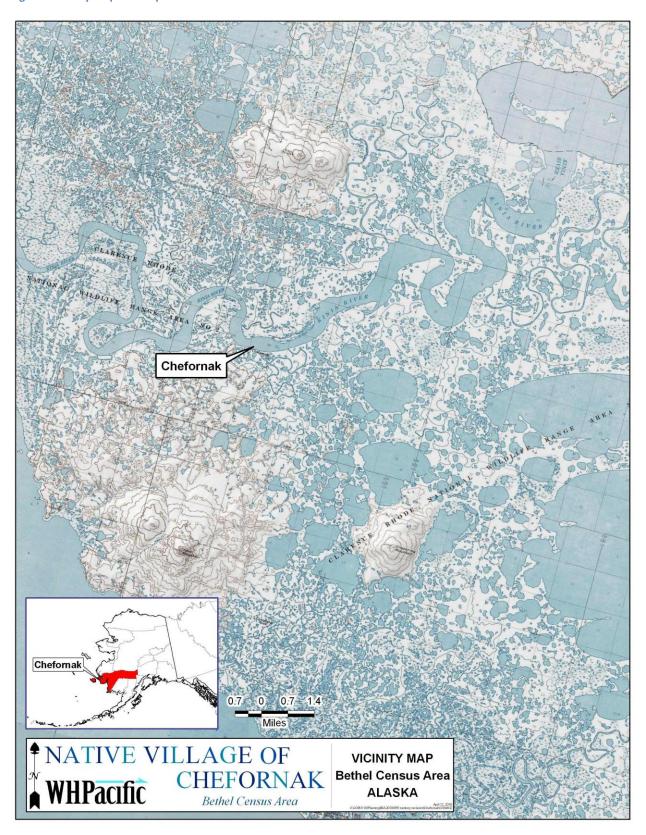


Figure 2 Vicinity Map Close-up



1.5. Transportation Plan Summary

This transportation plan should be considered a flexible plan adaptable to the changing needs and conditions within the community. The village should use the plan as the basis for programming and budgeting future transportation improvement funds, while recognizing that such priorities and improvement needs will change over time. Thus, the priority list must be reviewed and modified as needed on an annual basis. The overall plan must also be updated every five to seven years, or when major change in land use has occurred.

The LRTP recognizes the need to provide better mobility in areas, as well as to promote increased opportunities for alternative modes of transportation. Many improvement projects need to be implemented over the next 20 years. Based on forecast, improvement projects were grouped into three time periods: short range (0 to 5 years), mid range (6 to 10 years), and long range (11 to 20 years), based on their relative urgency for completion. Road priority projects are discussed in Section 4.3.3.

The current BIA road system mileage for the Native Village of Chefornak, as approved by the Regional Director in August 2009, is 0.0 miles.

1.6. Funding Allocations

On August 10, 2005, President Bush signed into law the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). With guaranteed funding for highways, highway safety, and public transportation totaling \$244.1 billion, SAFETEA-LU represents the largest surface transportation investment in the Nation's history. The two landmark bills that brought surface transportation into the 21st century—the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and the Transportation Equity Act for the 21st Century (TEA-21) shaped the highway program to meet the Nation's changing transportation needs. SAFETEA-LU builds on this foundation, supplying the funds and refining the programmatic framework for investments needed to maintain and grow vital transportation infrastructure.

The Federal Lands Highways Program (FLHP) authorizations through 2009 totaled \$4.5 billion for Indian Reservation Roads, Park Roads and Parkways, Public Lands Highways (discretionary and Forest Highways), and Refuge Roads programs. FLHP funds can be used for transportation planning, research, engineering, and construction of highways, roads, parkways and transit facilities within public lands, national parks, and Indian reservations. In addition, FLHP funds can be used as the State/local match for most types of Federal-aid highway funded projects. New eligible uses of Public Lands Highways funds include up to \$20 million per year for maintenance of Forest Highways, \$1 million per year for signage identifying public hunting and fishing access, and \$10 million by the Secretary of Agriculture to facilitate the passage of aquatic species beneath roads in the National Forest System.

SAFETEA-LU provides significant changes in the IRR program. IRR funding may be provided via a funding agreement in accordance with the Indian Self-Determination and Education Assistance Act (ISDEAA) to a requesting Indian tribal government that has satisfactorily demonstrated financial stability and financial management to the Secretary of Interior. IRR funds shall only be expended on projects identified in a

transportation improvement program approved by the Secretary of the Interior. The Deputy Assistant Secretary of Transportation for Tribal Government Affairs, in cooperation with the Secretary of the Interior, was required to complete a comprehensive national inventory of transportation facilities that are eligible for assistance under the IRR program within two years of enactment of SAFETEA-LU. Up to 25% of a tribe's IRR program funds may now be used for the purpose of IRR system maintenance as defined in 25CFR Part170, although the Bureau of Indian Affairs (BIA) will retain primary responsibility for IRR maintenance programs through the Department of Interior (DOI) appropriations. Funding for the BIA's program management and oversight expenses is provided, although this amount now includes BIA project-related administrative expenses. An Indian tribe may enter into a road maintenance agreement with a State to assume the responsibilities of the State for roads in and providing access to Indian reservations. A new position in the Department of Transportation (DOT) is established for a Deputy Assistant Secretary of Tribal Government Affairs. A total of \$70 million is authorized separately (no longer a set-aside) through 2009 for projects replacing structurally deficient or functionally obsolete IRR bridges.

1.7. Scenic Byways

SAFETEA-LU authorizes a total of \$175 million through 2009 for technical assistance and grants to States and Indian tribes to develop scenic byways programs, and to implement projects on highways of outstanding scenic, historic, cultural, natural, recreational, and archaeological qualities designated as National Scenic Byways, All-American Roads, America's Byways, State scenic or Indian tribe scenic byways. Additional authority totaling \$13.5 million is provided to fund technical support and educational activities provided by the America's Byways Resource Center. In Alaska, designated Scenic Byways are limited to selected state and National highways primarily in the interior and south central part of the state.

1.8. Tribal Transportation Provisions - Transfer of Highway and Transit Funds

Tribal Transportation Provisions - Transfer of Highway and Transit Funds allows a State to transfer apportioned Highway Trust Funds to another Federal agency. The project can be administered by the Federal agency under its procedures. This would make it possible for States to transfer funds to the BIA. The BIA could then administer projects under their procedures including contracting with an Indian tribe under ISDEAA.

1.9. Indian Reservation Roads Program; Final Rule

On July 19, 2004, the DOI published the Final Rule for the Indian Reservation Roads Program.¹ The Final Rule establishes policies and procedures governing the IRR Program.² The IRR Program is a part of the

WHPacific 14

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¹ Federal Register/Vol. 69, No. 137/Monday, July 19, 2004/Rules and Regulations: Codified at 25 Code of Federal Regulations ("CFR") Part 170

Federal Lands Highway Program established to address transportation needs of tribes. The program is jointly administered by the BIA and the Federal Highway Administration's (FHWA) Federal Lands Highway (FLH) Office.

The Final Rule establishes a funding distribution methodology called the Tribal Transportation Allocation Methodology (TTAM). The TTAM includes a factor for allocating IRR Program funds based on the relative needs of tribes and reservations or tribal communities for transportation assistance. The TTAM provides funding for IRR High Priority Projects (HPP) that would not otherwise have sufficient funding; and makes available a minimum allocation to tribes if funding levels are sufficient. The final rule became effective November 15, 2004.

The Relative Need Distribution Factor (RNDF) is a mathematical formula used for distributing the IRR Program construction funds. The RNDF is derived from a combination of the cost to construct, vehicle miles traveled, and population.

² The Final Rule is not totally final, as amendments are needed to bring it into compliance with, and implement the "Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users" ("SAFETEA-LU" Act) of 2005 (109 P.L. 59, 119 STAT.1144 (H.R. 3, 109th Congress)).

2. Existing Conditions

2.1. Background Data

2.1.1. Culture and History

The area has historically been occupied by Yup'ik Eskimos. In the early 1950s, Alexie Amagiqchik founded a small general store at the site. He had moved from a village on the Bering Sea to the new location one mile inland to escape potential floodwaters. Others from the original village followed and settled in Chefornak. The city was incorporated in 1974. A federally-recognized tribe is located in the community -- the Village of Chefornak. The population of the community consists of 98% Alaska Native or part Native. A traditional Yup'ik Eskimo community, Chefornak residents practice a subsistence lifestyle with some commercial fishing.

Land and resource rights were settled through the Alaska Native Claims Settlement Act (ANCSA) of 1971. A state-chartered corporation based upon inter-village agreement was formed and Chefornak became part of the Calista Corporation. The regional not-for-profit corporate arm of the region is Yukon-Kuskokwim Health Corporation which provides extensive health, tribal, and social services to residents of rural Northwest Alaska.

2.1.2. Demographics

The following data represents demographic information for Alaska (Table 1), Bethel Census Area (Table 2) and the Native Village of Chefornak (Table 3 and Table 4).

Table 1 Alaska Population

Geographic Area	Census 2000	2008	Projections July 1, 2010	Projections July 1, 2015	Projections July 1, 2020	Projections July 1, 2025	Projections July 1, 2030
Alaska	626,932	686,293	694,109	732,544	774,421	820,881	867,674

Source: US Census Bureau

Table 2 Profile of General Demographic Characteristics

Borough	Population	Population	Population	Change 1990-	Change 1990-
	1990	2000	2008	2000	2008
Bethel Census Area	13,656	16,006	17,236	17%	26%

Source: US Census Bureau 2000

According to the U.S. Census Bureau, Native Village of Chefornak, on and off trust land, had a population of 394 in 2000. Table 3 illustrates the specific age population distribution.

