

Geographical Facts About
FAIRBANKS, ALASKA



**Field Engineering
Corporation**

The Cover

**Members of the
Alaska Dog Musher
Association drive their
71-dog team down
Cushman Street to open
the annual "mushing"
season.**

GEOGRAPHICAL FACTS

ABOUT

FAIRBANKS, ALASKA

November 1972

Preface

This booklet was compiled to provide helpful information for personnel planning to reside in Fairbanks, Alaska. The information was obtained from Alaska Chamber of Commerce publications, travel brochures, newspaper articles, and personal experiences.

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USEFUL FACTS ABOUT FAIRBANKS, ALASKA

History of Alaska

Alaska had been populated for unknown centuries by Indians, Eskimos, and Aleuts before it was reached in 1741 by Russian explorers led by Vitus Bering, a Dane. Then, in 1867, Russia's Czar Alexander II sold Alaska to the U.S. for \$7,200,000.

On June 30, 1958, after decades of Alaskan effort, Congress approved legislation to promote the territory to a state. The act was signed by President Eisenhower on July 7 and ratified by Alaska's voters in November. On January 3, 1959, President Eisenhower officially proclaimed Alaska our 49th state.

Alaska's 1970 census totaled 302,173 people, a gain of more than 30 percent in 10 years. Now only about one-fifth of the population is made up of Indians, Eskimos, and Aleuts. Alaskans are younger than their fellow Americans, with a median age of 22.4 years.

Government of Alaska

Under the terms of the State Constitution adopted in 1956, Alaska's State Government is made up of the three traditional branches: executive, legislative, and judicial. With the exception of the legislature, the Governor and Lieutenant Governor are the only elected state officials. They serve for a term of 4 years, and are limited to two consecutive terms.


Official state designations include the following:

- State Tree - Sitka Spruce
- State Fish - King Salmon
- State Bird - Willow Ptarmigan
- State Flower - Forget-Me-Not
- State Song - "Alaska's Flag"
- State Mineral - Gold
- State Gem - Jade


Geography of Alaska and Fairbanks

Alaska is as large as Texas, California, and Montana combined, a total of 586,400 square miles, with 33,904 miles of coastline - more than all of the other coastal states combined.


The state is divided into six distinct regions:




Southeastern: This is the Alaska Panhandle, considered by many to be the most beautiful part of the state. It's a region of fjords, glaciers, mountains and dense forests. Fishing and lumbering are the primary industries and the Native people are Indian. The climate is moderate.




Southcentral: More than half the population of Alaska lives in this region south of the Alaska Range. Anchorage, the state's largest city and center of commerce and trade, is located here. The Kenai Peninsula is a major outdoor recreation area as well as an important oil producing region.




Southwestern: The Alaska Peninsula extends 550 miles into the Pacific and the Aleutian Chain stretches another 1500 miles toward Siberia. This region also includes Kodiak Island, center of the king crab fishing industry. The Aleutians were first explored by the Russians. There are 24 active volcanoes throughout the chain. The Native people are Aleut.



Interior: Rolling lowlands are bordered by the Brooks Range to the north and the Alaska Range to the south. The Yukon River meanders through the Interior and caribou herds winter-over throughout the region. Fairbanks is the principal city and the University of Alaska is located just outside of town. The Native people are primarily Indian.



Western: Delta land formed by the confluence of two great rivers, the Yukon and the Kuskokwim—one of the largest waterfowl nesting areas in the world. Scores of tiny Eskimo villages dot the region and the primary industry is salmon fishing. The villagers of the western coast maintain many of the traditions of their ancestors.



Arctic: Treeless tundra underlain by continuous permafrost. It stretches for 700 miles from the Bering Sea to the Canadian Border. Average temperatures range from 18 below zero in the winter to 40 above in the summer. This is the region where major oil discoveries have been made. Two large caribou herds totaling about 400,000 animals roam throughout the region each summer, most of them migrating south in the early fall. The people of the Arctic are Eskimo.

The city of Fairbanks has been called the "gateway to Alaska's arctic" and the "golden heart city of the great Alaskan interior."

Because of its latitude, the days and nights in Fairbanks can be either very short or very long. On the longest day of the year, June 21, the sun is below the horizon only from 10:48 p.m. until 12:59 a.m. On the shortest day of the year, December 21, it is dark from 1:41 p.m. to 9:59 a.m.

Fairbanks lies between two mountain ranges, the White Mountains to the north and the Alaska Range to the south.

Climate of Fairbanks

Fairbanks lies in the Tanana River Valley, on the banks of the Chena River. It has a continental climate, with temperatures often ranging above 80° F in the summer and below -50° F in the winter. Wind is minimal.

The annual average mean temperature in Fairbanks is 26.2° F with an annual average mean precipitation of 11.92 inches. The average temperature during the summer months is 64° F with an average of -7° F during the winter months. The average annual snowfall is 50 inches.

Transportation to Fairbanks

Fairbanks, the second largest city in Alaska, is accessible by all modern means of transportation.

- By air from Seattle via Alaskan Airlines or Pan American World Airways
- By rail from Seward or Anchorage via Alaskan Railroad
- By bus from Anchorage via Alaskan Coachways
- By bus during summer from Whitehorse in Yukon Territory via Alaskan Coachways or Alaska Hyway Tours, and from Seattle via Alaska Hyway Tours.
- By private car through Canada to Dawson Creek, in British Columbia, and then via Alaska Highway, or via the Alaska ferry system land/sea route.

Fairbanks has three information centers to assist travelers:

- Richardson Highway - on the road into Fairbanks
- First at Cushman - in the heart of the city
- Alaskaland Exposition - where the action is

For assistance in planning your trip, contact your local travel agent or write to:

Greater Fairbanks Chamber of Commerce
550 First Avenue
Fairbanks, Alaska 99701

For those planning to travel to Fairbanks by car, an auto/liner ferry service is available. Its schedule from December 1972 through March 1973 is provided here. For reservations or information, telephone 206-623-1970 or write to:

Alaska Marine Highways System
Pier 48
Seattle, Washington 98104

Some have found it advantageous to drive their cars to Seattle, where they can be shipped to Fairbanks at an average cost of \$285.00 via Gil's Auto Transport, 17430 Pacific Highway (just across from the airport). The individual then flies from Seattle to Fairbanks and can expect to see his car within 5 to 10 days, receiving confirmation from Hill's Transport Fairbanks, telephone 456-4968.

Churches and Fraternal Organizations

In the city and surrounding area, churches of most faiths can be found. There is a United Fund which supports several social agencies and there are more than 200 service and fraternal organizations.

Medical

Fairbanks has more than adequate medical facilities, well equipped, and well staffed with trained nurses and doctors.

