



# **LONG RANGE TRANSPORTATION PLAN**

## **IGIUGIG, ALASKA**

**Igiugig Village Council**

**Revised January 22, 2013**

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## List of Abbreviations

ADEC	Alaska Department of Environmental Conservation
ADOT&PF	Alaska Department of Transportation & Public Facilities
ANCSA	Alaska Native Claims Settlement Act
ANTHC	Alaska Native Tribal Health Consortium
ARTP	Alaska Regional Transportation Plan
ATV	All Terrain Vehicle, Typically a 4 wheeler
AVEC	Alaska Village Electric Cooperative
BIA	Bureau of Indian Affairs
COE	US Army Corp of Engineers
DCED	Department of Community and Economic Development
DCRA	Department of Community and Regional Affairs (now DCED)
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
HUD	Department of Housing and Urban Development
HIS	Indian Health Service
IRR	Indian Reservation Road Program
JATP	Juneau Area Transportation Plan
NAHASDA	Native American Housing Assistance & Self Determination Act
POB	Point of Beginning
POE	Point of Ending
STIP	Statewide Transportation Improvement Program
USGS	US Geological Survey
VSW	Village Safe Water

## 1.0 COMMUNITY CHARACTERISTICS

General information is drawn partially from the Alaska Department of Community and Economic Development's community information summaries. According to the DCED website, the pronunciation is (ig-ee-UH-gig). The village says (ig-ee-AW-gig)

### 1.1 Location

Igiugig is located on the south shore of the Kvichak River, which flows from Iliamna Lake, on the Alaska Peninsula. It is 50 air miles northeast of King Salmon and 48 miles southwest of Iliamna. It lies at approximately 59.327780 Degrees North Latitude and 155.89472 Degrees West Longitude (Sec. 08, T010S, R039W, Seward Meridian) Igiugig is located in the Iliamna Recording District. The area encompasses 19.8 square miles of land and 1.3 square miles of water.

### 1.2 Background

Kiatagmuit Eskimos originally lived on the north bank of the Kvichak River in the village of Kaskanak and used Igiugig as a summer fish camp. Today, about one-third of residents can trace their roots back to the Branch River Village. A post office was established in 1934, but was discontinued in 1954. Commercial and subsistence fishing sustain the community.

Historically an Eskimo village, the population is now primarily Alutiiq, who depend upon commercial fishing and a subsistence lifestyle. Sport fishing attracts visitors during the summer months.

While salmon fishing is a mainstay of Igiugig's economy, in recent years (since 1998), the Igiugig Tribal Village Council has been working hard to develop sustainable economic infrastructure. Three residents hold commercial fishing permits. Many residents travel to Naknek each summer to fish and work in the canneries. Subsistence is an important part of the residents' lifestyle. Salmon, trout, whitefish, moose, caribou and rabbit are utilized. Some trapping occurs.

As a result of the Igiugig Tribal Village Council's efforts to develop sustainable economy, the council now owns a successful construction company which has acquired considerable assets. The Council's construction company, which also has a surveying endorsement, is a SDBE firm. . It has successfully completed numerous negotiated and competitively bid federal, state, and borough construction and surveying contracts. The Council's wholly owned Iliamna Lake Contractors LLC, has trained and employs many members of the community and many residents of other Lake Iliamna communities. Because of its success, Iliamna Lake Contractors returns a dividend to the Village each year, to be utilized for sustaining infrastructure and for other Village initiatives.

The Village Council, d/b/a Iliamna Lake Contractors LLC, purchased the Iliaska Lodge, located in Iliamna, in 2006, pursuant to negotiation for a multi-year lease with Pebble Limited Partnership.

In 2006, the Igiugig Tribal Village Council, as majority partner, formed Iliaska Environmental, LLC, which is now a certified SBA 8a company, currently performing Environmental Assessment work, permitting services, and remote logistical support services, as well as providing contract vessels for NOAA. Iliaska Environmental has also purchased an option to procure Diamond Point LLC, which owns 140 acres of shorefront property on the western side of Cook Inlet. Development of a rock quarry and a port at this site will provide shoreline protection rock for many future projects along Cook Inlet, and jobs for local residents for as many as 30 years.

Additionally, Igiugig residents established and have been providing vital commercial barge services to the village surrounding Lake Iliamna since 2000, utilizing a Flexifloat barge system leased from and owned by the Village Council.

Other sustainable economic initiatives include a commercial greenhouse operation to provide fresh produce to the village and lodges surrounding the lake, powered primarily by 3, 2.7 kw wind generators, and waste fuel.