Table 3 Population Age and Gender Distributions, Native Village of Chefornak

Gender	Number
Male	203
Female	191
Age	Number
Under 5 years	34
5 to 9 years	50
10 to 14 years	71
15 to 19 years	34
20 to 24 years	28
25 to 34 years	55
35 to 44 years	39
45 to 54 years	43
55 to 59 years	15
60 to 64 years	7
65 to 74 years	6
75 to 84 years	7
85 years and over	5

Source: US Census Bureau, 2000 - Profile of General Demographic Characteristics

Native American Housing Assistance Self Determination Act (NAHASDA) and tribal membership information was used to generate the following population table for the Native Village of Chefornak.

Table 4, Native Village of Chefornak Population Comparison Table

Provider	Population
NAHASDA	462
Tribal Enrollment (BIA labor report,	
2005)	558

Source: NAHASDA 2004 Data/ 2005 Grant Allocation Formula

Table 5 February 2010 Tribal Enrollment Breakdown

Adults	Children	Total Enrollment
288	215	503

Source: NANA office in Chefornak

Employment

Other than government positions, most employment in Chefornak is seasonal, supplemented by subsistence activities. In 2008, 35 residents held commercial fishing permits for herring roe and salmon fisheries. Coastal Villages Seafood, Inc., processes halibut and salmon in Chefornak. Trapping is also a source of income.

Table 6 Native Village of Chefornak Profile of Selected Economic Characteristics

	Number	Percent
Population 16 years and over	202	100
In labor force	118	52.4
Civilian Labor force	118	52.4
Employed	118	52.4
Unemployed	16	11.9
Percent of civilian labor		
force		58%
Armed Forces	0	0.0
Not in Labor Force	68	34

Source: US Census Bureau, 2000 - Profile of General Demographic Characteristics

Table 7 Employed Civilian Population 16 Years and Over

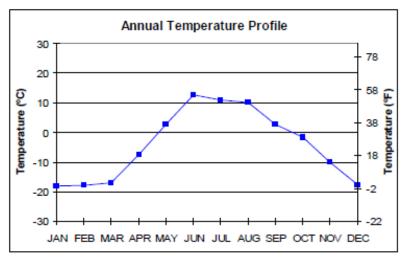
	Number	Percent
Management, professional, and		
related occupations	45	38.0
Service occupations	21	17.7
Sales and office occupations	34	28.8
Farming, fishing, and forestry		
occupations	0	0.0
Construction, extraction, and		
maintenance occupations	11	.093
Production, transportation, and		
material moving occupations	7	.059

Source: U.S. Census Bureau, Census 2000 Profile of Selected Economic Characteristics

2.1.3. Physical Characteristics

Chefornak is located in a marine climate. Precipitation averages 22 inches, with 43 inches of snowfall annually. Summer temperatures range from 41 to 57 $^{\circ}$ F. Winter temperatures range 6 to 24 $^{\circ}$ F.

Exhibit 1 Chefornak Annual Temperature Profile



Source: Alaska Energy Authority 2005

2.1.4. Land Ownership

The Alaska Native Claims Settlement Act of 1971 resolved Alaska Native claims to land by transferring titles to thirteen Alaska Native regional corporations. The Native Village of Chefornak and Chefarnmute, Incorporated are settling community lands in Chefornak.

Table 8 Alaska Native Claims Settlement Act – Land Status

ANCSA Land Entitlement					
Village Corporation	Chefarnrmute, Incorporated				
12(a) Land Entitlement*	92,160 acres				
12(b) Land Entitlement**	0 acres				
14(c)(3) Land Status					
14(c)(3) Status***	Completed				
14(c)(3) Comments	Federal townsite.				
14(c)(3) Agreement Signed	Yes				
14(c)(3) Acres					
Map of Boundaries done	Yes				
Date Plat Filed	10/2008				
Recording District					
Municipal Land Trust	No				
Authorized Village Entity Type	n/a				

Source: State of Alaska, retrieved 2009

^{*} ANCSA 12(a) land entitlement to village corp. from federal gov't

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

^{***} Under ANCSA 14(c)(3), villages must reconvey surface estates to the local city government to provide for community use and expansion

2.1.5. Government

The Native Village of Chefornak is unincorporated and is governed according to the Indian Reorganization Act (IRA) council, headed by a president. The council is comprised of seven members. Maniilaq Association has authorization from the council to compact with the BIA to operate tribal programs and transportation services, and with the Indian Health Services for tribal health services.

2.1.6. Existing Infrastructure

Figure 3 shows building locations such as school and churches, major water features and road surface types on Native Village of Chefornak.

Electricity: Naterkaq Light Plant is operated by the City of Chefornak and is powered by diesel. The power plant has a 455 KiloWatt Capacity.

Fuel: Several bulk fuel tanks are owned by various businesses. Lower Kuskokwim Schools' tank holds 115,200 gallons, the capacity is 44,900 gallons, the Chefarnmute Inc. tank holds 84,300 gallons, National Guard tank is 4,300 gallons, Avugiaks' Store tank is 8,200 gallons and the Army National Guard tank holds 3,800 gallons.

Sanitation: One well and a water treatment plant serve 12 watering points. The treated water is undrinkable due to salt water intrusion.

Residents drink melted ice cut from a local pond in the winter and rain catchment the rest of the year. High snow drifts make boardwalk impassable for winter haul service. The community has requested a grant for a new water treatment plant. The school is in the process of establishing its own water system using reverse osmosis to treat the salty water. Chefornak residents haul honeybuckets to a sewage lagoon. There is no piped sewer system in Chefornak. The City operates a Class 3 landfill for the community.



Chaputngluak High School in Chefornak (Photo from http://dcra.commerce.alaska.gov/PHOTOS/Chefornak)

Telecommunications: United Utilities, Inc provides the local phone service and internet services. Long distance phone is available through AT&T and United Utilities, Inc. Chefarnmute Cablevision operates the local cable television company (ARCS). KNOM-AM is the local radio station and CB/VHF radio systems are used for local and emergency communication.

Education: REAA operates The Lower Kuskokwim Schools School District and the Chaputnguak School, which serves students in grades K-12.

Public Safety: The village has a police officer and a volunteer fire department/search and rescue team. The Chefornak public safety building is located northwest of the community. The

Alaska National Guard has a small armory and post located in the center of the village next to the Chefornak Native Store. This post is not actively used.

Church: St Catherine of Siena Catholic Church provides church services for the village.

Services and Retail: Avugiak's Store is owned and operated by John Avugiak. The store stocks groceries and retail goods.

Housing: Table 9represents the distribution of the housing available in the community.

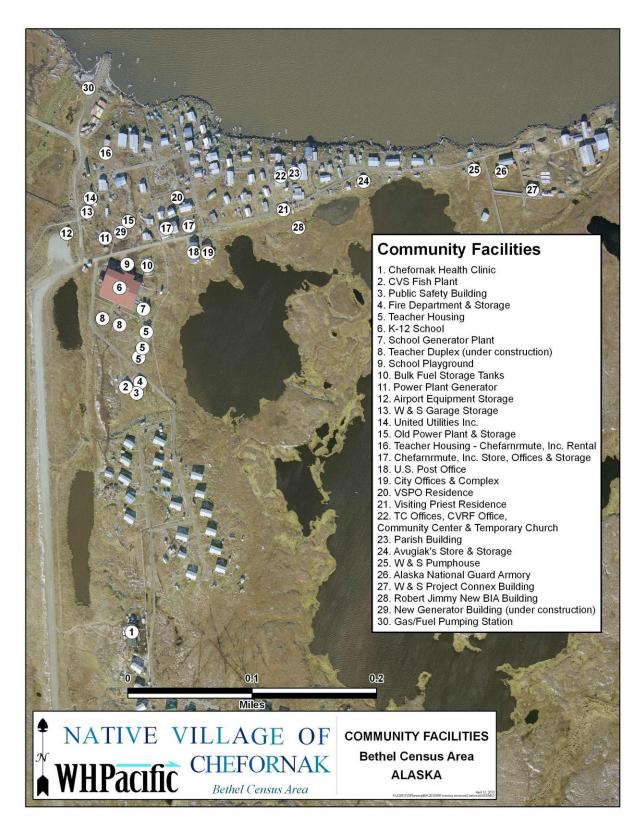
Table 9 Alaska Division of Community and Regional Affairs – Housing Characteristics.

Total Housing Units	82	Total Households	75,
Occupied Housing (Households)	75	Avg. Household Size	5.25
Vacant Housing	7	Family Households	63
Vacant Due to Seasonal Use	1	Avg. Family Household Size	5.98
		Non-Family Households	12
Owner – Occupied Housing	66		
Median Value Owned Homes	\$240,600	Pop. Living in Households	394
Renter – Occupied Housing	9	Pop. Living in Group Quarters	0
Median Rent Paid	\$408		

Source: 2000 US Census

Health Care: Chefornak Clinic is a Primary Health Care facility. Chefornak is classified as an isolated village, it is found in EMS Region 7A in the Yukon/Kuskokwim Region. Emergency Services have floatplane and air access. Emergency service is provided by a health aide. This clinic provides routine medical examinations and treats minor health issues If an emergency should arise, the patient may be flown by charter planes to Yukon Kuskokwim Delta Regional Hospital in Bethel (a 45 minute flight). The clinic provides computer telemedicine; this enables the clinic to send electronic pictures to the YKHC Health Center, in Bethel, where physicians can make long distance diagnoses.

Figure 3 Community Facilities



2.2. Transportation System

To understand how the transportation system functions in the Native Village of Chefornak an inventory of those elements comprising the existing system was conducted. Conducting this inventory was an integral step of the planning process in order to identify areas in need of improvement over the 20-year planning period. This inventory was based on available data compiled by the BIA, Tribe, State, Borough, data available through Geographic Information System (GIS) database, and additional information compiled through supplemental field data collection efforts. This data included accident history and classification.

This section describes the transportation system, as it presently exists. While the emphasis will be on the road system, the trail system, and related systems will also be addressed.