ALASKA MARINE HIGHWAY SYSTEM

DECEMBER 1972

POUCH R
JUNEAU, ALASKA 99801

DECEMBER 1972

LOCAL TIME

NORTHBOUND

SOUTHBOUND

DATE	SEA TLE	PRINCE RUPERT	KETCH IKAN	WRANG ELL	PETERS BURG	SITKA	JUNEAU CITY	JUNEAU AUKE B	HAINES	SKAG WAY	DATE	SKAG WAY	HAINES	JUNEAU AUKE B	JUNEAU CITY	SITKA	PETERS BURG	WRANG ELL	KETCH IKAN	PRINCE RUPERT	SEA TLE	DATE
	LV	LV	LV	LV	LV	ARR	LV	LV	LV	ARR		LV	LV	LV	LV	ARR	LV	LV	LV	ARR	ARR	
FRI 1	5:00P	10:00A	9:00P								FRI 1	8:45A	10:15A				11:00P				8:00A	FRI 1
SAT 2				3:30A	7:00A	5:30P					SAT 2							2:00A	7:30A		6:30P	SAT 2
SUN 3			12:30P	7:00P	10:30P			7:00A	12:15P	1:15P	SUN 3	2:15P	4:15P		11:45P							SUN 3
MON 4							7:00A		1:45P	2:45P	MON 4	6:30P	9:45P				7:15A	10:45A	5:45P	11:45P		MON 4
TUE 5	10:00A	9:00A	4:00P	10:30P							TUE 5			3:45A		1:00P						TUE 5
WED 6			9:30P		2:00A		10:30A		5:15P	6:15P	WED 6	10:00P	11:55P				3:00A	6:30A	1:30P			WED 6
THU 7				2:30A	5:30A	2:00P					THU 7				7:30A		3:00P	6:30P				THU 7
FRI 8	5:00P	10:00A	7:00P					3:00A	7:30A	8:30A	FRI 8	8:45A	10:15A		4:45P		11:00P		1:00A	7:00A	8:00A	FRI 8
SAT 9				1:30A	5:00A	3:15P					SAT 9							2:00A	7:30A			SAT 9
SUN 10			11:15A	5:45P	9:15P			5:00A	10:15A	11:15A	SUN 10	12:15P	2:15P		9:45P						6:30P	SUN 10
MON 11							6:15A		1:00P	2:00P	MON 11	6:00P	8:00P				5:15A	8:45A	3:45P	9:45P		MON 11
TUE 12	10:00A	9:00A	4:00P	10:30P							TUE 12			2:15A		11:30A						TUE 12
WED 13			9:30P		2:00A		10:30A		5:15P	6:15P	WED 13	10:00P	11:55P				1:00A	4:30A	11:30A			WED 13
THU 14				2:30A	5:30A	2:00P					THU 14				7:30A		3:00P	6:30P				THU 14
FRI 15	5:00P	10:00A	7:30P					3:00A	7:30A	8:30A	FRI 15	8:45A	10:15A		4:45P		11:00P		1:30A	7:30A	8:00A	FRI 15
SAT 16				2:00A	5:30A	4:00P					SAT 16							2:00A	7:30A			SAT 16
SUN 17			11:45A	6:15P	9:45P			5:45A	11:00A	11:55A	SUN 17	1:00P	3:00P		10:30P			6:00A	9:30A	4:30P	10:30P	SUN 17
MON 18							6:15A		1:00P	2:00P	MON 18	6:45P	8:45P				6:00A	9:30A	4:30P	10:30P		MON 18
TUE 19	10:00A	8:15A	3:15P	9:45P							TUE 19			3:00A		11:55A						TUE 19
WED 20			9:30P		1:15A		9:45A		4:30P	5:30P	WED 20	10:00P	11:55P				2:15A	5:45A	12:45P			WED 20
THU 21				2:30A	5:30A	2:00P					THU 21				7:30A		3:00P	6:30P				THU 21
FRI 22	5:00P	10:00A	7:00P					3:00A	7:30A	8:30A	FRI 22	8:45A	10:15A		4:45P		11:00P		1:30A	7:30A	8:00A	FRI 22
SAT 23				1:30A	5:00A	3:30P					SAT 23							2:00A	7:30A			SAT 23
SUN 24			11:00A	5:30P	9:00P			5:30A	10:45A	11:45A	SUN 24	1:00P	3:00P		10:30P			6:00A	9:30A	4:30P	10:30P	SUN 24
MON 25							6:15A		1:00P	2:00P	MON 25	6:45P	8:45P				6:00A	9:30A	4:30P	10:30P		MON 25
TUE 26	10:00A	10:00A	5:00P	11:30P							TUE 26			3:00A		11:55A						TUE 26
WED 27			9:30P		3:00A		11:30A		6:15P	7:15P	WED 27	10:00P	11:55P				1:45A	5:15A	12:15P			WED 27
THU 28				2:30A	5:30A	2:00P					THU 28				7:30A		3:00P	6:30P				THU 28
FRI 29	5:00P	10:00A	7:30P					3:00A	7:30A	8:30A	FRI 29	8:45A	10:15A		4:45P		11:00P		1:30A	7:30A	8:00A	FRI 29
SAT 30				2:00A	5:30A	4:00P					SAT 30							2:00A	7:30A			SAT 30
SUN 31			11:45A	6:15P	9:45P			6:00A	11:15A	12:15P	SUN 31	1:00P	3:00P		10:30P						6:30P	SUN 31

Read schedules left to right and follow the offset line. A drop in the line indicates a date change.

FOR RESERVATIONS AND INFORMATION:

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ALASKA MARINE HIGHWAY SYSTEM
Pouch "R"
Juneau, Alaska 99801

ALASKA MARINE HIGHWAY SYSTEM
Pier 48
Seattle, Washington 98104

The M/V WICKERSHAM schedule is indicated by HEAVY UNDERLINE.

Telephone: 586-3405

OR

Telephone: MA 3-1970

RESERVED VEHICLES check-in time is as follows: Seattle 3 HRS; Prince Rupert 2 HRS; Ketchikan 1 HR; Wrangell 1 HR; Petersburg 1 HR; Sitka 1 HR; Juneau 1 HR; Haines 2 HRS; Skagway 1 HR.

Telex: 45-312

Telex: 32-288

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POUCH R

JUNEAU, ALASKA 99801

JANUARY 1973

LOCAL TIME

JANUARY 1973

NORTHBOUND

SOUTHBOUND

DATE	SEA TITL	PRINCE RUPERT	KETCH IKAN	WRANG ELL	PETERS BURG	SITKA	JUNEAU CITY	JUNEAU AUKE B	HAINES	SKAG WAY	DATE	SKAG WAY	HAINES	JUNEAU AUKE B	JUNEAU CITY	SITKA	PETERS BURG	WRANG ELL	KETCH IKAN	PRINCE RUPERT	SEA TITL	DATE
	LV	LV	LV	LV	LV	ARR	LV	LV	LV	ARR		LV	LV	LV	LV	ARR	LV	LV	LV	ARR	ARR	
MON 1							6:15A		1:00P	2:00P	MON 1	6:45P	8:45P									MON 1
TUE 2	11:00P	10:00A	5:00P	11:30P			11:30A		6:15P	7:15P	TUE 2			3:00A		11:55A	2:00A	5:30A	12:30P			TUE 2
WED 3					3:00A						WED 3	10:00P	11:55P		7:30A		3:00P	6:30P				WED 3
THU 4			3:00P	8:45P	11:30P						THU 4								1:30A	7:30A	8:00A	THU 4
FRI 5	5:00P	10:00A	6:00P			8:00A		6:30P	11:00P	11:55P	FRI 5				8:00A		2:15P	5:15P	10:45P			FRI 5
SAT 6				12:30A	4:00A	2:30P					SAT 6	12:15A	1:45A									SAT 6
SUN 7			3:30P	10:00P				4:30A	9:45A	10:45A	SUN 7	11:45A	1:45P		9:15P		4:45A	8:15A	3:15P	9:15P	10:00A	SUN 7
MON 8					1:30A		10:00A		4:45P	5:45P	MON 8	11:00P										MON 8
TUE 9	11:00P	9:00A	4:00P	10:30P							TUE 9		1:00A	7:00A		4:15P						TUE 9
WED 10					2:00A		10:30A		5:15P	6:15P	WED 10	10:00P	11:55P				6:00A	9:30A	4:30P			WED 10
THU 11			11:00A	4:30P	7:30P						THU 11				7:30A		3:00P	6:30P				THU 11
FRI 12	5:00P	10:00A	6:00P			6:30A		6:30P	11:00P	11:55P	FRI 12								1:30A	7:30A	9:30A	FRI 12
SAT 13				12:30A	4:00A	2:15P					SAT 13	12:15A	1:45A		8:00A		2:15P	5:15P	10:45P			SAT 13
SUN 14			11:45A	6:15P	9:45P			4:00A	9:15A	10:15A	SUN 14	11:15A	1:15P		8:45P							SUN 14
MON 15							6:15A		1:00P	2:00P	MON 15	6:00P	8:00P				4:15A	7:45A	2:45P	8:45P	10:00A	MON 15
TUE 16	11:00P	9:00A	4:00P	10:30P							TUE 16			2:00A		11:00A						TUE 16
WED 17					2:00A		10:30A		5:15P	6:15P	WED 17	10:00P	11:55P				1:00A	4:30A	11:30A			WED 17
THU 18			3:00P	8:45P	11:30P						THU 18				7:30A		3:00P	6:30P				THU 18
FRI 19	5:00P	10:00A	6:00P			8:00A		6:30P	11:00P	11:55P	FRI 19								1:30A	7:30A	8:00A	FRI 19
SAT 20				12:30A	4:00A	2:30P					SAT 20	12:15A	1:45A		8:00A		2:15P	5:15P	10:45P			SAT 20
SUN 21			3:30P	10:15P				4:30A	9:45A	10:45A	SUN 21	11:45A	1:45P		9:15P							SUN 21
MON 22					1:45A		10:15A		5:00P	6:00P	MON 22	11:30P					4:45A	8:15A	3:15P	9:15P	10:00A	MON 22
TUE 23	11:00P	9:00A	4:00P	10:30P							TUE 23		1:30A	7:30A		4:45P						TUE 23
WED 24					2:00A		10:30A		5:15P	6:15P	WED 24	10:00P	11:55P				6:30A	10:00A	5:00P			WED 24
THU 25			11:00A	4:30P	7:30P						THU 25				7:30A		3:00P	6:30P				THU 25
FRI 26	5:00P	10:00A	6:00P			6:30A		6:30P	11:00P	11:55P	FRI 26								1:30A	7:30A	10:00A	FRI 26
SAT 27				12:30A	4:00A	2:45P					SAT 27	12:15A	1:45A		8:00A		2:15P	5:15P	10:45P			SAT 27
SUN 28			11:45A	6:15P	9:45P			4:00A	9:15A	10:15A	SUN 28	11:15A	1:15P		8:45P							SUN 28
MON 29							6:15A		1:00P	2:00P	MON 29	5:30P	7:30P				4:15A	7:45A	2:45P	8:45P	10:00A	MON 29
TUE 30	11:00P	9:00A	4:00P	10:30P							TUE 30			1:30A		10:45A						TUE 30
WED 31					2:00A		10:30A		5:15P	6:15P	WED 31	10:00P	11:55P				12:45A	4:15A	11:15A			WED 31