Lake Iliamna is the largest lake in Alaska. Trophy rainbow trout attract sport fishermen. There are seven commercial lodges that serve sport fishermen and hunters seasonally in Igiugig.

Igiugig's current population is 70. The DCED website reports that the percent of the population to be Native is 72%, defined as Alaska Native alone or in combination with one or more races.

### **1.3 Infrastructure**

Water is derived from a community well and distribution system. Sewage and waste water is disposed of in a DEC approved piped service system. A community washeteria is available by all persons and visitors to the village. Village residents and the Village Council operate several lodging facilities.

### **1.4 Soils and Topography**

The village of Igiugig lies on the Bristol Bay lowland, a moraine and outwash mantled plain which rises from sea level to about 500 feet. The lowland is bounded by the Ahklun Mountains to the northwest and the Aleutian Range to the southeast. The soils in this area generally consist of gravelly glacial material covered with volcanic ash and often are topped by a layer of recently formed organics, especially in the low lying areas (depositional basins).

Organic soils dominate this area with occasional tracts of poorly drained silt, sandy soils. Soils in this area severely limit development due to a high perched water table and shallow permafrost. Stream flooding could occur once every 40 to 60 years, and storm induced waves from Lake Iliamna are gradually eroding the bluffs east of the

village. Finally, Igiugig lies within Seismic Zone Two, where earthquakes between 2.5 to 4.0 on the Richter Scale may occur and cause moderate damage.

The village considered to lie within an area of discontinuous permafrost. This area is characterized by isolated masses of permafrost which are found either at depth as relict permafrost or near the surface as thin lenses, depending on varying thicknesses of ground insulation.

## **1.5 Climate**

From the DCED Website, Igiugig lies within the transitional climatic zone. Average summer temperature range from 42 degrees Fahrenheit to 62 degrees Fahrenheit; winter temperatures average 6 degrees Fahrenheit to 30 degrees Fahrenheit. The record high is 91 degrees Fahrenheit, and the record low is -47 degrees Fahrenheit. Precipitation averages 26 inches annually, including 64 inches of snow.

The following data was taken from the 1993 Juneau Area Transportation Plan (JATP) and is applicable to the area:

Mean Annual Precipitation, inches.....	30
Mean Annual Snowfall, inches.....	90
Mean Annual Temperature, degrees Fahrenheit.....	32
Thawing Index, degree days.....	2500
Design Thawing Index (1 year in 10).....	3500
Freezing Index, degree days.....	2000
Design Freezing (1 year in 10), degree days.....	3000

## **2.0 REGULATION AND PLANNING OF IMPROVEMENTS**

### **2.1 Regulation of Transportation Improvements**

As an unincorporated community, Igiugig has no formal authority under state law for planning, platting, and land use regulations. These powers are exercised by the Borough acting through the Borough Assembly and Planning and Zoning Commission.

Land use requirements for specific road projects will vary depending on the project location. As applicable, road improvements are subject to federal and state regulations, borough regulation, village requirements, and private landowner approvals. All BIA road improvements programs should be coordinated with the tribal government.

### **2.2 Comprehensive Planning**

Igiugig Village Council has adopted a Comprehensive Community Strategy Plan that guides community elected officials efforts for community development. Annual surveys are distributed to the entire village to gain input on priority improvement

projects. The response pool includes individuals from all ages, backgrounds, and parts of the community.

Additionally, the Igiugig Village Council meets regularly with the survey and management team of its construction company, Iliamna Lake Contractors LLC, to prioritize transportation planning and construction needs. It is reported that road development in Igiugig may be subject to provisions of the Lake and Peninsula Borough Coastal Zone Management Plan, which was completed in 2005.

### **3.0 EXISTING TRANSPORTATION SYSTEM**

Igiugig is accessible primarily by water and air. Charter flights are available from Iliamna and King Salmon. Small air services fly to Igiugig from Merrill Field in Anchorage on a regular basis. The State owns and maintains a 3,000 foot long by 75 foot wide gravel runway in Igiugig. A small public dock is available. Igiugig residents operate a barge system on Lake Iliamna and access goods and supplies from Seattle, Anchorage, and Homer etc via the Pile Bay Road, connecting Cook Inlet to Lake Iliamna.

#### **3.1.1 Community Roadway Mapping**

The routes in the present inventory are listed in the official report in Section 3.6.