2.2.1. Existing Roadway System

Although there are several trails and one road in the City, boardwalks provide the main corridors for travel within the community. All existing "roads" in Chefornak are of "pioneer" construction and have not had the benefit of horizontal/vertical alignment design. The City reports them to be between 10 and 20 feet wide. Although these "roads" are generally used by all-terrain vehicles and there are no cars or trucks in the community, residents complain that these "roads" are too narrow. However, because of the absence of vehicles in the community, traffic conflicts and accidents are probably minimal despite the lack of a circulation plan.

The BIA Division of Transportation (BIA-DOT) *Summary Report*, dated August 2009, Appendix B, recorded 0.0 miles of roads on the Indian Reservation Road system for the Native Village of Chefornak.

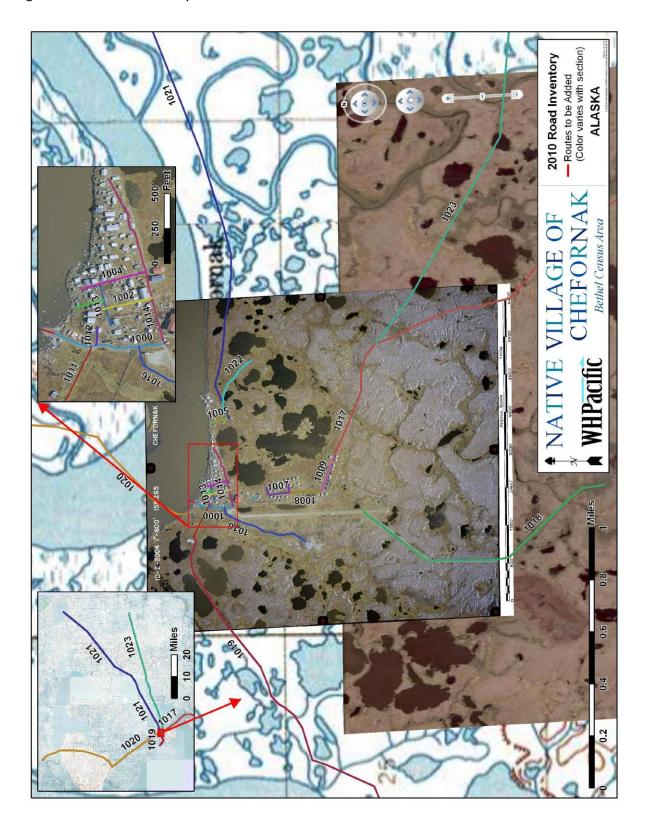
Table 10 summarizes the surface types, ownership, and lengths (in miles) of all public roads in the community. The BIA inventory figures presented in the table are based on the BIA-DOT *Summary Report*. Figure 4 depicts the location and surface type of each road. Recommended revisions to the *Summary Report*, as outlined in Section 4.3.8, are subject to the approval of the Native Village of Chefornak and the BIA.

Table 10 Selected Characteristics of Public Roads on the Native Village of Chefornak

Jurisdiction	Road Mileage by Surface Type						
					Primitive/		Total
	Paved	Gravel	Concrete	Earth	Trail	Proposed	Miles
BIA Roads *	0.0	0.0	0.0	0.0	0.0	0.0	0.0
State Highways	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Township Road	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tribal Road	0.0	5.2	0.0	0.0	1.0	19.1	25.3
Urban Roads	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	0.0	5.2	0.0	0.0	1.0	19.1	25.3
BIA Roads as % of Total	0%	0%	0%	0%	0%	0%	0%

^(*) BIA route mileage figures are based on the BIA Department of Transportation's August - 2009, Summary Report.

Figure 4 2010 Road Inventory



LONG RANGE TRANSPORTATION PLAN

NATIVE VILLAGE OF CHEFORNAK

3. Transportation Analysis

3.1. Roadway Inventory

It is the desire of the Native Village of Chefornak and Bureau of Indian Affairs, Alaska Regional Office to perform a complete inventory of BIA Roads, under its jurisdiction, and to perform a complete inventory on all other Indian Reservation Roads, i.e. State, Borough, Tribal, BLM. The primary objective of this inventory is to obtain current, accurate, uniform and verifiable data on all IRR Roads for the purpose of updating the Alaska Regional Office road inventory database, which provides valuable information for many roadway planning and management activities. The updated inventory will also be used to update the Nationwide IRR inventory database utilized by the BIA-DOT to compute Regional Office and Tribal allocations of IRR program funds (Highway Trust Funds) using the Relative Need Formula.

The inventory provides information regarding the physical characteristics and condition of each road. To expedite the fieldwork, a field inventory form was used. The data on these forms was then transferred to the BIA 5704 forms. The completed 5704 inventory forms have been submitted under a separate deliverable. The inventory included the following major categories:

- Identification, (including length, class, location, etc)
- Traffic (existing and future)
- Roadway section (grades, curves and sight distances)
- Alignment condition
- Roadway conditions (surface, drainage, railroad crossings)
- Inventory status (including date of update)

The minimum criterion used, for inventory purposes, to classify a road as an "improved road" was that it be a graded road with drainage improvements (i.e. side ditches and culverts at cross-drainages).

Proposed additions to the BIA's Chefornak road system, based on the 2009/2010 Inventory Update are identified in Section 4.3.8.

3.2. Roadway Classifications

Roads are classified as to the functions they perform with regard to the movement of traffic and access to property. Within the IRR system there are two types of road classifications: State Highway Classifications and BIA/Tribal Road Classifications. Both the state and the Tribal/BIA systems utilize functional classification as the basis for classifying their roads.

3.2.1. Generalized Functional Classification Definitions

Functional Classification 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. It 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. 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.

3.2.2. State Highway Classification

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.

Functional Classifications vs. State Highway Designations

The issue of road classifications and designations is confusing because there are two different mechanisms for labeling and identifying Alaska's Public Roads. Designations serve to identify which entity is responsible for maintaining roads. Functional Classifications serve to identify the purpose of the road. 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.

State Highways: A system of connected main highways throughout the state that primarily serve arterials or through traffic. With the exception of compact areas, the Alaska Department of Transportation and Public Facilities (ADOT&PF) maintains state highways.

State Aid Highways: 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: 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.

There are no state highways on or connecting the Native Village of Chefornak to other communities.

3.2.3. BIA Road Classifications

The BIA road system has several classes of routes. 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:

<u>Class 1.</u> 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.

<u>Class 2</u>. 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 interstate service and are spaced at intervals consistent with population density. This class of road will have less than 10,000 vehicles per day.

<u>Class 3.</u> Streets that are located within communities serving residential areas.

Class 4. Rural major collector road is collector to rural local roads.

<u>Class 5.</u> 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.

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

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

<u>Class 8.</u> 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.

<u>Class 9.</u> 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.

<u>Class 10.</u> 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.

<u>Class 11.</u> 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. Current functional classifications are shown on Figure 5.

3.3. 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. All present "roads" and trails within Chefornak's townsite boundaries are owned by the City of Chefornak. However, right-of-way information regarding these improvements is unknown.

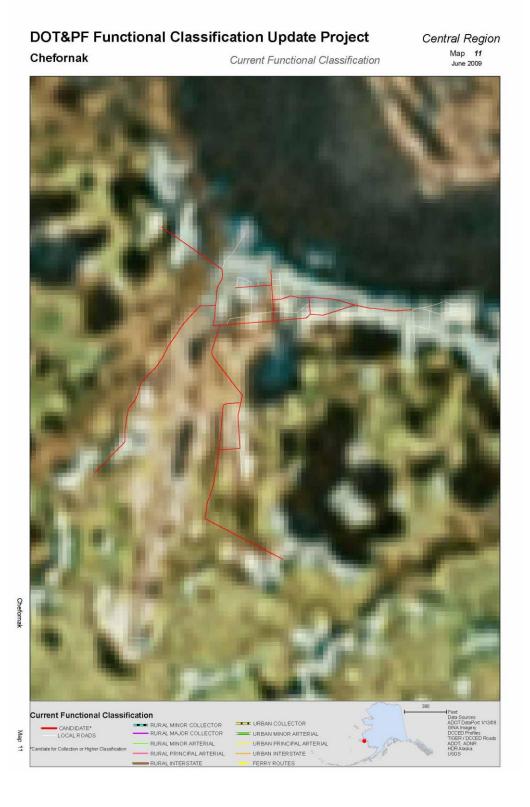
3.4. Traffic Control

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.

There are no posted speed limit signs or other traffic control devices in Chefornak. Some residents do complain about speeding.

Figure 5 Chefornak DOT&PF Functional Classification Update



3.5. 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 offers 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

3.5.1. Drainage

Drainage of water from pavements has been an important consideration in road construction for more than 2,000 years. However, modern processing, handling, and placement of materials frequently result in base courses that do not transmit water or drain; combined with increased traffic volumes and loads, this often leads to pavement distress caused by moisture in the structures.

Many premature pavement failures (occurring at less than 50 percent of expected life) have been traced to inadequate subsurface drainage. Although most agencies recognize that water in pavement is not desirable, different philosophies exist on how to reduce the effects of this problem. Attempts range from completely sealing the pavement (including incorporating low permeable base with no drainage) to incorporating a fully drainable pavement section with permeable base and edgedrains. Numerous approaches fall somewhere in between (e.g., using edgedrains with dense-graded bases).

To understand and analyze the conditions under which the pavement must function, the designer needs information on highway geometrics, surface drainage, non-pavement subsurface drainage, climate, and soil properties. These data enable the designer to predict the amount of free water that will enter the pavement structure, to predict the free water surface, and to establish the design subgrade moisture content. Two general types of subsurface drainage criteria are used: (a) a time for a certain percentage of drainage or (b) an inflow-outflow criterion.³

Due to the diversity in topography on the Tribe's lands, careful attention must be made in the design of roadways. Inadequate roads and bridges will hamper economic development, hinder tourism, and pose safety threats.