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THU 1	LV	LV	2:00P	7:30P	10:30P						THU 1				7:30A		3:00P	6:30P			8:00A	THU 1
FRI 2	5:00P	10:00A	5:00P	11:45P		7:00A		6:30P	11:00P	11:55P	FRI 2				8:00A		2:15P	5:15P	10:45P			FRI 2
SAT 3			2:00P	8:45P		3:15A		3:30A	8:45A	9:45A	SAT 3	12:15A	1:45A		8:00A		2:15P	5:15P	10:45P			SAT 3
SUN 4			2:00P	8:45P				3:30A	8:45A	9:45A	SUN 4	10:45A	12:45P		8:15P		3:45A	7:15A	2:15P	8:15P	10:00A	SUN 4
MON 5					12:15A		8:45A		3:30P	4:30P	MON 5	10:00P	11:55P			6:00A		3:45A	7:15A	2:15P	8:15P	10:00A
TUE 6	11:00P	9:00A	4:00P	10:30P							TUE 6						5:00A	8:30A	3:30P			TUE 6
WED 7					2:00A		10:30A		5:15P	6:15P	WED 7	9:00P	11:00P				5:00A	8:30A	3:30P			WED 7
THU 8			11:00A	4:30P	7:30P						THU 8				6:30A		2:00P	5:30P				THU 8
FRI 9	5:00P	9:00A	4:00P	10:45P		5:00A		6:30P	11:00P	11:55P	FRI 9						2:00P	5:30P	12:30A	6:30A	8:00A	FRI 9
SAT 10					2:15A	12:30P		2:30A	7:45A	8:45A	SAT 10	12:15A	1:45A		8:00A		2:15P	5:15P	10:45P			SAT 10
SUN 11			11:45A	6:15P	9:45P			2:30A	7:45A	8:45A	SUN 11	10:45A	12:45P		8:15P		3:45A	7:15A	2:15P	8:15P	10:00A	SUN 11
MON 12							6:15A		1:00P	2:00P	MON 12	4:45P	6:45P			12:45A		3:45A	7:15A	2:15P	8:15P	10:00A
TUE 13	11:00P	9:00A	4:00P	10:30P							TUE 13						9:45A	11:55P				TUE 13
WED 14					2:00A		10:30A		5:15P	6:15P	WED 14	9:00P	11:00P				2:00P	5:30P	3:30A	10:30A		WED 14
THU 15			2:00P	7:30P	10:30P						THU 15				6:30A		2:00P	5:30P				THU 15
FRI 16	5:00P	10:00A	5:00P	11:45P		6:30A		6:30P	11:00P	11:55P	FRI 16						2:15P	5:15P	10:45P			FRI 16
SAT 17					3:15A	1:30P		3:30A	8:45A	9:45A	SAT 17	12:15A	1:45A		8:00A		2:15P	5:15P	10:45P			SAT 17
SUN 18			3:00P	9:30P				3:30A	8:45A	9:45A	SUN 18	10:45A	12:45P		8:15P		3:45A	7:15A	2:15P	8:15P	10:00A	SUN 18
MON 19					1:00A		9:00A		4:15P	5:15P	MON 19	10:00P	11:55P			6:00A		3:45A	7:15A	2:15P	8:15P	10:00A
TUE 20	11:00P	9:00A	4:00P	10:30P							TUE 20	9:00P	11:00P				5:00A	8:30A	3:30P			TUE 20
WED 21					2:00A		10:30A		5:15P	6:15P	WED 21	9:00P	11:00P				2:00P	5:30P				WED 21
THU 22			11:00A	4:30P	7:30P						THU 22				6:30A		2:00P	5:30P	12:30A	6:30A	8:00A	THU 22
FRI 23	5:00P	9:00A	4:00P	10:45P		5:00A		6:30P	11:00P	11:55P	FRI 23						2:15P	5:15P	10:45P			FRI 23
SAT 24					2:15A	12:15P		2:00A	7:15A	8:15A	SAT 24	12:15A	1:45A		8:00A		2:15P	5:15P	10:45P			SAT 24
SUN 25			11:45A	6:15P	9:45P			2:00A	7:15A	8:15A	SUN 25	9:15A	11:15A		6:45P		2:15A	5:45A	12:45P	6:45P	10:00A	SUN 25
MON 26							6:15A		1:00P	2:00P	MON 26	4:45P	6:45P			12:15A		9:15A	11:30P			MON 26
TUE 27	11:00P	9:00A	4:00P	10:30P							TUE 27						9:15A	11:30P	3:00A	10:00A		TUE 27
WED 28					2:00A		10:30A		5:15P	6:15P	WED 28	9:00P	11:00P									WED 28

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ALASKA MARINE HIGHWAY SYSTEM
Pouch "R"
Juneau, Alaska 99801
Telephone: 586-3405
Telex: 45-312

ALASKA MARINE HIGHWAY SYSTEM
Pier 48
Seattle, Washington 98104
OR
Telephone: MA 3-1970
Telex: 32-288

PRINTED IN U.S.A.

ALASKA MARINE HIGHWAY SYSTEM
POUCH R
JUNEAU, ALASKA 99801

MARCH 1973

MARCH 1973

LOCAL TIME

NORTHBOUND

SOUTHBOUND

DATE	NORTHBOUND											DATE	SOUTHBOUND													
	SEA TITL	PRINCE RUPERT	KETCH IKAN	WRANG ELL	PETERS BURG	SITKA ARR	JUNEAU CITY	JUNEAU AUKE B	HAINES LV	SKAG WAY	ARR		SEA TITL	PRINCE RUPERT	KETCH IKAN	WRANG ELL	PETERS BURG	SITKA ARR	JUNEAU CITY	JUNEAU AUKE B	HAINES LV	SKAG WAY	ARR			
THU 1												THU 1											THU 1			
FRI 2	5:00P	9:00A	4:00P	10:45P	2:15A	12:30P	6:00A	6:30P	11:00P	11:55P	FRI 2											FRI 2				
SAT 3											SAT 3	12:15A	1:45A				8:00A		2:15P	5:15P	10:45P	SAT 3				
SUN 4			11:45A	6:15P	9:45P			2:30A	7:45A	8:45A	SUN 4	9:45A	11:45A	7:15P					2:45A	6:15A	1:15P	7:15P	SUN 4			
MON 5							6:15A		1:00P	2:00P	MON 5	9:00P	11:00P			5:00A		2:15P				10:00A	MON 5			
TUE 6	11:00P	9:00A	4:00P	10:30P							TUE 6												TUE 6			
WED 7					2:00A		10:30A		5:15P	6:15P	WED 7	9:00P	11:00P						4:00A	7:30A	2:30P		WED 7			
THU 8			11:00A	4:30P	7:15P						THU 8						6:30A		2:00P	5:30P			THU 8			
FRI 9	5:00P	7:45A	2:45P	9:15P	12:45A	11:00A	3:45A	6:30P	11:00P	11:55P	FRI 9											12:30A	6:30A	8:00A	FRI 9	
SAT 10											SAT 10	12:15A	1:45A				8:00A		2:15P	5:15P	10:45P		SAT 10			
SUN 11			11:45A	6:15P	9:45P			12:45A	6:00A	7:00A	SUN 11	8:00A	10:00A	5:30P					1:00A	4:30A	11:30A	5:30P	10:00A	SUN 11		
MON 12							6:15A		1:00P	2:00P	MON 12	9:00P	11:30P			5:45A		3:00P						10:00A	MON 12	
TUE 13	11:00P	9:00A	4:00P	10:30P							TUE 13														TUE 13	
WED 14					2:00A		10:30A		5:15P	6:15P	WED 14	9:00P	11:00P						5:00A	8:30A	3:30P				WED 14	
THU 15			1:00P	6:30P	9:15P						THU 15						6:30A		2:00P	5:30P					THU 15	
FRI 16	5:00P	9:00A	4:00P	10:45P	2:15A	12:30P	5:30A	6:30P	11:00P	11:55P	FRI 16											12:30A	6:30A	8:00A	FRI 16	
SAT 17											SAT 17	12:15A	1:45A				8:00A		2:15P	5:15P	10:45P		SAT 17			
SUN 18			1:30P	7:30P	11:00P			2:30A	7:45A	8:45A	SUN 18	9:45A	11:45A	7:15P					2:45A	6:15A	1:15P	7:15P	10:00A	SUN 18		
MON 19							7:30A		2:15P	3:15P	MON 19	9:00P	11:00P			5:00A		2:30P							10:00A	MON 19
TUE 20	11:00P	9:00A	4:00P	10:30P							TUE 20															TUE 20
WED 21					2:00A		10:30A		5:15P	6:15P	WED 21	9:00P	11:00P						4:00A	7:30A	2:30P				WED 21	
THU 22			11:00A	4:30P	7:15P						THU 22															THU 22
FRI 23	5:00P	10:00A	8:30P				3:30A	6:30P	11:00P	11:55P	FRI 23											12:30A	6:30A	8:00A	FRI 23	
SAT 24					3:00A	6:30A	4:45P				SAT 24	12:15A	1:45A				8:00A		2:15P	5:15P	10:45P		SAT 24			
SUN 25			11:45A	6:15P	9:45P			6:30A	11:45A	12:45P	SUN 25	1:45P	3:45P	11:15P					6:45A	10:15A	5:15P	11:15P	10:00A	SUN 25		
MON 26							6:15A		1:00P	2:00P	MON 26	8:45P	10:45P			4:45A		1:45P							10:00A	MON 26
TUE 27	11:00P	9:00A	4:00P	10:30P							TUE 27															TUE 27
WED 28					2:00A		10:30A		5:15P	6:15P	WED 28	9:00P	11:00P						3:45A	7:15A	2:15P				WED 28	
THU 29			11:00A	4:30P	7:15P						THU 29						6:30A		2:00P	5:30P					THU 29	
FRI 30	5:00P	10:00A	3:15P	9:45P	1:15A	11:30A	4:30A	6:30P	11:00P	11:55P	FRI 30											12:30A	6:30A	8:00A	FRI 30	
SAT 31											SAT 31	12:15A	1:45A				8:00A		2:15P	5:15P	10:45P		SAT 31			