#### **3.1.2 Right of Way and Roadway Ownership**

Based upon a review of the Master Title Plat in 1993, there were no apparent rights-of-way dedicated for the roadways at Igiugig. Roadways were reported to be owned by the Village Council. However, for the Igiugig Sanitation Road Project, dedicated Rights of Way were obtained for the projects roads before ADOT/PF and the BIA started construction in 2002. All roads designed and constructed since 2002 have dedicated platted Rights of Way.

#### **3.1.3 Geometric Elements**

The roads in town are in good shape. Most of the roads are either adequate gravel roads suitable for vehicles or just as trails suitable for the small All-Terrain Vehicles (4-wheelers). There are not many, if any, roads that fit between these two categories.

#### **3.1.4 Current Projects**

In the summer of 2009, the High Ridge Subdivision Road, route 150 has been constructed to accommodate a HUD Housing project in the High Ridge Subdivision. Subsequently, the Village has constructed the first half of the Float Plane Access Road, aka High Ridge Road, and a segment of the Big Mountain Road, aka, Barge Landing Access Road. Application for funding has been made for the second phase of the High Ridge Road, and design is underway for the an initial segment of Kaskanak Trail.

#### **3.1.5 Transportation Providers**

The Igiugig Village Council, as the local government of Igiugig, is the only service

provider of local transportation within the village. The village council volunteers to provide this service free of charge to meet the needs of the community and caters to requests from elders and special needs residents. Locals may request transport to the airport, clinic, school, post office, church, or other meeting locations. The village is disconnected from any other community or town and no public or private transportation providers exist within the village.

**3.1.6 Transportation Needs**

The Village Council determines that there are many transportation needs to address in Igiugig. Without roads leading beyond the village, improvements in air and marine transit would be beneficial. A runway extension would allow larger planes to land in Igiugig and the development of a local air service would meet the needs of the community and avoid high-priced charters from outside vendors. Increased access to the Kvichak River and a barge service would allow transit with the Bristol Bay region.

With the move of the clinic to one mile outside of the main village, there is a need to provide transportation to and from that part of the village. 2010 U.S. Census data determines at 100% of Igiugig residents are low-to-moderate income.

Elder needs— Elders are a vital and respected part of the community in Igiugig. However, current infrastructure gaps often leave elders without easy, safe access to services, meetings, meals, and events. ATVs are the common mode of individual transportation. However, the growing elder population in Igiugig calls for a transit vehicle that would address these needs and allow the village to involve elders fully in the life of the community.

Disabled needs—The village recognizes the right of each resident to equal access to public places and services and attempts to cater to these needs as feasible. While ramps have been installed throughout the village, a paratransit vehicle with a lift is not available to assist with transportation of wheelchairs.

While ATVs and trucks are the common mode of transportation in Igiugig, there are currently no vehicles suitable for the transportation of seniors, limited mobility, or wheelchair-bound residents.

**3.1.7 Transportation Service Improvement Strategies**

Igiugig has many key goals and strategies for improving transportation. While these projects are dependent on funding, the village continually strives to improve the quality of life for village residents and promote opportunities for economic development.

<b>GOAL 1:</b>	Enable the transportation of disabled and wheelchair bound community members as well as elders
<b>STRATEGY 1.1</b>	Acquire a wheelchair accessible transit van



<b>GOAL 2:</b>	Provide access to a float plane lake for safe landing of ski/float planes
<b>STRATEGY 2.1</b>	Complete float plane lake road phase II
<b>GOAL 3:</b>	Enable larger planes to land in Igiugig
<b>STRATEGY 3.1</b>	Extend airport runway
<b>GOAL 4:</b>	Provide transportation to the local school
<b>STRATEGY 4.1</b>	Acquire a school bus or other transit vehicle
<b>GOAL 5:</b>	Increase marine transportation and barging service in the region
<b>STRATEGY 5.1</b>	Acquire and put into service a passenger and freight ferry

## 3.2 EXISTING STRUCTURAL ELEMENTS

### 3.2.1 Surfacing and Sub base Material

Gravel fill, 2-3 feet in depth, has been used extensively for roadbed construction material. Typically, roads have been built over existing soil layers, which contain organics and occasional tracts of poorly drained, silt sand. Development in this area may be hampered by perched water tables and shallow permafrost. Before the ADOT/PF Igiugig Sanitation Road Project in 2002, residents reported that roads were rutted and soft at certain times of the year.

### 3.2.2 Drainage

Drainage facilities have been much improved throughout the Village during the last 7 years.

### 3.2.3 Bridges

There are four bridges reported in the current IRR inventory. Two are on BIA Route 0060, one on BIA Route 0120, and one on BIA Route 0170.