There are currently no paved roads in Chefornak. Roadway drainage is accomplished through open ditches that vary in depth between zero and three feet and through the use of culverts.

³ Road Management and Engineering Journal, Pavement Subsurface Drainage Systems published in 1997

3.5.2. Bridges

According to the U.S. DOT FHWA IRR Program – Transportation Planning Activity Guidelines:

<u>IRR Bridge Inventory</u>: 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, 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) rating 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."

One creek crossing in Chefornak has been accomplished with a bridge structure located on the easterly extension of boardwalk nearest the river.

According to the 2009 Bridge Inventory Report by the ADOT&PF, one bridge is located in Chefornak as described in Table 11.

Table 11 Bridges in the Native Village of Chefornak

Structure	Bridge No.	Location	Туре	Length (ft)	Roadway Width(ft)	Built	Comments
Kucharuk	2221	Chefornak	-	-	-	-	Proposed bridge on
Creek							road to new airport

3.6. School Bus and Mail Routes

Mail is delivered to the post office boxes and has been available since 1940. The post office is located in the center of town across from the Tribal offices.

No school bus service is available in the community.

3.7. Public Transportation

Public transportation is not available in Chefornak; however, residents have indicated that with the new school located further from the residences and there is a need for public transportation.

3.8. Rail System

The Alaska Railroad is a Class II railroad which extends from Seward and Whittier, in the south of the state of Alaska, to Fairbanks (passing through Anchorage), and beyond to Eielson Air Force Base and Fort Wainwright in the interior of that state. The current Railroad Routes do not provide access to the Village of Chefornak. Currently, Railroad service at Anchorage, approximately 494 miles to the east, is the closest (see Exhibit 2).

Exhibit 2 ARRC Routes and Connectors



3.9. Scenic Byways

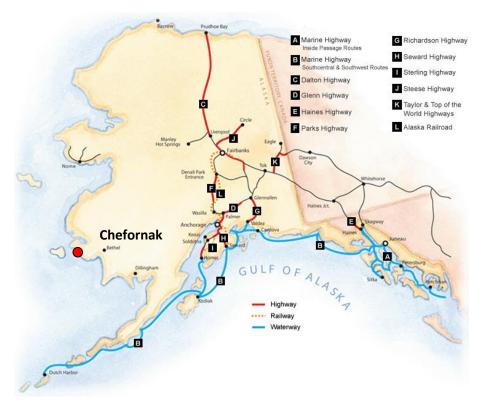
The National Scenic Byways Program is part of the U.S. Department of Transportation, Federal Highway Administration. The program is a grass-roots collaborative effort established to help recognize, preserve and enhance selected roads throughout the United States. Since 1992, the National Scenic Byways Program has funded 2,181 projects for state and nationally designated byway routes in 50 states, Puerto Rico and the District of Columbia. The U.S. Secretary of Transportation recognizes certain roads as All-American Roads or National Scenic Byways based on one or more archeological, cultural, historic, natural, recreational and scenic qualities. America's Byways is the umbrella term used for marketing the collection of 126 distinct and diverse roads designated by the U.S. Secretary of Transportation. America's Byways include the National Scenic Byways and All-American Roads.

There are 96 such designated byways in 39 states. The Federal Highway Administration promotes the collection as America's Byways™. There are no scenic byways in the vicinity of Chefornak.

Alaska established a Scenic Byways program in 1993 to recognize and celebrate some of the most beautiful landscapes in our state. Administered by the Alaska Department of Transportation and Public Facilities, this program also recognizes routes that provide access to our most scenic areas, cultural riches and recreational resources.

Alaska's Scenic Byways start at the local level with a grass-roots byway organization. Once the byway organization applies for and receives scenic byway designation by the state, the route becomes eligible for grant funding to enhance and promote the byway's special qualities. They also become eligible to apply for national designations by the U.S. Secretary of Transportation. Due to the location of the Native Village of Chefornak there are no Scenic Byways located in or around the community and is illustrated in Exhibit 3.

Exhibit 3 Alaska's Scenic Byways



Source: http://www.dot.state.ak.us/stwdplng/scenic/index.shtml

3.10. Motor Vehicle Accident Data

Crash staff in the Highway Database Section is responsible for providing 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.

Crash staff processes each vehicle accident report; each crash that occurred on a public road is:

- checked for completeness, consistency, and correctness
- located on the Highway Analysis System (HAS) road network: crash staff review a crash's location information from the report form and carefully assign a CDS route number and milepoint for the crash
- entered into HAS for permanent storage and analysis

The HAS database includes only those accident reports that DMV sends to the Division of Program Development. Some crashes may go unreported, and some accident reports may never get sent to DMV. The Highway Analysis System contains the most complete statewide database of vehicle crash data in the State.

Motor vehicle crash data in the Highway Analysis System:

- is analyzed extensively by traffic and safety engineers as part of highway planning, design, construction, and maintenance
- plays an integral part of the Highway Safety Improvement Program (HSIP), the Fatal Accident Reporting System (FARS), and the Alaska Injury Prevention Program

No accidents were reported to the state for Chefornak.

3.10.1. Traffic Hazards and Safety Issues

The tribe's concerns about speeding are the primary traffic hazards or safety issues identified.

3.11. Existing Traffic Volume

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.

3.11.1. Short Duration Counts

The short count program is designed to provide roadway segment-specific traffic count information on a cyclical basis. Average daily traffic (ADT) is defined as the sum of all traffic, in terms of vehicles per day (vpd), passing a specific point during a given time period (in whole days), greater than 1 day and less than 1 year, divided by the number of days in that time period. Except for permanent count stations maintained by various highway agencies, the ADT for most locations is estimated based on counts taken over a relatively short period of time.

3.11.2. Vehicle Classification Counts

The objective of the short duration classification count program is to ensure that the agencies have valid truck volume information for roads. The classification counts use the standard FHWA 13 vehicle categories.

3.11.3. Methodology

Traffic volumes derived from these traffic counts were used to compute current and projected (20-year) ADTs. Once the current ADTs were generated, projected (20-year) ADTs were computed. The BIA-DOT has established a growth rate of 2% per year for BIA inventory purposes. Future ADTs were computed by multiplying the current ADT by a factor of 1.485. This factor represents a compound traffic growth rate of two percent per year for 20 years.

3.11.4. Results of Traffic Study

No traffic counts were taken during this LRTP update.

3.12. Trail and Path System

3.12.1. Winter Trails

Snowmachines are relied upon during the winter. Winter trails are marked to Kipnuk (20 mi.) and Kasigluk (83 mi.) Winter Trails are essential means of transportation in Northwest 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, snowmachines and sleds are the major means of travel. To provide safe travel for area residents, trail markers and GPS coordinates will be useful when trails are erased by weather conditions such as winds and blowing snow. Table 12 illustrates the distance between each community for the Northwest Arctic Borough.

Table 12 Northwest Arctic Borough Trails

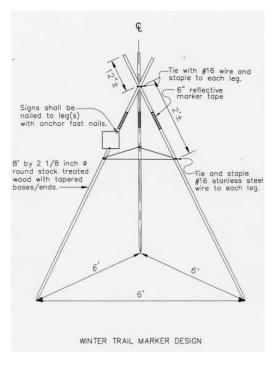
Trail Segments	Distance (miles)
Chefornak to Kasigluk	83
Chefornak to Kipnuk	20
Total Mileage	103

SOURCE: 2004, ADOT&PF, Northwest Alaska Transportation Plan

Trail Markers

Trail markers are an important aide in airborne search and rescue efforts, guiding search and rescue teams to lost travelers. Markers can also inform travelers of the nearest communities and the distances to their destinations, or warn travelers about trail changes. Trail changes include transitions from uplands to rivers or bays.

Trail markers should be installed during the winter, because many routes are not accessible until the surface is frozen. The local residents will determine the route and trails should be located using coordinates from a GPS receiver. In accordance to the ADOT&PF, "at a minimum, coordinates will be taken every fifth stake or major bend in the trail. Trail markers will be installed at maximum intervals of 500 feet. The distance between specific markers will vary with terrain,



wind and soil conditions. Installers place markers as close as 100 feet where/when terrain and whiteout conditions warrant. Installers place markers at the edge of rivers, lakes and the coast to alert travelers to ice danger."

3.12.2. Berry Picking Trails

Subsistence is crucial to the culture and economy of Chefornak. Berry picking trails lead to areas traditionally used for subsistence harvest.

3.12.3. Proposed Trails for Native Village of Chefornak

Trails can be developed in every region, connected to a variety of natural resources and made accessible for a wide diversity of users. Trail plans include legal and administrative requirements, resource identification and public input. It is the recommendation of this transportation plan that the Native Village of Chefornak develop a trails plan which will address the expanded vision of the tribe and set priorities for trail development.

3.13. Airports

For many communities in Alaska, aviation provides the only connection to the rest of the state because there are no interconnecting roads or ferries. 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.

As per ADOT&PF, "airports are classified based on the surface type of the runway as either paved, unpaved, concrete or water. Of all state-owned airports, approximately 68 percent are unpaved. About 50 airports in the state are paved. Airline passengers, overnight mail, air cargo, air ambulance, remote search and rescue, the military, and the business community all depend on Alaska's airport network."

Chefornak Airport

A state-owned 2,500' long by 28' wide gravel airstrip provides chartered and private air access year-round, and a seaplane base is available. On a regular basis, six regional air services provide cargo, mail and passenger services operating out of Bethel to Chefornak. Air services are provided by Arctic Circle Air Service, Era Aviation, Grant Aviation, Hageland Aviation, Inland Aviation Services, Inc., Yute Air. Table 13 and Error! Reference source not found. illustrate the increasing demand for air travel to the Native Village of Chefornak.