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Pouch "R"
Juneau, Alaska 99801

ALASKA MARINE HIGHWAY SYSTEM
Pier 48
Seattle, Washington 98104

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Telephone: 586-3405

Telephone: MA 3-1970

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Telex: 45-312

Telex: 32-288

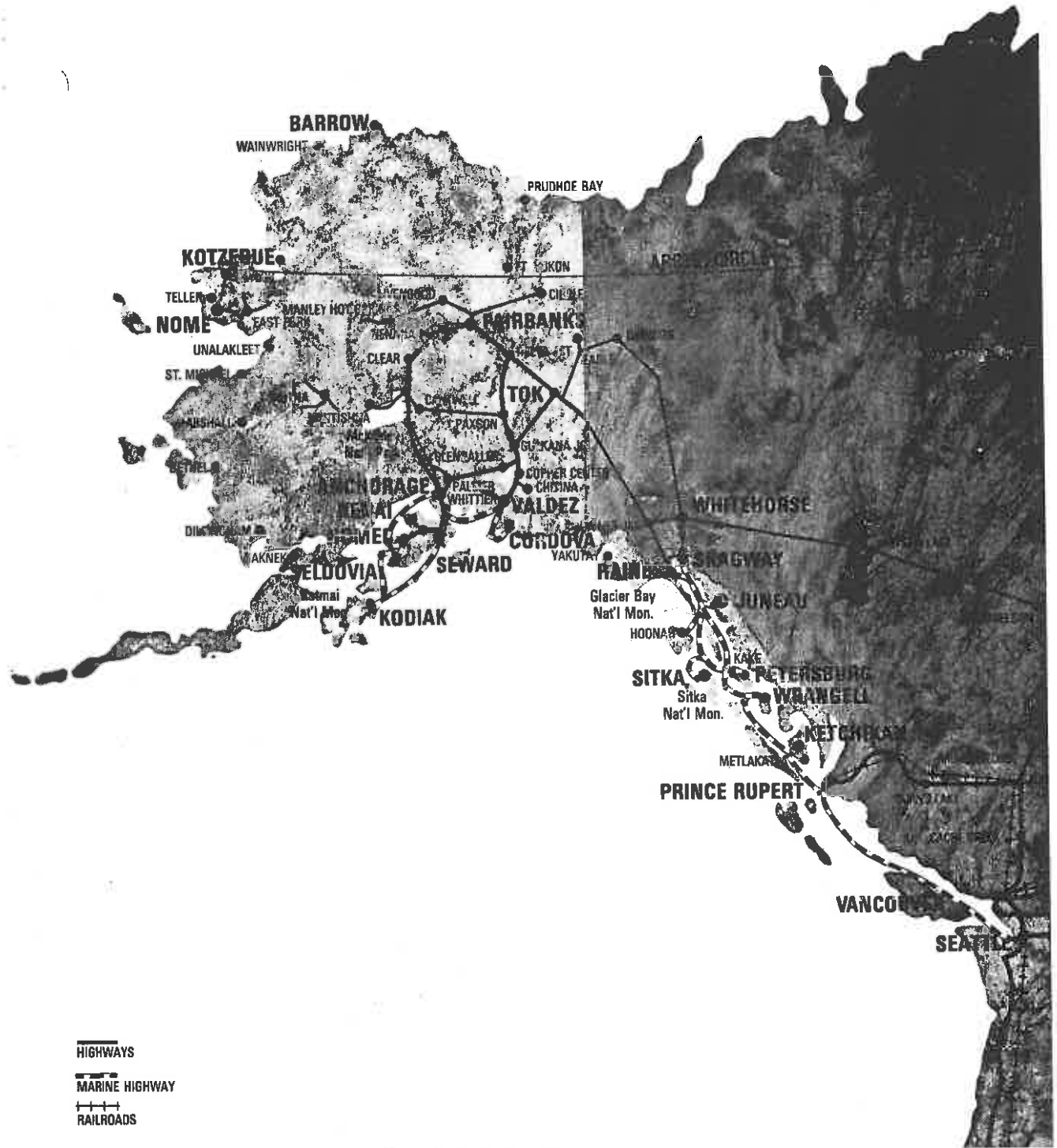
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PRINTED IN U.S.A.

PASSENGER AND VEHICLE TARIFF EFFECTIVE OCTOBER 1, 1972 THROUGH MARCH 31, 1973

BETWEEN	Sea Ctlic	Prince Rupert	Ketch ikan	Wrang ell	Peters burg	Juneau	Haines	Skag way	BETWEEN &	Sea Ctlic	Prince Rupert	Ketch ikan	Wrang ell	Peters burg	Juneau	Haines	Skag way
ITEM 500: Passenger * (See note 1)									ITEM 525: VEHICLES 36 TO AND INCLUDING 40 FEET * (See notes 1 and 2)								
Prince Rupert	40.00								Prince Rupert	456.00							
Ketchikan	44.00	9.00							Ketchikan	506.00	71.00						
Wrangell	49.00	17.50	8.50						Wrangell	563.00	134.00	69.00					
Petersburg	51.00	22.00	15.00	4.50					Petersburg	587.00	262.00	185.00	125.00	95.00			
Juneau	57.00	33.00	24.00	15.50	11.00				Juneau	661.00	287.00	231.00	174.00	146.00	56.00		
Haines	61.00	40.00	31.00	22.50	18.00	7.00			Haines	706.00	287.00	231.00	174.00	146.00	56.00		
Skagway	62.00	42.00	33.00	24.50	20.00	9.00	2.00		Skagway	714.00	295.00	239.00	183.00	156.00	66.00	13.00	
Sitka	57.00	33.00	24.00	15.50	11.00	11.00	18.00	20.00	Sitka	661.00	242.00	185.00	125.00	95.00	95.00	146.00	156.00
Children 12 and over will be full fares. Children 6 to 12 will be half fares. Children under 6 will be carried free.									ITEM 526: VEHICLES 41 TO AND INCLUDING 45 FEET								
ITEM 510: VEHICLES TO AND INCLUDING 20 FEET AND 6' 5" OR LESS IN HEIGHT * (See notes 1 and 2)									ITEM 527: VEHICLES 46 TO AND INCLUDING 50 FEET								
Prince Rupert	146.00								Prince Rupert	495.00							
Ketchikan	164.00	31.00							Ketchikan	553.00	78.00						
Wrangell	182.00	56.00	30.00						Wrangell	612.00	147.00	76.00					
Petersburg	188.00	67.00	42.00	14.00					Petersburg	637.00	178.00	108.00	36.00				
Juneau	212.00	98.00	74.00	52.00	40.00				Juneau	719.00	266.00	202.00	136.00	104.00			
Haines	226.00	114.00	92.00	70.00	60.00	24.00			Haines	766.00	315.00	253.00	191.00	160.00	62.00		
Skagway	230.00	118.00	96.00	74.00	64.00	29.00	8.00		Skagway	775.00	324.00	262.00	201.00	171.00	73.00	14.00	
Sitka	212.00	98.00	74.00	52.00	40.00	40.00	60.00	64.00	Sitka	719.00	266.00	202.00	136.00	104.00	104.00	160.00	171.00
ITEM 515: VEHICLES TO AND INCLUDING 20 FEET AND 6' 6" OR OVER IN HEIGHT * (See notes 1 and 2)									ITEM 528: VEHICLES 51 TO AND INCLUDING 55 FEET								
Prince Rupert	171.00								Prince Rupert	532.00							
Ketchikan	189.00	36.00							Ketchikan	594.00	84.00						
Wrangell	209.00	66.00	35.00						Wrangell	658.00	158.00	82.00					
Petersburg	217.00	79.00	49.00	17.00					Petersburg	685.00	191.00	116.00	39.00				
Juneau	243.00	114.00	88.00	61.00	47.00				Juneau	774.00	285.00	217.00	146.00	111.00			
Haines	258.00	133.00	109.00	83.00	70.00	28.00			Haines	825.00	338.00	271.00	204.00	172.00	67.00		
Skagway	262.00	137.00	113.00	88.00	75.00	34.00	9.00		Skagway	835.00	348.00	281.00	215.00	184.00	79.00	15.00	
Sitka	243.00	114.00	88.00	61.00	47.00	47.00	70.00	75.00	Sitka	774.00	285.00	217.00	146.00	111.00	111.00	172.00	184.00
ITEM 516: VEHICLES 21 TO AND INCLUDING 25 FEET * (See notes 1 and 2)									ITEM 530: VEHICLES 56 TO AND INCLUDING 60 FEET								
Prince Rupert	274.00								Prince Rupert	607.00							
Ketchikan	302.00	44.00							Ketchikan	669.00	94.00						
Wrangell	335.00	82.00	43.00						Wrangell	742.00	178.00	92.00					
Petersburg	349.00	99.00	61.00	21.00					Petersburg	772.00	215.00	130.00	44.00				
Juneau	393.00	142.00	110.00	76.00	59.00				Juneau	873.00	321.00	244.00	165.00	125.00			
Haines	419.00	166.00	136.00	103.00	87.00	34.00			Haines	929.00	380.00	305.00	230.00	193.00	75.00		
Skagway	423.00	171.00	141.00	109.00	93.00	41.00	10.00		Skagway	941.00	392.00	317.00	243.00	207.00	89.00	17.00	
Sitka	393.00	142.00	110.00	76.00	59.00	59.00	87.00	93.00	Sitka	873.00	321.00	244.00	165.00	125.00	125.00	193.00	207.00
ITEM 520: VEHICLES 26 TO AND INCLUDING 30 FEET * (See notes 1 and 2)									ITEM 535: MOTORCYCLES AND MOTORSCOOTERS (See notes 1 and 2)								
Prince Rupert	340.00								Prince Rupert	29.00							
Ketchikan	373.00	53.00							Ketchikan	32.00	6.00						
Wrangell	414.00	100.00	51.00						Wrangell	36.00	13.00	6.00					
Petersburg	434.00	121.00	73.00	25.00					Petersburg	37.00	13.00	8.00	3.00				
Juneau	489.00	178.00	136.00	92.00	70.00				Juneau	40.00	18.00	14.00	10.00	8.00			
Haines	522.00	210.00	170.00	128.00	108.00	41.00			Haines	44.00	22.00	18.00	14.00	12.00	5.00		
Skagway	527.00	216.00	176.00	135.00	115.00	49.00	11.00		Skagway	45.00	23.00	19.00	15.00	13.00	6.00	2.00	
Sitka	489.00	178.00	136.00	92.00	70.00	70.00	108.00	115.00	Sitka	40.00	18.00	14.00	10.00	8.00	8.00	12.00	13.00
ITEM 521: VEHICLES 31 TO AND INCLUDING 35 FEET * (See notes 1 and 2)																	
Prince Rupert	400.00																
Ketchikan	443.00	62.00															
Wrangell	492.00	119.00	60.00														
Petersburg	514.00	143.00	87.00	29.00													
Juneau	582.00	214.00	162.00	109.00	83.00												
Haines	622.00	255.00	204.00	152.00	128.00	49.00											
Skagway	629.00	262.00	211.00	160.00	137.00	58.00	12.00										
Sitka	582.00	214.00	162.00	109.00	83.00	83.00	128.00	137.00									