## 3.3 USER CHARACTERISTICS

### 3.3.1 Community Vehicle Inventory

The community reports that there are 25 private cars and trucks, 25 snowmobiles, and 35 all terrain vehicles within the community's vehicle inventory. The village also has 2 front end loaders, several 12 CY dump trucks, 3 bulldozers, and road grader as well as an extensive equipment inventory from the village owned construction Company (Iliamna Lake Contractors) available for maintenance.

### 3.3.2 Trip Generators and Circulation Patterns

Most of the village's facilities are accessible by walking. Most travel is probably accomplished on the river/lake system. The main activity nodes appear to be the schools, dock, landfill, cemetery, medical facilities, airstrip, water supply, sanitary facilities, and subsistence activities. Recent development of 6 homes in the High Ridge Subdivision, as well as the new greenhouse facility and health clinic has

resulted in increased road traffic from the main village to the east and south.

### 3.4 MAINTENANCE

#### 3.4.1 Responsible Agencies

The Igiugig Village Council maintains the roads on an as needed schedule through their contracting firm, Iliamna Lake Contractors LLC. During the winter months, local residents perform snow removal and road maintenance.

From time to time, the Lake and peninsula Borough may provide some funding for road maintenance equipment within the community.

Igiugig has no authority under state law for property, sales, or other tax assessment and collection. The borough, on the other hand, has broad authority to assess property, sales or other taxes to help support government facilities and services. The Lake and Peninsula Borough currently levies a 2% raw fish tax. The community may be eligible for state revenue sharing to help support village facilities and services.

### 3.5 CONSTRUCTION MATERIAL SOURCES

The sand and gravel sources near town have now been nearly expended. Construction of the second phase of High Ridge Road, will allow for the development of a new gravel source northeast of town.

### 3.6 Road Improvement List and Vehicle Inventory

**Table 3.1 – Road Improvement List**

The following list provides a summary of road improvement projects that the community indicates are priorities for completion. Approximately 4.3 miles of new roads are desired for the short term and improvements to about 6.2 miles of existing roads and trail upgrades of approximately 44.6 miles. The following list indicates short range (1-5 years), medium range (5-10 years) and long range (beyond 10 years) transportation road and boardwalk priorities for Igiugig.

Priority	Route #	Length	Section Name
Short (#1)	0160, Section 20	0.80	Float Plane Access Road, aka High Ridge Road Phase II
Short (#1)	0060, Section 10	3.5	Kaskanak Trail
Short	10	0.40	St. Nicholas Church Road
Medium	190	2.7	Iliamna Ridge Road
Medium	70	0.70	River Road
Medium	80	0.10	Andrews Drive
Medium	90	3.90	Pecks Creek Trail
Medium	100	0.30	Fish and Game Road
Medium	110	0.30	Campground Road
Medium	120	0.20	Fish Road
Medium	170	14.00	Kukaklek Lake Trail

Medium	20	0.30	Beach Access Road
Long	50	1.10	Kaskanak Road (Dump Road)
Long	130	0.70	South Airport Road
Long	140	0.30	Wassillie Road
Long	180	11.20	North side Trails
Long	40	15.50	Big Mountain Trail
Long	1	0.20	Unnamed Road
Long	2IGI	1.00	Unnamed Road
Long	3IGI	0.60	Unnamed Road
<b>Total</b>			<b>57.8 miles</b>

Note: The tribe retains the right to change the order of its route priorities if and when construction funds become available: dependent upon changed conditions, such as storm damage, project coordination etc.