Table 13 Route Service Performance

Bethel - Chefornak - Kivalina - Point	Current	Service	Forecast with Passengers & Mail			
Hope Round Trip Distance: 313 miles	Without Mail	With Mail	2005	2015	2025 (FAR Part 121)	
Number of Flights on: Weekdays/Sat./Sun.	7/7/3	7/7/3	11/10/4	13/12/4	7/7/3	
Number of Annual Scheduled Flights (500 week year)	2,250	2,250	3,750	4,050	2,250 (1900s)	
Number of Non-Scheduled Flights added to Fulfill service	0	31	25	16	29 (208s)	
Number of Passengers Enplaned	21,900	22,700	30,100	34,100	36,400	
% Passengers Accommodated on Scheduled flights	100%	99%	100%	100%	100%	
Mail delivered (tons)	0	930	1,330	1,485	1,550	
% Mail delivered on Scheduled Passenger flights	0	96%	96%	99%	99%	

Source: Northwest Alaska Transportation Plan, 2004

3.14. Land Use Element

The intent of the land use element is for the village to establish, through the use of goals and objectives, policies applicable to the community concerning natural resource protection, environmental constraints, recreation, open space and the land needs derived from the population, housing, economic development and transportation objectives.

Some basic principles govern the development of a future land-use plan.

- Existing uses One of the main reasons that people engage in planning for a community is to protect what they value about it. It is the presumption that future use of land already in active use will be the same as the present use.
- Use compatibility Land-use planning evolved simultaneously with its implementation tool, zoning, which is based on the principle of separating land uses into compatible districts. Today, the most basic principles of compatibility separate industrial uses from residential ones, for the protection of each of those categories of use, and generally also separate residential uses from intense commercial uses.
- Land demand A starting point in land-use planning is often land-demand projection, typically focusing on developed land needs. This document projects future population and then determines how much land will be necessary to house that population. Governmental, industrial and commercial needs are based on the Tribe's goals and objectives and economic development opportunities.
- Environmental opportunities and constraints This is based on environmental analysis.
 This analysis help to determine which areas are most appropriate for future development and which areas should be protected.
- *Transportation influences* Transportation significantly influences land-use patterns. An example of this is the compatibility of particular land uses with types of roads.
- Agricultural preservation If protecting agricultural land is a priority, then preserving agricultural land becomes a major principle of land-use planning.

3.14.1. Land Use Designations

The Northwest Arctic Borough has identified several land use designation including the following:

- *Village (V) district*. The village district governs the sites and immediate environs of each village in the borough, except Kotzebue. The intent of the village district is to accommodate uses which:
 - 1. Reinforce traditional values and lifestyles;
 - 2. Are in accord with the borough comprehensive plan; and
 - 3. Are in accord with the desires of the residents of the village.
- Subsistence conservation (SC) district. The subsistence conservation district encompasses certain undeveloped areas of the borough. The district is intended to conserve the natural ecosystem for all the various plants and animals upon which

borough residents depend for subsistence, and to promote access to those resources for subsistence purposes.

- Commercial recreational conservation (CRC) district. The commercial recreational
 conservation district is established to provide land to accommodate commercial
 recreational activities. All such uses must be consistent with the conservation of wildlife
 habitat and other resources in the district.
- General conservation (GC) district. The general conservation district encompasses the
 undeveloped areas of the borough outside the boundaries of the other districts. The
 general conservation district is intended to conserve the natural ecosystem for all the
 various plants and animals utilized for subsistence. Subject to this overall intent, it can
 accommodate mineral exploration, development and resource extraction on a limited
 scale, but major resource development projects must apply for rezoning to the resource
 development district
- Resource development (RD) district. The resource development district is designed and
 intended to address the cumulative impacts of large-scale development, and to offer
 developers quick, efficient, predictable permit approvals.
- Transportation corridor (TC) district. The transportation corridor district is established to provide a strip of land to accommodate linear transportation facilities such as roads, railroads and pipelines.

For Chefornak, all land west of the Chefornak River in Sections 8, 9, 16 and 17 of Township 25 North, Range 19 West, Kateel River Meridian are in the Village district.

4. Transportation Implementation Strategy

4.1. Future Development

4.1.1. Tribal Goals and Objectives

One of the main missions of the Chefornak IRA is to promote sustainable community development. The Tribe also seeks to protect, restore, maintain and manage the natural and cultural resources and to expand the Tribe's capacity to exercise it sovereign rights, through planning, analysis, education and implementation for the benefit of present and future generations. This mission will allow Tribal members to live safer, fuller lives in harmony with their environment and cultural heritage. The Tribe's long-term goal is to protect Tribal lands and natural resources for future generations. This can only be accomplished by building Tribal capacity and working closely with partners.

4.1.2. Development Plans

The following describes some of the development plans the tribe has at this time.

- Proposed road to port site
- Proposed alternative access to "16 Unit" Subdivision
- Drainage improvements
- New boat landing
- Improve/acquire new equipment for new school
- Acquire new heavy equipment for maintaining local roads
- Cemetery Road

4.2. Projected Travel Demand

In its most basic form, travel demand is a measure of the number of people (or their vehicles) who travel to and from all the various possible locations within and outside of a given area. That travel must take place on a transportation system or network, in this case, a road network. Projection of travel demand has three components: trip generation, trip distribution, and trip assignment.

The type and degree of development projected for the year 2028 on the Tribe's lands or in its vicinity is based on information provided by tribal members, staff and other officials or agencies.

The factors used in the generation of trips were determined from a review of the development plans identified in Section 4.1.2.

In developing a 20-Year Transportation Plan for the community, assumptions were made based upon awareness of the existing conditions and of the plans to meet current and future needs.

Using these assumptions, the team projected the degree of development that is probable by the year 2030 given the population to be served and the economic resources available for implementing development plans.

The road network must accommodate existing as well as projected traffic volumes that can be determined through present and projected growth patterns.

4.2.1. Trip Generation

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 14 illustrates typical land use categories on Indian Reservations.

Table 14 Trip Generation Rates
Typical Indian Reservation Land and Use Categories

Land Use	ADT 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.
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.
Bingo*	64 trips/day/1000 sq. ft.
Casino*	521 trips/day/1000 sq. ft.
Poker Room*	64 trips/day/1000 sq. ft.

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

^{*}No trip rates are available from ITE for similar full service casinos that are often seen on Indian Reservations. Trip estimates were based on Casino of the Sun Traffic Impact Analysis, March, 2001.

4.3. Recommended Transportation Plan

The recommended 20-year transportation plan for the Native Village of Chefornak consists of an integrated set of roadway improvement/construction projects needed to meet current and projected housing and economic development goals within the community and identifies the governmental agency responsibilities for carrying out the plan.

4.3.1. Evaluation Criteria

The following criteria were used in evaluating the various roadway alternatives developed during the course of this study. The criteria are divided into four sections: Traffic Operations, Community Impacts, Economic Impacts, and Construction.

Traffic Operations

Traffic Operations – this is a measure of traffic operational characteristics. Objective measures include capacity, level of service, delay, and progression efficiency.

Network Completion – This measure assesses whether or not the project closes gaps in the transportation network.

Traffic Safety – Traffic safety is a measure of expected conflict points and improvement of existing problems.

Community Impacts

Displacement – This is a measure of the magnitude of displacement that would be necessary to construct the project.

Aesthetics – This measure assesses whether the project is visually pleasing.

Environmental Impact – This is a measure of each project's impact on the environment, including noise, air quality and wetlands.

Community Support – This is a measure of how much support or opposition there may be for the project.

Economic Impacts

Local Access – This criterion measure the level of directness, convenience and availability of access to existing and future development. Emergency access is included in this measure.

Economic Development Opportunities – This criterion assesses the impact of the project on future development opportunities (i.e. does the project change or encourage the potential for access for future development?).

Construction

Ability to Phase – This measure assesses whether or not the project lends itself to being constructed in phases, or if it would have to be constructed as one project.

Constructability – This is a measure of how difficult it would be to construct the projects, looking at the need to relocate utilities, or change drainage facilities.

Relative Cost – This is a comparison of costs to obtain any necessary right-of-way and constructions costs for the project.

Right-of-Way - This measure assesses the availability of right-of-way for the project and the potential costs associated with right-of-way acquisition.

4.3.2. Tribal Transportation Improvement Program (TTIP)

A 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. 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 (FTA), 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 pro-active 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 Statewide Transportation Improvements Program (STIP) developed by each State Transportation Agency without further action. If an IRR project lies within a metropolitan area, it must be included in the metropolitan area TIP 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, Division of Transportation (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.

4.3.3. Proposed Projects

The recommended 20-year transportation plan for the Native Village of Chefornak consists of an integrated set of roadway improvements/construction projects needed to meet current and projected goals.

The Native Village of Chefornak Transportation Plan calls for annual maintenance and the reconstruction of several routes to provide for better access and drainage.

A. Maintenance Projects:

1. M1 25% Construction Funds: The Native Village of Chefornak is exercising its right to receive 25% construction funds to be used for road maintenance. Annual Maintenance – All roads need to be properly maintained to remain free of debris. In the winter, the roads should receive proper snow removal and in the summer, they should be graded and receive a dust palliative. Other maintenance items that may be needed include training for maintenance personnel, drainage improvements, gravel spot resurfacing and brush removal. The Tribe also wants to fix, lease or buy road maintenance equipment. They also need a warm storage building to store and work on heavy equipment.

B. Planning Projects:

1. P1 2% Transportation Funds: Native Village of Chefornak is exercising its right to receive 2% planning dollars. <u>Indian Reservation Roads (IRR) Transportation Planning Funds</u> - Funding is available to Indian Tribal Governments for transportation planning on Indian lands. 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). In addition to this LRTP, the Tribe wishes to use its transportation planning funds to update its inventory and attend transportation planning training events. In addition, the Tribe would like to develop a transit plan.

C. Proposed Projects:

The following proposed projects are not in order of priority. The prioritization of the projects and any additional projects or deletion of the following projects will be upon the recommendation of the Tribal Council.