Traveling Guide

Education

Educational facilities, comparable or superior to stateside schools are available in all major communities, and include kindergarten through high school. Nationally, Alaska ranks first in grade level achievement and second in expenditure per pupil, according to the Alaska State Department of Education, Pouch F, Juneau, Alaska 99801. There are 14 schools in the district -- 10 elementary schools, 3 junior high schools and 1 high school, plus a special education center. A Catholic elementary and high school are also available to serve the Catholic youth. Kindergartens are provided with half-day sessions. Summer courses are voluntary and self-supported. Vocational training is available in many fields. The University of Alaska, an accredited college, is situated about 4 miles from Fairbanks.

Recreation

The Fairbanks Daily News-Miner may be subscribed to at 200 N. Cushman, Fairbanks, Alaska 99701 for \$3.25 per month while residing in Alaska or \$4.00 for U.S. residents.

There are three TV stations, three AM radio stations, and an FM station at the University of Alaska. Fairbanks receives national television scheduling on a delay basis, while national radio coverage is live.

For hunting or fishing around Fairbanks, a license is required. One year of residence is required before one can purchase a resident license - \$12.00 for hunting and fishing combined. A non-resident hunting license costs \$10.00, a fishing license \$10.00

Taxes

Taxes on real property are based on its full and true value for the calendar year. (Mobile homes are counted as real property.) The millage levy for the City of Fairbanks is 10; for the Fairbanks North Star Borough, 5. At present, personal property is not taxed by the city or borough. Other taxes include the State of Alaska Income Tax, which is approximately 20.5

percent of the current federal tax rate, a city sales tax of 3 percent, and a borough sales tax of 2 percent.

Relocation Costs

For Bendix employees and dependents preparing for this assignment, it is imperative that they understand the costs involved in relocating during the worst possible period. Home owners and apartment landlords alike are very conscious of the need for shelter and of the continuous stream of people coming and going. Past experience dictates a bad taste for the large turn-over of people of every profession, coupled with the high cost of cleaning apartments, repairing damages, etc. To the owners, this more than justifies the high cleaning deposits requested. Lack of experience with the environment and local market conditions will add to some unnecessary expenditures.

While there are homes available for purchase, most employees will be renters during their first assignment. A three bedroom house of 5-year vintage has a cost range of \$40,000 - \$50,000. In most cases, the first and last month rent is required in advance. The cleaning deposit is based upon the size and quality of living quarters. A 200- dollar deposit is average for a two or three bedroom house. As noted, there are exceptions to the above cost in apartment renting.

The Fairbanks Daily News - Miner has advertised a number of furnished and unfurnished apartments which at first glance seem more reasonable than prices quoted in this report. However, a furnished one or two bedroom house or apartment could easily jump \$135.00 per month extra when utilities are considered. Distance from the city is of special significance in relation to fuel and power costs. Any house that is decided upon can be checked through the utility company serving the area for the exact past cost. Unfurnished apartments rent for approximately \$65.00 off the furnished price. Availability of housing of any type is a premium.

The remoteness of Fairbanks, located 1500 air miles north of Seattle, Washington, reflects another consideration in that the effects of transportation costs are reflected in all consumer goods.

Telephone deposits anywhere from \$20 to \$200 can be expected, depending upon the individual credit rating. This does not include installation costs. If no rating is available, then \$70.00 is usually required. Most major stores in Fairbanks belong to the Interior Credit Bureau Association; and, before credit of any type is extended, a thorough check is required, usually 2 or 3 weeks. Time is negligible if the employee can provide proof of his rating from the "Lower 48".

Clothing and household fixtures can be purchased at Penney's Department Store at reasonable cost. Winter clothing, however, is expensive when adequately preparing for subzero temperatures. This point cannot be over-emphasized. Employees and their families arriving during December and the winter months in general should above all else read the information provided and prepare themselves accordingly, especially where small children are concerned.

A valid driver's license in Alaska exempts the individual from the actual driver's test, but not the written portion. A 90-day limit is imposed for transferring to the Alaska State License. The costs are \$5.00 for the license fee and \$30.00 for auto plates.

Apartments

The following apartments have been contacted for price comparison as well as availability:

1. The Northward Building Apartments: Located in town; contains 200 furnished and unfurnished units. The main floor is equipped with a shoe store, bank, drug store, coffee shop, grocery store, barber shop, beauty salon, dry cleaner, and laundromat.
 - a. Efficiency/furnished
 - (1) \$211.00 - \$235.00 per month includes all utilities.
 - (2) First and last month rent required.

- (3) Cleaning deposit not usually required.
 - (4) Three month minimum lease.
 - b. One bedroom/furnished
 - (1) \$280.00 per month includes all utilities.
 - (2) First and last month rent required.
 - (3) \$45.00 cleaning deposit required.
 - (4) Three month minimum lease.
- 2. The Polaris Apartments: Located in town; contains 120 units.
 - a. Efficiency/furnished
 - (1) \$238.00 per month includes all utilities and telephone.
 - (2) First and last month rent required.
 - (3) \$25.00 cleaning deposit required.
 - (4) No lease.
 - b. One bedroom/furnished
 - (1) \$303.00 per month includes all utilities and telephone.
 - (2) First and last month rent required.
 - (3) \$45.00 cleaning deposit required.
 - (4) No lease.
- 3. University Village Apartments: Contains 97 units (2 and 3 bedrooms); located near the University of Alaska (approximately 5 miles from town).
 - a. Two bedroom/furnished
 - (1) \$280.00 per month; heat and water included, electricity not included (average cost \$30.00 - \$50.00 per month).
 - (2) \$200.00 cleaning deposit required; expect at least \$75.00 retained by manager for cleaning of rugs, etc.
 - (3) First month rent required.
 - (4) Six month minimum lease.
 - b. Three bedroom/furnished
 - (1) \$350.00 per month; heat and water included, electricity not included (average cost \$30.00 - \$50.00 per month).
 - (2) \$200.00 cleaning deposit required; expect at least \$75.00 retained by manager for cleaning of rugs, etc.
 - (3) First month rent required.

(4) Six month minimum lease.

4. The Town House Inn: Contains 30 new single and double units with kitchen optional, laundry room, and parking facilities. There are three categories of efficiency apartments available priced from \$200.00 to 240.00 per month. This price includes electricity only. Efficiencies have to be vacated no later than April 30 for day and weekly rentals.

a. Three bedroom, two complete bath

(1) \$460.00 per month (no utilities in this price).

(2) First month rent required.

(3) \$200.00 cleaning deposit required, of which \$75.00 is nonrefundable.

(4) \$36.00 per day if occupancy is less than 2 weeks.

5. Fairview Manor Apartments: Contain 272 furnished and unfurnished apartments; efficiency, one, two, and three bedrooms. Complex offers 8 laundries, 130 garages, and 4 playgrounds. Close to schools and shopping center.

a. Efficiency/furnished

(1) \$155.00 per month - All utilities included except electricity.

(2) First month rent required.

(3) Deposit equivalent to 1 month rent required.

(4) Three month lease minimum.

b. One bedroom/furnished

(1) \$180.00 per month - All utilities included except electricity.

(2) First month rent required.

(3) Deposit equivalent to 1 month rent required.

(4) Three month lease minimum.

c. Two bedroom/furnished

(1) \$207.50 per month - All utilities included except electricity.