**Table 3.2 – Vehicle Inventory (attached)**

Asset No.	Description	Year	Manufacturer Make/Model	VIN	License Plate	# Seats	Condition (Excellent, Good, Fair, Poor, Out of Service)	Odometer	Acquisition Date	Acquisition Cost	Useful Life	Accumulated Depr. 10/1/13	Current Year Depreciation	Accumulated Depr. 9/30/14	Current Value
1	Cargo Truck								6/20/02	6,000.00	5	6,000.00	-	6,000.00	-
2	1981 F250 Ford Truck						1 FAIR		9/25/81	13,393.00	5	13,393.00	-	13,393.00	-
3	John Deere 490C Crawler Dozer	1981	FORD / F260	1FTF2608RA4438					10/16/97	25,500.00	10	25,500.00	-	25,500.00	-
4	John Deere 9300 Back Hoe								10/29/97	9,500.00	10	9,500.00	-	9,500.00	(9,000)
21	Dump Truck								4/24/01	74,760.00	10	74,760.00	-	74,760.00	-
23	Woodchipper								9/25/01	14,730.00	7	14,730.00	-	14,730.00	(9,000)
24	Loader	1982	FORD / K386	1FDK386NCVA3299			2 FAIR		6/14/82	-	10	-	-	-	-
35	Welder	1967	GMAC /	EMS70DVC1972E			1 FAIR		1/1/96	10,000.00	7	10,000.00	-	10,000.00	-
39	Flatbed Barge								12/9/03	211,243.00	20	105,322.21	10,597.15	111,919.36	98,023.64
40	Truck Cargo								6/30/04	9,405.00	7	9,405.00	-	9,405.00	-
41	Trailer								5/10/04	6,058.00	7	6,058.00	-	6,058.00	(9,000)
42	Trailer								5/10/04	6,058.00	7	6,058.00	-	6,058.00	(9,000)
43	Truck Tractor								8/30/04	15,892.00	7	15,892.00	-	15,892.00	(9,000)
45	FE BS 356								12/10/04	7,800.00	7	7,800.00	-	7,800.00	-
46	Truck Dump								4/11/05	10,768.56	7	10,768.56	-	10,768.56	-
48	Roller								7/7/06	6,688.50	7	6,688.50	-	6,688.50	-
49	Truck Cargo								7/6/06	9,404.58	7	9,404.58	-	9,404.58	-
50	Truck Cargo								7/6/06	9,404.58	7	9,404.58	-	9,404.58	-
52	D4 Dozer	2008	AA / D4K LSP	CAT00046ARR00188		1	GOOD		4/7/08	101,120.00	10	54,773.33	10,112.00	64,885.33	36,234.67
53	Fuel Tanker	2000	TRAI	1H97235221107018		2	Good		1/14/09	59,671.33	7	39,780.89	8,524.48	48,305.36	11,365.97
54	Fuel Tanker	2000	TRAI	1H97235241107020		2	Good		1/14/09	59,671.33	7	39,780.89	8,524.48	48,305.36	11,365.97
55	Fuel Tanker	2000	KERS	1H97235241107020		2	Good		1/14/09	59,671.33	7	39,780.89	8,524.48	48,305.36	11,365.97
56	Mack Fuel Tanker Truck	1995	MACK /	1M2B112C1EA002730		2	FAIR		6/24/09	12,040.28	7	7,310.17	1,720.04	9,030.21	3,030.07
57	49' Landing Craft/Kestrel with Trailer								7/10/09	42,094.63	10	17,704.82	4,209.46	21,914.28	20,180.35
60	1999 Ford Snow Plow Truck								3/18/11	25,000.00	7	8,928.57	3,571.43	12,500.00	10,500.00
62	Landfill Portable Burn Unit								9/30/11	30,000.00	10	6,000.00	3,000.00	9,000.00	21,000.00
63	Shedover D9C								6/22/11	83,547.00	10	18,807.06	8,538.70	27,165.76	54,421.24
64	Fuel Truck Jeep Patriot								9/30/11	12,000.00	10	2,400.00	1,200.00	3,600.00	8,400.00
67	Medical Equipment for Clinic								3/1/12	204,808.00	10	32,427.93	20,480.80	52,908.73	151,899.27
68	Daihatsu Mini Truck	2009	DAHATSU / V-110P	S110P-060689		1	GOOD		7/2/12	12,782.97	10	1,597.87	1,278.30	2,876.17	9,906.80
69	Daihatsu Mini Truck #5	2009	DAHATSU / V-110P	S110P-054444		1	GOOD		7/2/12	12,782.97	10	1,597.87	1,278.30	2,876.17	9,906.80
70	Daihatsu Mini Truck #7	2009	DAHATSU / V-110P	S110P-095133		1	FAIR		7/2/12	12,782.96	10	1,597.87	1,278.30	2,876.17	9,906.79
71	VPSD Vehicle - Ford SUV								10/1/11	8,600.00	7	2,428.57	1,214.29	3,642.86	4,957.14
72	Fuel Tanker Truck Int 4700 - CWIP								9/28/13	69,895.02	7	416.04	9,985.00	10,401.04	59,493.98
73	Wind Turbines								10/1/13	80,000.00	20	-	4,000.00	4,000.00	76,000.00
74	Patient Transport Vehicle	2015	FORD F250	1FT7X2B60FEA24155		4	EXCELLENT		8/1/14	95,000.00	7	-	2,261.90	2,261.90	92,738.10
75	Fire Truck								8/1/14	32,000.00	7	-	761.90	761.90	31,238.10