- Chefornak Cemetery Road
- Chefornak Port Road or winter access route to Red Dog
- Develop Gravel Source
- Local Road Improvements
- Culvert Replacements on Route 0010, 0020 and 0090
- Winter Trail Staking
- New Airport Access Road
- Landfill Access Road
- Purchase, Operate and Maintain a Transit Vehicle

4.3.4. Alaska Department of Transportation Projects

The 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 Statewide Transportation Improvements Program (STIP) is funded by the FHWA and 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, which have been formally proposed by residents, elected officials and transportation professionals every four years. The current plan was adopted on May 19, 2009 and included the American Recovery and Reinvestment Act of 2009 (ARRA) funded projects.

The Native Village of Chefornak falls within the jurisdiction of the Northern Region. At this time, it does not appear that any of the state projects will affect the Native Village of Chefornak. Projects listed for the Northern Region include:

- Cape Blossom Road (Road from Kotzebue to Cape Blossom) New Construction.
- Shore Avenue Rehab & Erosion Protection Kotzebue, AK

Northwest Arctic Regional Transportation Plan

The ADOT&PF developed Statewide and Area Transportation Plans for "Guiding Transportation Development for Alaska's Future". Area Transportation 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. These plans are to incorporate economic modeling to evaluate potential projects and prioritize them to best meet the state and regional goals.

Chefornak is contained within the state's Northwest Alaska Transportation Plan. The Northwest Alaska Transportation addresses a broad range of concerns, views and perspectives of the people that live and travel in this region which covers the North Slope Borough, Northwest Arctic Borough, Norton Sound/Seward Peninsula, and the Middle Yukon River Basin. As a 20-year strategy for transportation infrastructure, this plan guides the department's capital development plans for the area. This plan addresses passenger and freight inter-community movements by land, air and water modes. The current plan was adopted on February 11, 2004. Table 15 illustrates the recommended road projects for the Northwest Arctic Borough:

Suggested Road Projects	Distance	Location	Function or Purpose & Need	Estimated
	(miles)			Cost
Chefornak Barge Landing	1.5	Chefornak	Access to barge landing site.	\$1,700,000
Road				
Deering Cape Deceit Road	2.0	Deering	Access to landfill, cemetery	\$1,500,000
			and beach/barge landing site	
Kiana Gravel Source Road	3.0	Kiana	Material site access	\$2,000,000
Shungnak Community and	1.5	Shungnak	Access to landfill, gravel	\$1,000,000
Landfill Road			source and cemetery	
Selawik Spud Farm Road	11	Selawik	Access to gravel source and	\$11,000,000
			subsistence areas	

4.3.5. BIA Construction Funding

In accordance with the Final Rule (25 CFR Part 170)⁴, the Tribal Transportation Allocation Methodology (TTAM) that BIA uses to allocate IRR Program funds, after appropriate statutory and regulatory set-asides, as well as other takedowns, is as follows:

- (a) A statutorily determined percentage to a tribal transportation planning program (under 23 U.S.C. 204 (j)); and (b) The remainder to a pool of funds designated as "Remaining funding available for distribution." This "Remaining funding available for distribution" pool is further allocated as follows:
 - (1) 5 percent to a discretionary pool for IRR High Priority Projects (IRRHPP); and
 - (2) 95 percent to pool for distribution by the following Relative Need Distribution Factor (RNDF) as defined in 25 CFR §170.223: (50 percent Cost to Construct + 30 percent Vehicle Miles Traveled + 20 percent Population)
 - (3) If the annual authorization is greater than \$275 million, then the amount above \$275 million, after appropriate statutory and regulatory set-asides, as well as other takedowns are applied, will be allocated as follows: (i) 12.5 percent to the IRRHPP (§170.205); (ii) 12.5 percent to the Population Adjustment Factor (PAF) (§170.220); and (iii) 75 percent to the RNDF (§170.223).

⁴ Federal Register/Vol. 69, No. 137/Monday, July 19, 2004/Rules and Regulations-Indian Reservation Roads Program; Final Rule, pp. 43090-43141

4.3.6. IRR High Priority Projects (IRRHPP)

The IRRHPP is a special funding pool that can be used by a tribe whose annual allocation is insufficient to complete its highest priority project; by a government subdivision of a tribe that is authorized to administer the tribe's IRR Program funding and 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 IRRHPP application pending at any time. This includes emergency/disaster applications. IRRHPP funds cannot be used for transportation planning, research, or routine maintenance activities.

BIA will accept IRRHPP applications until December 31 each year for projects during the following year. BIA processes IRRHPP applications as shown in Table 16.

Table 16 BIA IRRHPP Schedule

Ву	BIA will
(1) January 31	Notify all applicants and Regions in writing of acceptance of applications.
(2) March 31	Coordinate with FLH to rank all accepted applications in accordance with Appendix C to Subpart C, develop the FPL, and return unaccepted applications to the applicant with an explanation of the deficiencies.
(3) April 15	Notify all accepted applicants of the projects included on the FPL.
(4) May 15	Distribute funds to BIA Regions or in accordance with procedures of the Office of Self-Governance for selected IRRHPP.

IRR High Priority Project and project applications. IRRHPP applications are ranked and funded by the following criteria.

- (a) BIA-DOT and the 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 17 shows the matrix used to score IRRHPP applications.

Table 17 IRRHPP Scoring Matrix

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

¹ National Highway Traffic Safety Board standards

4.3.7. BIA Maintenance Funding

The BIA is obligated by CFR 25, 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

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

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.

Typically, in the lower 48, the Agency Road Engineers/Managers work with the tribes in establishing a road maintenance program to determine the type and level of maintenance to be performed on BIA roads within each reservation based on Agency's road maintenance budget. Maintenance priorities are frequently determined by weather and/or road conditions which inhibit access to and from communities to employment centers, community services and health facilities. Emergency road conditions have highest priority. Other priorities are determined based on surface type and use.

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.

4.3.8. Revisions to BIA Road System

One of the objectives of this transportation study was to identify reservation roads that should be added to or deleted from the IRR system, or renumbered to more logically reflect their relationships with intersecting roads. The following sections identify the recommended changes to the IRR Native Village of Chefornak road system.

Listed below are recommended Road System Guidelines, intended to assist Tribes, Regional Directors, and engineers in deciding which roads should be on the BIA Road System. These are not rules, as special circumstances may apply, but deviations from the guidelines should be accompanied by an explanation of the special circumstances.⁵

- A road which is only for service to a single residence or land use is a private driveway, not a public road, and should not be on the BIA Road System. A road serving only three or less closely grouped residences or land uses should be considered a common private driveway.
- 2. Roads primarily used for a single purpose should not be on the BIA Road System such as:

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⁵ April 4, 1994, Memorandum from the Deputy Commissioner of the Indian Affairs, recommending BIA Road System Guideline.

- a. Logging roads for timber sale, administrative, or fire access only and which are not open to the public or used for such purposes as recreation, wood cutting, gathering, fishing, or hunting.
- Agricultural roads to fields, pump houses, headgate, dams, along canals and which are not open for other purposes such as fishing, boating, hunting.
- c. Administrative roads to power plants, sewage treatment plants, water towers which are not open to the public for other uses.
- d. Tribal roads to a single purpose tribal enterprise such as a fish hatchery, saw mill, manufacturing plant, cemetery, or other single use which are not open to the public.
- 3. The proportion of state and township road miles to BIA Road System road miles within a reservation should be at least equal to the proportion of fee land to trust land within that particular reservation. BIA should not participate in state or township road construction projects on a reservation unless the local governments meet their own road construction responsibilities.
- 4. Where state/township road systems are substantially under guideline #3, efforts to correct the imbalance and/or secure state/township funding for BIA road construction projects should be documented, with copies to the Regional Office and Central Office Division of Transportation. This also applies to cases where the state/township established a road system, but fails to meet construction needs on that system.
- 5. Use Class 11 trails to separate pedestrian (especially school) traffic, and bicycle traffic from vehicular traffic.
- 6. The following are to be considered when evaluating what is "vital to the economic development" of Indian Tribes.
 - a. Connects active center of population;
 - b. Promotes development of natural resources;
 - c. Contributes to industrial activity;
 - d. Contributes to economic development;
 - e. Provides jobs for the community;
 - f. Contributes to law and order;
 - g. Removes isolation;
 - h. Provides access to education;
 - i. Provides access to hospital facilities;

- j. Contributes to accident prevention;
- k. Provides access for emergency services.

The significant changes are listed in Table 18.

Table 18 Summary of Proposed Road Mileage Revisions

	Miles
2009 IRR DOT Summary Inventory	25.3
Roads to be Added to IRR System	293.0
Other Route Mileage Corrections (Net Deletion)	0.4
Proposed IRR Road System	318.7

Table 19 Revised Characteristics of Public Roads on Native Village of Chefornak

Jurisdiction	Road Mileage by Surface Type									
	Paved	Gravel	Concrete	Earth	Primitive/Trail	Proposed	Total Miles			
BIA Roads	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
State Highways	0.0	0.9	0.0	0.0	0.0	0.0	0.9			
Township Road	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
Tribal Roads	0.0	8.1	0.0	0.0	289.4	20.3	316.8			
TOTAL	0.0	9.0	0.0	0.0	289.4	20.3	318.7			
BIA Roads as % of Total	0%	0%	0%	0%	0%	0%	0%			

Revisions to the Functional Classification of BIA Roads

Due to the fact that the Native Village of Chefornak had a limited existing Indian Reservation Road System, there are no changes to the functional classification at this time.

4.3.9. The Denali Commission

The Denali Commission has an annual program that went into effect on August 10, 2005, when the President signed H.R. 3, SAFETEA-LU into law. This program provides 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 are provided annually for the 2005-2009 fiscal years.