- (2) First month rent required
- (3) Deposit equivalent to 1 month rent required.
- (4) Three month lease minimum.

Note: Furniture rental is additional and varies from \$5.00 to \$50.00 per month. Rental is on a permanent tenancy basis; an additional 20 percent of the monthly rental will be charged if tenancy is terminated within 3 months.

Each building has half the number of garages that it has apartments. They rent for \$30.00 per month during the winter months, and \$10.00 per month during the summer months (May, June, July, August).

Outlets for headbolt heaters are located in the rear of all buildings. Space is reserved at \$5.00 per month, October through March, and \$2.50 per month, April through September. Tenant must make arrangements with Municipal Utilities for electricity.

Each building has two laundry rooms furnished with metered washers and dryers. Each apartment is assigned one period of 3 hours per week for washing. Additional time can be arranged. Outside and inside drying lines are available.

Each apartment has a storage space in the basement, numbered the same as the apartment.

Sorry, no pets allowed.

A transfer charge of \$19.50 will be made where the tenant seeks permission to move to another apartment. A cleaning charge of \$25.00 for unfurnished, efficiency and one-bedroom apartments, and \$45.00 for two-bedroom and furnished apartments will be made, where a tenant moves before expiration of 1 year, except where it is cleaned in accordance with the standards of the apartment management.

6. Gilmore Apartments: 14 Mile Steese Highway (within walking distance to Gilmore Station).

- a. Two bedroom/furnished
- (1) \$250.00 per month plus electricity.
 - (2) \$100.00 cleaning deposit required.
 - (3) No lease required.

Note: Electricity costs about \$95.00 per month during winter months. School bus stops in front of apartments. Coin operated laundry facilities. No telephones; radio telephone to town in manager's office.

Tips When Moving

- Do not ship food, especially canned goods, during winter months.
- Do not turn on appliances containing motors or tubes until they warm up to room temperature for at least 36 hours.
- Do not remove shipper's protective tape from glassware for at least 24 hours.

Clothing

The primary requirement for clothing in Alaska is simply to keep warm. When it drops to 50 below zero, fashions take a back seat. Because clothing must be practical if one is to avoid freezing, Alaskans are not overly style conscious.

But don't go to extremes when dressing. Nothing looks as foolish as a puffy-coated, heavily-scarved, booted, over-mittened woman (presumably) moving in slow motion down the street with only two frosty eyebrows hanging over the edge of a woolen scarf. Nothing, that is, unless it's the bare-legged, bare-headed, bootless woman tripping over the icy sidewalks with a coat wrapped casually around her shoulders while she dashes from store to store.

As a matter of fact, under-dressing is more than foolish. It is dangerous. When it gets really cold, it takes only a few minutes to freeze unprotected ears, noses, and fingers. Frostbite is a constant danger, but intelligent dressing prevents frostbite under normal circumstances.

Don't wear tight clothing. Clothing should allow freedom of movement to the individual and still protect the exposed areas of the body. One important fact to remember is several layers of medium weight clothing keep you warmer than one piece of heavy clothing. Air between the layers acts as insulation. The secret in dressing for extreme temperature is layers of clothing, not weight.

Don't buy outer garments with wind and water repellent coverings of vinyl that crack in cold weather. When buying winter clothes for adults or youngsters, an insulated parka with a hood, and a pair of lined ski pants, or a two-piece dacron or down-filled snowsuit are highly recommended. Fleece-lined boots (to be taken off indoors), wool or fur-lined mittens, a hood or cap that covers the ears and forehead, and a wool scarf for the face, complete the garments for the "best dressed" list in the 40 below zero circuit. Early in the season, tights or snuggies on the legs suffice until lower degrees demand lined slacks or ski pants.

Mittens, rather than gloves, are preferred for cold weather, since the fingers in the mittens "keep each other warm."

A few do's and don'ts in regard to dressing children for cold weather: Do buy children's coats, ski pants, and boots with wide openings, and zippers that are easy for children to manipulate (rows of buttons and snaps are difficult for children to manage by themselves).

Do not buy outer garments with wind and water repellant coverings of vinyl that crack in the cold weather. Rubber boots are not satisfactory for cold weather; they sometimes crack and leak.

Do pin children's mittens to their cuffs so they won't lose them.

Do dress for temperatures indoors and out. When sitting in a well heated room, do not wear heavy jackets, slacks, or boots. Heavy garments should be taken off indoors to prevent perspiration.

When well dressed and fed, children can play outdoors comfortably when it is 20 degrees below zero. The school system allows a recess time for children until it is 20 degrees below zero.

Mothers should not hesitate letting their children outdoors to play in the winter. When the temperature is 10 or 15 below zero, if the children are properly dressed, they will benefit from their exercise in the fresh, crisp air.

The few cases of frostbite during the winter months result mostly from improper dressing. Many teenagers insist on going out in cold weather with bare legs and heads.

One problem encountered at the schools is children who put their tongues on icicles or metal surfaces outdoors, and their tongues stick to the surface. The remedy in the situation is to pour warm water or warm alcohol over the affected area. Fingers, ears, cheeks, noses, and toes are most likely to become frostbitten. If your face or hands begin to get numb and a whitish patch appears, immediately thaw the frozen part by warming it with a mitten. Frostbitten hands can be warmed by putting them inside the coat against the warmth of the body. Never attempt to thaw a frozen spot by rubbing it with snow. Rubbing the area with your hand will damage the tissues.

Cold weather does not have to be merely tolerated; it can be enjoyed when a person is well dressed.

In summary, here are some little, but important, tips to remember in selecting winter clothing for children.

- It is nearly as bad to over-dress for winter as to wear too little clothing, for sudden chilling of an overheated body causes colds, chapped skin, or even frostbite.
- It is wiser to buy a parka that fits the child rather than to buy it three sizes too big and let him wear it until he outgrows it.
- Check the fabrics when buying snowsuits and jackets. Some materials crack in cold weather. Make sure it is tough and preferably waterproof.
- Check to see if the garment is close fitting at the wrists and the ankles to keep the wind and cold out.
- Does the garment have reflection tape?
- Mitten clips on mittens prevent loss of one or both mittens that may result in frostbite.
- Layer clothing on the child instead of trying to keep him warm in one huge heavy coat.

Frostbite

CLOTHING

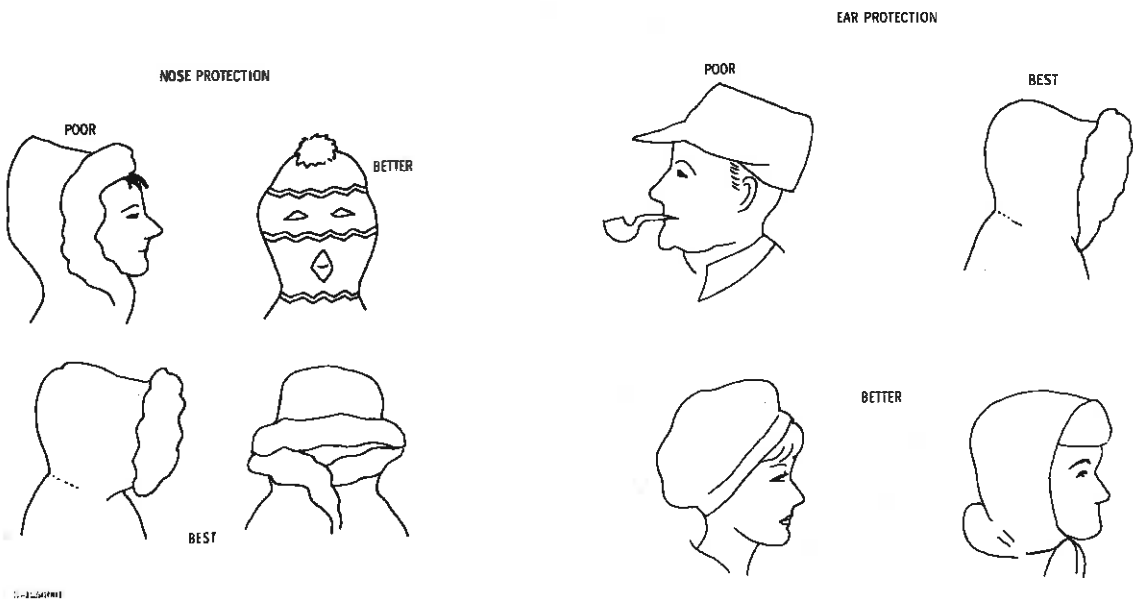
A. General Guidelines

1. Clothing should be clean. Dirt and grease decrease insulating properties.
2. Outer layers should be easily removed. This avoids overheating. Sweating is uncomfortable and reduces the insulating ability of the clothing.
3. Clothing should be loose. Clothing which is too tight loses its insulating ability. Also, constriction of the blood supply to the hands and feet could result. Multiple layers of loose clothing provide better insulation than a thick single layer. Air which is an excellent insulator is trapped between the layers.

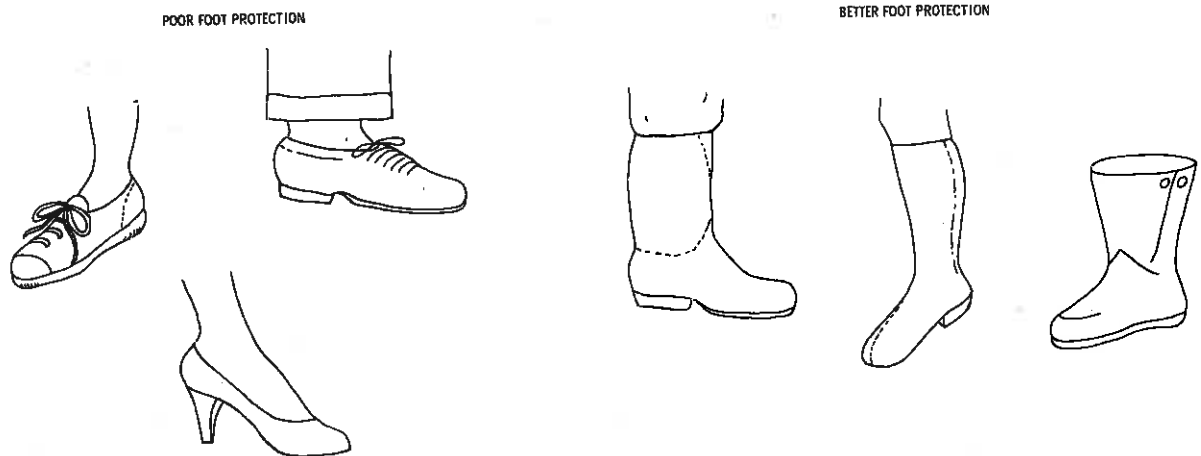
4. Outer layers should be impervious to wind. This will cut down on the increased cooling power of the wind.
5. Clothing should be dry. Outer layers should be water repellant but not waterproof. It is important at the warmer temperatures to prevent clothing from absorbing melted snow, resulting in a loss of insulation. At colder temperatures, the snow is so dry that there is little free water available. Waterproof materials interfere with the ventilation of the body, resulting in the accumulation of sweat. Sweat will absorb into clothing and reduce the insulating ability of the clothing and can also result in softening of skin.

B. Guidelines for Specific Areas

1. Head. The best covering for the head is provided by a large parka hood with a good ruff which can be pulled in front of the face in very cold weather. Since small children are prone to leave the hood down or not to close it sufficiently, it is a good idea for them to wear a knit cap of the type which comes down over the ears and around the neck. A knit face mask may also be useful for the smaller children, preferably one with a thermal barrier between two layers of wool.



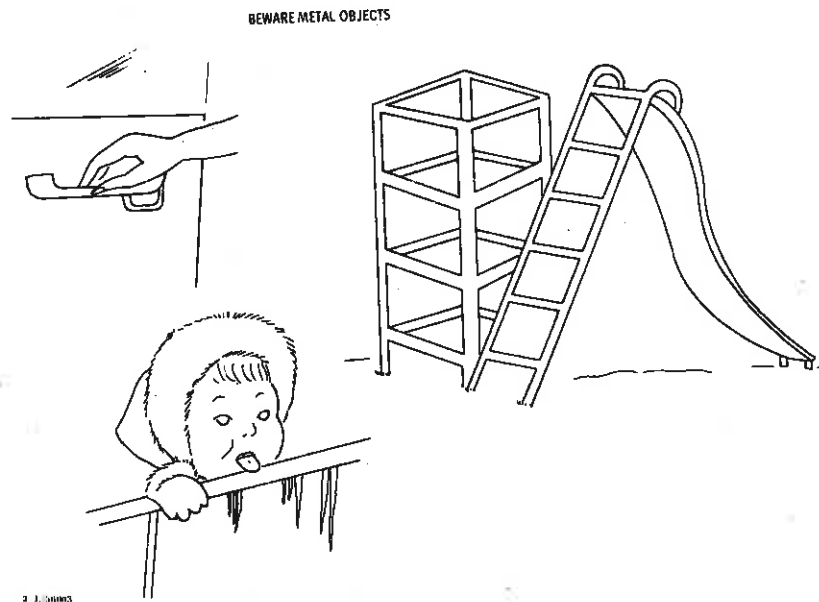
2. Hands. Mittens provide the best insulation since they allow the fingers to remain together and reduce the surface exposed to cold air. Usually, it is not necessary to have a water impervious shell, since in the very cold weather the snow is very dry. Care must be taken to ensure that snow does not enter the mitten. Mittens should be secured to the coat to prevent their being lost. If gloves are worn, they should be loose. An inner wool liner and a loose leather outer shell give good protection.
3. Feet. The use of shoe boots is best avoided, for children seldom remember to remove them in school. As a consequence, the feet sweat, reducing the insulating quality of the boots. A loose, insulated (lined) waterproof boot which can be worn over the shoe and which can be easily removed and replaced by the child affords good protection.



4. Trunk. Often a good parka provides sufficient protection when used in conjunction with the usual everyday clothing. Sometimes a sweater may also be necessary. In any event, the outer layers should be easily removed so that the child will not be overheated when he comes inside.
5. Legs. Long trousers or leotards are important to provide full coverage. Over this, snow pants should be worn.

SAFETY PRECAUTIONS

- A. Whenever the child leaves the house, he should be dressed to face the weather. School children should be dressed warmly even though they may be riding the bus. Then, if the bus were to break down, they would be protected from the cold.
- B. Young children must not be left unobserved in the cold.
- C. Metal objects such as door knobs, sliding boards, jungle gyms, and other playground equipment constitute special hazards for children who are inadequately clothed. Since metal conducts heat rapidly, bare or poorly clothed skin can easily freeze in a short time. Children may also lick metal objects, freezing their tongue to the metal. The junction between the tongue and the metal object should be warmed prior to separating the two. Otherwise, there may be unnecessary loss of tissue.



- D. Minor mechanical difficulties (e. g. running out of gasoline, bus breakdown, getting stuck, etc.) are not uncommon automobile mishaps, which may require unexpected exposure to cold. The family should be dressed with this in mind. Also, the car should be stocked with extra boots, mittens, parkas, sleeping bags or blankets, and other emergency provisions.

- E. Purchase a good thermometer and place it on the north side of the house away from the warmth of the house. It is surprising how many people have no idea of the outside temperature. The temperature can drop within hours in Fairbanks. Initially, a temperature of -50°F may not feel much different from -30°F , but the cooling power is much greater. This is well substantiated by the increased number of frostbite cases seen at the lower temperatures. Look at the thermometer and dress for the outside temperature. High winds increase the rate of cooling and increase the risk of freezing exposed skin.
- F. Darkness, ice-fog, and storm all contribute to making visibility intermittently poor for drivers and pedestrians alike. When picking out clothing for yourself or more especially for your children, it is a good idea to keep this in mind and pick colors that are bright and show up well against the background. Bright blue, yellow, or orange-red are such colors; and adding reflective tape to the back of the coat makes sure your child is seen by oncoming motorists. Parka hoods, hats, and face masks all decrease vision and hearing; so children should be reminded to look carefully before crossing a street. Drivers must be ever alert to the fact that pedestrians in the winter can't see or hear well, and car stopping distances are increased.

TREATMENT

Serious injury from cold - frostbite - should be treated by a doctor as soon as it is recognized. This may not always be possible, so it is important for you to understand some of the principles of treatment that you can apply.

- A. Minor cases of frost-nip, when the skin first begins to turn white, usually involving the nose or ears, can be treated by rewarming with a warm hand or by simply going indoors where it's warm. Care should be taken to be sure of adequate protection of the part before further cold exposure.
- B. With more serious freezing, the tissue appears firm, numb, and white.
 - 1. Avoid further injury of the frozen part.
 - a. No rubbing or massage.
 - b. No salves or grease.
 - c. Avoid excess heat, as from fire, car exhaust, or water that is too hot. Remember, there is no feeling in frozen parts.

2. Rapid rewarming in a water bath maintained at a temperature of from 100 - 104° F is the best procedure presently available. It usually takes from 25 to 45 minutes to thaw an injured part.
 - a. Following rewarming, it is especially important to protect from further injury and to be sure that the blisters which may form are not broken. They represent a natural protection against infection.
 - b. Keep the frozen part clean. Daily soaking in warm water with some added antibacterial soap such as phisohex helps serve this purpose.
- C. In all but the most minor cases, the patient should be seen by a doctor.

COMMENTS

During recent winters in Fairbanks, most of the frostbite occurred in patients who were inadequately or carelessly dressed, or who exercised poor judgement.

- A. Among the discrepancies in children's clothing which have resulted in cold injury are:
 1. No ear protection in subzero temperatures.
 2. Wearing a wind breaker as the only coat at -50° F.
 3. Wearing miniskirts at -30° F.
 4. Wearing low quarter shoes, unlined leather boots, or even sneakers without socks while walking through the snow in subzero temperatures.
- B. Inadequately clothed children may run from one house to another several blocks away, arriving almost frozen. If there had been no one at home, or if they had become locked out of their house, the results could be disastrous.

Since children cannot always be expected to exercise good judgement, it is the responsibility of their parents to ensure that they adhere to the principles of safety.



Here is the proper dress for outdoor play during Alaskan winters. The young man is wearing a snowmobile suit, half polyester and half nylon fill with a nylon covering. His orlon scarf and ski mask and snowmobile mittens provide maximum warmth; and his leather, fleece-lined boots keep his feet cozy. The young lady is wearing a polyester fur parka with imitation fur trim and a fuzzy acrylic hat. Her heavy mittens and waterproof pants, plus pile lined snowmobile boots ward off frostbite and ensure hours of outdoor fun.