The Denali Commission is an independent federal agency based on an innovative federal-state partnership designed to provide critical utilities, infrastructure and support for economic development and training in Alaska by delivering federal services in the most cost-effective manner possible. This effort includes the program's own competitive grant process and

partnerships with tribal, Federal, state and local governments involved in investment to areas of high distress. Its core mission is economic development in rural Alaska.

Program development, especially in the road Program, has seen a shift from maximizing financial leveraging opportunities with other transportation agencies, to fully funding, as necessary, the program's highest priority projects. In FY 06, the \$23 million transportation program leveraged almost \$100 million in projects. There will be an emphasis on priorities over funding partnerships in coming years. This strategy will likely reduce the overall program joint-fund total while striving to leverage funding opportunities.

4.4. Plan Implementation and Updating

This transportation plan presents the results of a study completed in 2010. It 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 Tribal Priorities. The plan should not be thought of as a static document. It should be viewed as a dynamic document capable of being modified to meet changing social and economic development demands.

It is recommended that the Native Village of Chefornak 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 Community transportation plan should be reviewed and updated every five years, or when there are major changes in the tribe's land use plan.

A key component in the continuation of the transportation planning process is the annual coordination between the Tribe and the BIA Regional Office, regarding adjustments in road construction priorities and implementation schedules, road maintenance needs and priorities, and IRR program funding. Several means are available to facilitate this process. Some tribes establish a transportation committee composed of tribal members and key tribal staff. This committee usually reports and makes recommendations to either the tribal planning commission (if one exists) or directly to the community council. In other instances, the annual coordination function is assigned to the tribal planning commission, or if no such body exists, it is undertaken as a formal process directly by the community council. However the process is handled, it is recommended that: (1) it be an annual function with a formalized process, and (2) an official tribal body (as discussed above) is assigned which has the responsibility to undertake this coordination.

4.5. Procedures for Development Roads

In the future, it is possible that roads will be constructed using funds from developers who will benefit from the road construction. Therefore, it is important that the tribal government establish policies and guidelines to monitor and control the construction of roads by developers. It is the recommendation of this study that the Tribe consider this approach to funding development roads. If that type of approach is acceptable, the Tribe should adopt a process for approving these roads to insure that they will be constructed to an adequate standard and properly maintained. The essential elements of the process are outlined below.

4.5.1. Design Standards

The first element in the process is to define what is expected. When a development project is submitted for review, it should only be given conditional approval subject to the roads and other infrastructure improvements being constructed to proper standards. Roads should be designed to meet minimum geometric and structural standards for the anticipated traffic volumes and classification of vehicles' loads. Roadway design standards should be adopted by the Tribe and available to potential developers. Standards currently used by the BIA and ADOT &PF are readily available. These design standards could be adopted as is, or modified, as the Tribe would prefer for specific design items.

4.5.2. Plan Submittal and Review

The second element in the approval process is the submittal and review of construction documents (Plans and Specifications). The Tribe should employ an experienced engineering consultant to review proposals and insure that the plans are in accordance with minimum design standards. The BIA should be asked to review and approve road construction documents from a developer if the Tribe anticipates it will request that the road be added to the BIA's road system for long-term maintenance. Plans and specifications should be approved for construction only when they are in conformance with minimum design standards based on anticipated traffic and loads.

4.5.3. Construction Monitoring

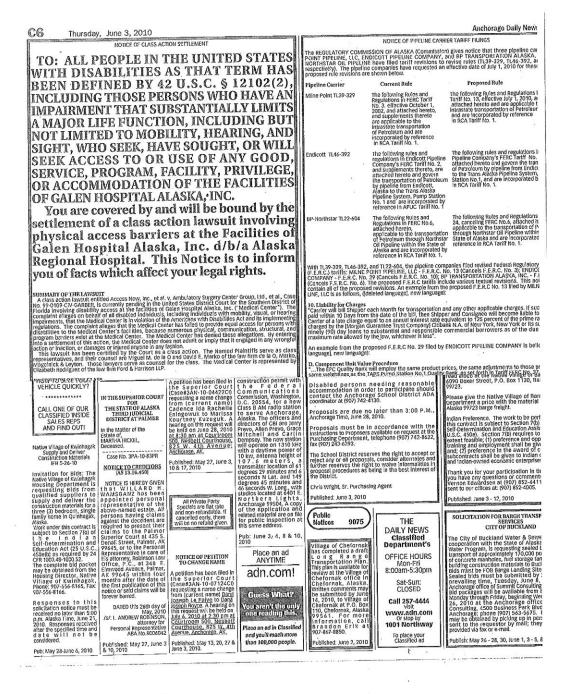
Another essential step in the process is the monitoring of the actual construction. The construction should be inspected periodically by a qualified representative of the Tribe to insure that construction is proceeding in conformance with the approved plans. A final inspection should also be performed prior to accepting the responsibility for maintenance. To insure proper construction, most jurisdictions require that the developer post a performance bond. The bond is held until the roadway has been accepted and all conditions for release have been met.

4.5.4. Maintenance Funding

The process should also address a method for financing the long-term maintenance of these development roads. A desirable procedure would be to make those who benefit from the road

responsible for the long-term maintenance. If a road is primarily for the benefit of the adjacent tenants, then the Tribe would need some form of revenue generated by the tenants. This could be in the form of an annual assessment or fee for the use of roads, and other non-revenue generating components of the infrastructure. This revenue would be very similar to an ad valorem tax assessed by most municipalities against the value of land. The funds received should be put in a sinking fund that would accumulate and be available for maintenance as needed.

APPENDIX A



Newspaper advertisement for public meeting to discuss the LRTP

6/3/2010

Anchorage Daily News Affidavit of Publication

1001 Northway Drive, Anchorage, AK 99508

	AD# DATE PO	<u>PO</u>	ACCOUNT	PRICE		OTHER CHARGES #2	OTHER CHARGES #3	GRAND TOTAL
AD#	DATE	200		ca2 20				\$33,20
777812	06/03/2010		ARCT0205	\$33.20 \$33.20	\$0.00	\$0.00	\$0.00	333.20

STATE OF ALASKA THIRD JUDICIAL DISTRICT

Shane Drew, being first duly sworn on oath deposes and says that he is an advertising representative of the Anchorage Daily News, a daily newspaper.

a daily newspaper.

That said newspaper has been approved by the Third Judicial Court, Anchorage, Alaska, and it now and has been published in the English language continually as a daily newspaper in Anchorage, Alaska, and it is now and during all said time was printed in an office maintained at the aforesaid place of publication of said newspaper. That the annexed is a copy of an advertisement as it was published in regular issues (and not in supplemental form) of said newspaper on the above dates and that such newspaper was regularly distributed to its subscribers during all of said period. That the full amount of the fee charged for the foregoing publication is not in excess of the rate charged private individuals.

Signed Strange Drew

Subscribed and sworn to me before this date:

JUN 0 4 2010

Notary Public in and for the State of Alaska. Third Division. Anchorage, Alaska

MY COMMISSION EXPIRES: APR 2 2 2014

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APPENDIX B SUMMARY REPORT

Stan	Indian	Reserva	ation Ro	ads Pro	gram			_		r Criteria	
DD	Inv	entory	Data Sh	eet (ver2	2)			E	2009	02 077	
	in the second		2009 Invent		·'	For construction the Greenbo			Itallicized fields are direct update dat and bold fields are derived data.		
Location ID Region Agency Reservation Road Name oute Number scrion Number Colass Code SLength of Section (mi) [999.9] -Bridge Number [A15]	E02077 Alaska Bethel Cheforna Fuel Lan 1000 10 3 0.1	E02077 Alaska Bethel Cheforna F Street 1001 10 3 0.2	E02077 Alaska Bethel Cheforna Landfill 1002 10 3 0.4	E02077 Alaska Bethel Cheforna Boardwal 1003 10 3 0.1	E02077 Alaska Bethel Cheforna Boardwal 1004 10 3 0.1	E02077 Alaska Bethel Cheforna Boardwal 1005 10 3 0.2	E02077 Alaska Bethel Cheforna Boardwal 1006 10 3 0.3	E02077 Alaska Bethel Cheforna Boardwal 1007 10 3 0.1	E02077 Alaska Bethel Cheforna Boardwal 1008 10 3 0.3	E02077 Alaska Bethel Cheforna Second S 1009 10 3 0.3	
9-Bridge Condition 0-Bridge Length (ft) [9999]											
2-County [999] 3-Congressional District [99]	050 01	050 01	050 01	050 01	050 01	050	050 01	050 01	050 01	050 01	
State Ownership 2-Construction Need Code 1-Terrain Code	02 - AK 4 4	02 - AK 4 2	02 - AK 4 2								
5-Roadbed Condition Code 4-SCI (20 times the old PCI value) 5-Surface Width (ft) [999] 3-Surface Type Federal Aid Code	1	3 0 14 1	3 0 10 1	3 0 12 1	3 0 12 1	3 0 12 1	3 0 12 1	3 0 12 1	3 0 12 1	3 0 12 1	
8-ROW Status	0	3	0	0	0	0	3	3	3	3	
9-ROW Width (ft) [999] IA Share (%) 0-Additional Incidental Percent 7-Shoulder Width (Enter 0 for non	100	60 100	100	100	100	100	40 100 0	50 100	50 100 0	60 100	
4-Shoulder Type 2-Existing ADT [9999999] 1-ADT Year [9999] 3-% Trucks [99]											
4-Owner Route Number [AAAAA] OADWAY WIDTH		14	10	12	12	12	12	12	12	12	
TAM Future ADT TAM ADS Number TAM Future Surface Type	37 18 E	37 18 E									
5-Drainage Condition 5-Shoulder Condition 7/38 # RR X NG/RR XING TYPE 9-ROW Utility Code 0-ROW Cost (\$1000/mi) [99] 6-Level Of Maintenance	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	
7-Snow Ice Control 1-Begin Latitude (deg) [decimal] 2-End Latitude (deg) [decimal] 3-Begin Longitude (deg) [decimal] 4-End Longitude (deg) [decimal]											
5-Atlas Map Number [99] 6-50 Grade/Sight/Curve/Stop / Sa 1-Road Category	01	01	01	01	01	<u> </u>	01	01	01	01	
2-Year of Construction Change (§	2008	2008	2008	2008	2008	2008	2008	2008	2008	2008	
						IN-PROCESS					

For construction costs use

the Greenbook Report

NATIVE VILLAGE OF CHEFORNAK

Inventory Data Sheet (ver2) FY 2009 Inventory Location ID Region Agency Reservation Road Name E02077 E02077 E02077 Alaska Bethel Cheforna Third St 1010 Alaska Bethel Cheforna D Street 1011 10 Alaska Bethel Cheforna E Street 1012 Route Number ROURE Number Section Number 10-Class Code 15-Length of Section (mi) [999.9] 18-Bridge Number [A15] 19-Bridge Condition 20-Bridge Lendth (f) [9999] 33-County [999] 33-County [999] 33-County [999] 33-County [999] 33-County [999] 33-County [999] 33-Crounty [999] 33-Crounty [999] 33-Crounty [999] 33-Crounty [999] 33-Crounty [999] 34-Crounty [999] 35-Bridge Condition Code 24-SCI (20 times the old PCI value) 16-Surface Vidth (ft) [999] 33-Surface Type 95-Pederal Ald Code 28-ROW Status 29-ROW Width (ft) [999] 38-Share (%) 30-Additional Incidental Percent 17-Shoulder Vigen 29-ROW Width (ft) [999] 21-ADT Year [9999] 24-Ower Route Number [AAAAA] ROADWAY WIDTH TTAM Future ADT TTAM ADS Number TTAM Future Surface Type 39-Row Utility Code 40-ROW Cost (\$1000min) [99] 26-Level Of Maintenance 27-Snow Ice Control 41-Begin Lantitude (dea) [decimal] 42-End Latitude (dea) [decimal] 43-Begin Longitude (dea) [decimal] 45-Begin Longitude (dea) [decimal] 45-Begin Longitude (dea) [decimal] 45-Bed Category 25-Year of Construction Change [5] 0.1 0.4 0.1 050 050 050 01 02 - AK 01 02 - AK 01 02 - AK 3 0 12 1 3 0 12 1 3 0 12 1 100 100 100 0 0 0 -/-

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Indian Reservation Roads Program

Filter Criteria E 2009 02 Itallicized fields are direct update data and bold fields are derived data.

2008 2008 2008 2008 Status IN-PROCESS IN-PROCESS IN-PROCESS 24-OCT-08 Page 2 of 2

Route Priorities List

APPENDIX C PRIORITY LIST

Chefornak Traditional Council

P.O. Box 110 Chefornak, AK 99561 Ph: (907) 867-8850 Fax: (907) 867-8711

The following list identifies the priorities for all existing and proposed routes to be updated and/or added to the BIA IRR Official Inventory Database.

Route Name	Route #	Section #	Length	Ownership ¹	CN Code ²	Location	Priority
Kaasivik Road	1000	010	0.2	4	2	E02-077	Medium
Barge Landing	1001	010	0.1	4	2	E02-077	Medium
Maraq Road	1002	010	0.1	4	2	E02-077	Medium
Maraq Road	1002	020	0.1	4	2	E02-077	Medium
Marai Road	1003	010	0.1	4	2	E02-077	Medium
Marai Road	1003	020	0.1	4	2	E02-077	Medium
Anguutekaiyak Street	1004	010	0.1	4	2	E02-077	Medium
Chaputnguak Road	1005	010	0.1	4	2	E02-077	Medium
Fisheries Road	1006	010	0.1	4	2	E02-077	Medium
Kayungiar Road	1007	010	0.1	4	2	E02-077	Medium
Panruk Street	1008	010	0.1	4	2	E02-077	High 1
Akul Road	1009	010	0.1	4	2	E02-077	High 3
Liriq Road	1010	010	0.1	4	2	E02-077	Medium
Tank Farm Road	1011	010	0.1	4	2	E02-077	Medium
Unnamed Route 5	1012	010	0.1	4	2	E02-077	Medium
Ulruan Street	1013	010	0.1	4	2	E02-077	Medium
Wassuuk Road	1014	010	0.2	4	2	E02-077	High 4
Trailor Park	1015	010	0.1	4	2	E02-077	Medium
Dump Road	1016	010	0.4	4	2	E02-077	High 2
Kipnuk Access Route	1017	010	1.2	4	2	E02-077	Medium
Kipnuk Access Route	1017	020	1.2	8	2	E02-077	Medium
Kipnuk Access Route	1017	030	10.2	7	2	E02-077	Medium
Kipnuk Access Route	1017	040	4.3	8	2	E02-077	Medium
Kipnuk Access Route	1017	050	1.0	8	2	E02-077	Medium
Airport Road	1018	010	0.8	4	2	E02-077	Medium
Airport Road	1018	020	0.3	8	2	E02-077	Medium
ATV Trail	1019	010	0.4	4	2	E02-077	Medium
ATV Trail	1019	020	0.1	8	2	E02-077	Medium
ATV Trail	1019	030	0.3	7	2	E02-077	Medium
ATV Trail	1019	040	3.2	8	2	E02-077	Medium
ATV Trail	1019	050	1.9	7	2	E02-077	Medium
ATV Trail	1019	060	0.8	8	2	E02-077	Medium

Chefornak Traditional Council E02-077

 $^{^1}$ See Coding Guide and Instructions for IRR Inventory Codes for "Ownership." 2 CN = Construction Need. See Coding Guide and Instructions for IRR Inventory Codes for "Construction Need."

Route Name	Route #	Section #	Length	Ownership ¹	CN Code ²	Location	Priority
Nightmute Access Route	1020	010	0.4	4	2	E02-077	Medium
Nightmute Access Route	1020	020	0.4	4	2	E02-077	Medium
Nightmute Access Route	1020	030	3.5	8	2	E02-077	Medium
Nightmute Access Route	1020	040	1.8	8	2	E02-077	Medium
Nightmute Access Route	1020	050	1.7	8	2	E02-077	Medium
Nightmute Access Route	1020	060	0.2	8	2	E02-077	Medium
Nightmute Access Route	1020	070	3.3	7	2	E02-077	Medium
Nightmute Access Route	1020	080	1.6	8	2	E02-077	Medium
Nightmute Access Route	1020	090	5.3	8	2	E02-077	Medium
Nightmute Access Route	1020	100	0.6	3	2	E02-077	Medium
Nightmute Access Route	1020	110	4.1	7	2	E02-077	Medium
Nightmute Access Route	1020	120	8.3	8	2	E02-077	Medium
Newtok Access Route	1020	130	9.9	8	2	E02-077	Medium
Newtok Access Route	1020	140	6.1	8	2	E02-077	Medium
Newtok Access Route	1020	150	1.0	7	2	E02-077	Medium
Newtok Access Route	1020	160	3.0	8	2	E02-077	Medium
Newtok Access Route	1020	170	2.3	7	2	E02-077	Medium
Newtok Access Route	1020	180	2.1	3	2	E02-077	Medium
Newtok Access Route	1020	190	6.9	7	2	E02-077	Medium
Newtok Access Route	1020	200	0.6	7	2	E02-077	Medium
Nunavakpak Lake Access	1020	200	0.0	· ·		202 077	
Route	1021	010	2.2	4	2	E02-077	Medium
Nunavakpak Lake Access							2 2 723
Route	1021	020	3.2	8	2	E02-077	Medium
Nunavakpak Lake Access							36 A 100 O 1 100 0 0 0 0
Route	1021	030	13.7	7	2	E02-077	Medium
Nunavakpak Lake Access							Medium
Route	1021	040	2.2	8	2	E02-077	Medium
Nunavakpak Lake Access							Medium
Route	1021	050	4.9	8	2	E02-077	Wicdiani
Nunavakpak Lake Access							Medium
Route	1021	060	42.4	8	2	E02-077	Wicarani
Nunavakpak Lake Access							Medium
Route	1021	070	2.9	8	2	E02-077	
Nunavakpak Lake Access	405			,_,		F02 6==	Medium
Route	1021	080	1.4	7	2	E02-077	DESCRIPTION OF THE SECTION OF THE SE
CVRF Building Access	1022	010	0.1			E02.077	Medium
Route	1022	010	0.1	2	4	E02-077	
CVRF Building Access Route	1022	020	0.1	2	4	E02-077	Medium
CVRF Building Access	1022	020	0.1		4	EUZ-U//	
Route Route	1022	030	0.2	2	4	E02-077	Medium
Tuntutuliak Access Route	1022	010	2.0	4	2	E02-077	Medium
Tuntutullar Access route	1023	010	2.0	4		LUZ-U//	Micalulii

Chefornak Traditional Council

E02-077

Route Priorities List

Route Name	Route #	Section #	Length	Ownership ¹	CN Code ²	Location	Priority
Tuntutuliak Access Route	1023	020	3.0	8	2	E02-077	Medium
Tuntutuliak Access Route	1023	030	12.7	7	2	E02-077	Medium
Tuntutuliak Access Route	1023	040	2.3	8	2	E02-077	Medium
Tuntutuliak Access Route	1023	050	0.7	8	2	E02-077	Medium
Tuntutuliak Access Route	1023	060	6.5	8	2	E02-077	Medium
Tuntutuliak Access Route	1023	070	0.8	8	2	E02-077	Medium
Tuntutuliak Access Route	1023	080	14.5	8	2	E02-077	Medium
Tuntutuliak Access Route	1023	090	9.2	8	2	E02-077	Medium
Tuntutuliak Access Route	1023	100	5.7	8	2	E02-077	Medium

Chefornak Traditional Council

E02-077

Route Priorities List