Car Winterization

On a crisp December Alaskan morning you look forward with enthusiasm to another day on the job. The temperature is -55 and ice fog fills the air, but such conditions are everyday business to the sourdough. Eagerly you leave the house and approach the family car. A casual look tells you that all four tires are low, but this, you say, is common for such cold weather. After prying the door open you take your seat and turn the ignition. And what happens? Nothing. A quick check discloses that the battery is dead, so you take it back inside and place a charger on it. Several hours, many cups of coffee, and innumerable displays of heated temper and vocabulary later, you are finally set to roll. Bounce or bang might better describe the motion as those flat tires hit the ground. And sure enough, four sharp staccato explosions tell you that the brittle rubber in each tire has taken all it is going to. In a desperate rage you grip the steering wheel, only to have it break in two under your grasp. All in all, a typical December morning.

Exaggerated? Certainly, but individually each of the occurrences noted above, and more, happen to those who have not adequately prepared their cars for the Alaskan winter. Your vehicle can be prepared so that it will run dependably and efficiently throughout weather ranging to -60 and below. Some of the necessary techniques and procedures to make sure your vehicle stays on the road are outlined below.

Starting your vehicle is, of course, the first and most important step. The greatest engine wear takes place during the starting period. This is because lubricants have not had an opportunity to thin out enough. Oil of normal grade, SAE 30, is fine during the summer months, but should be the first item slated for change for winterization. Lightweight oil, equivalent to SAE 10, or 5-20, should replace the heavier oil. In conjunction with this change, other lubricants must take the place of their summer equivalents. The differential and transmission of your vehicle, unlike the engine, receive no heat from the cooling system. Hence, a lighter gear oil must be installed early in the winter months. Wheel bearings should be repacked with lighter grease as well, in order to prepare them for the long winter months ahead.

While we are on the subject of adequate preparation for the winter months, it is appropriate to mention the point of tuneup. An inspection of spark plugs and contact points, together with appropriate corrective action is a must for winterization. They should be rechecked frequently too, since more carbon builds up in the engine during cold weather than does under normal driving conditions.

Do not run the engine for a short period. In other words, it is better in the long run to walk a short distance at -50 degrees than to warm up the car and drive. During short runs of this sort, water forms in the cylinders. Since the engine is not hot enough to evaporate this water, it enters the crankcase and ruins the lubricating ability of the oil.

Since some idling and short running is unavoidable, it is imperative that engine oil be changed more frequently than it normally would. A change of oil once a month should bring maximum efficiency if combined with other proper procedures.

Another thing harmful to engine life is rapid running of the engine when it is still cold. This should go without saying. Even in warm weather, engine oil is not in the proper condition to prevent friction when the engine is cold. In frigid weather this is even more true, because the oil is somewhat viscous and requires some time to attain its most efficient consistency.

In addition to being adequately lubricated, the engine must have an operative cooling system if it is expected to perform. A coolant of commercial antifreeze mixed with water in a 60 to 40 percent ratio will not freeze down to -60 degrees. However, since the coolant in the engine must be warm enough to allow the engine to start, an auxiliary heat source is also required. The most common and most efficient type is the circulating heater. This device should be mounted as low in the engine compartment as possible to give maximum efficiency. The outlet hose from the heater connects to the water pumps while the inlet (lower) hose is connected to the lower block drain. In this way the water enters the heater, where it is warmed, then passes into the engine block. By natural motion it rises and displaces the colder water inside, giving it a circulating action. The heater is electrically powered and can be plugged into a 110-volt outlet.

Another type of heater is the headbolt variety. To install this type, simply remove one of the engine headbolts and replace it with the heater. It has a soldering iron type heat source that warms the engine coolant. Two bolts must be removed in V-8 engines.

Auxiliary heaters are also available for air cooled engines. Perhaps the most reliable and safest are those that are fitted into the engine air ducts.

Because temperatures will be very low, it is important to heat no more water than necessary to keep the engine warm. Thus, a high temperature thermostat, 180 or 190 degrees, should be used to prevent the coolant from circulating through the radiator until that temperature is attained. A technique useful for curtailing the amount of cold air entering the engine compartment is the use of a canvas or cardboard cover in front of the radiator. By far the best type is that which can be easily rolled up during warm weather.

The final element necessary to give quick and dependable starts is the battery. Temperature and charge are the two factors that affect the ability of the battery to crank the engine. A reduction in either factor reduces the cranking ability of the battery; but if both fail, the battery simply will not operate. The following table demonstrates this action.

<u>Hydrometer reading</u>	<u>Temp</u>	<u>% Cranking ability</u>
1.280	80 F	100
	32	65
	0	40
1.225	80	46
	32	32
	0	21
1.180	80	Nearly discharged
	32	Nearly discharged
	0	May freeze

Thus, the importance of having a properly charged battery can easily be seen. A device called a trickle charger can be installed on the automobile to aid in keeping the battery charged. This device should be mounted close to the battery in order that its cables may be attached to the battery terminals. Like the various

engine heaters, the charger derives its power from a 110-volt electrical outlet. A somewhat expensive but useful technique is the use of two batteries in parallel. In this manner the voltage remains the same, but amperage is increased to give a big boost in starting the engine. Naturally, the battery should be kept filled to the proper level; and the terminals must be clean and tight.

The most common failure of the fuel system in winter weather is freezing of fuel lines. When water vapor is present in the gas tank it may condense and move into the fuel lines and settle in the lower portions. Here it is likely to freeze if the temperature is low enough. If this does occur, the best solution is to bring the vehicle into a heated garage and allow it to warm up. Application of heated air is another solution. However, an ounce of prevention can, in this case, prevent a great deal of trouble. Alcohol or a commercial deicer added to the gas tank (a ratio of 1/2 pint per 10 gallons of gasoline) will absorb any water vapor present and prevent it from condensing at all.

Adherence to several minor rules of winter driving will likewise save future trouble. For one, tire pressure should be increased 10 to 15 pounds during cold weather. Air in the tires naturally contracts with lower temperatures, thereby giving the tires a flat appearance. When a car is parked in this manner on a very cold night, the rubber tires become quite brittle and may crack when the car is driven. Again, simply increase the air pressure to prevent this occurrence. Nevertheless, some flattening of tires is practically inevitable. When it does occur, be sure to drive off slowly in order to give the "square" tires a chance to round out harmlessly. Driving slowly when first starting the vehicle is important for other reasons, too. Metal components of vehicles become brittle and may crack under the stress incurred in rapid driving. Included in parts of this type are the shock absorbers, springs, differential, and transmission.

Another helpful technique is this: Do not use your parking brake in below zero weather. Any water vapor present may freeze the brake components together, making it impossible to move the vehicle without first unfreezing the brake with heated air. Rather, make sure that the vehicle is parked in gear for cars with standard transmission or in parking gear for automatic transmissions.

One point of contention among drivers concerns the use of tire chains. The point basically is this; when are chains used to best advantage and when are they not? Very simply stated, chains are best used to give traction in deep snow. A second advantage is that they cut down considerably on stopping distances on ice. On the other hand, they do take off a bit of ground pressure and give the car a tendency to skid, particularly on curves. Chains, therefore should be used only when a great deal of extra traction is required. Under normal winter road conditions, mud and snow treads are adequate and essential.

Beware of, however, the use of synthetic rubber inner tubes. Only tubes of natural rubber should be used, because the synthetic variety cracks easily and causes a great deal of air loss.

Now, an important word about visibility. Frost shields are the greatest aid for keeping windows free of frost in frigid weather. It is suggested that between October 1 and May 1 of each year frost shields be applied to each window in every registered vehicle. They are not required to be affixed to the car windshield, but it is not a bad idea to do so, particularly if your defrosters take some time to produce heated air. While you are taking care of the frost shields, make sure at the same time that the defroster and heater are operating at maximum efficiency. Carry a scraper and brush or a broom at all times to remove ice and snow. Don't try to drive blind.

And one last thought, check your fanbelts and radiator and heater hoses; if they are frayed, cracked, or otherwise show signs of deterioration, it's lots easier and cheaper to replace them in September than to become stranded in January.

Adherence to these basic rules will result in better performance by your automobile and likely save you a good deal of money or, more important, the hazard of being stranded alone in subfreezing weather.

A cold car should be allowed to idle until the engine reaches operating temperature before driving away from its parking spot. This usually takes about 5-10 minutes, although 10-15 minutes won't hurt a thing - especially if you want to get into a warm car. In addition to driver comfort, a warm car can save wear and tear on vinyl seats. If you sit on real cold vinyl, there's a chance you can crack it.

One of the most vital things an Alaska driver must consider is the condition of his exhaust system. As cars spend much of their time idling, there's a very real danger of carbon monoxide poisoning. Mufflers and pipes should be free of holes and all connections should be tight. Speaking of idling, it won't hurt a car to be left running for a reasonable period of time.

A pair of jumper cables is as good an investment as the Alaska driver can make. They are cheap, take up little room in a car, and can be vital if one wants to start a cold car. A spray can of starting fluid might be useful, also.

After a long winter, you can usually count on your shock absorbers being shot. A yearly change of shocks is common here for persons who do a reasonable amount of cold weather driving.

Discounting all the above, there is one way a person can be absolutely certain his car will start every morning, day after day, without failure due to the cold. Keep it in a heated garage.

Supplies to carry in your car:

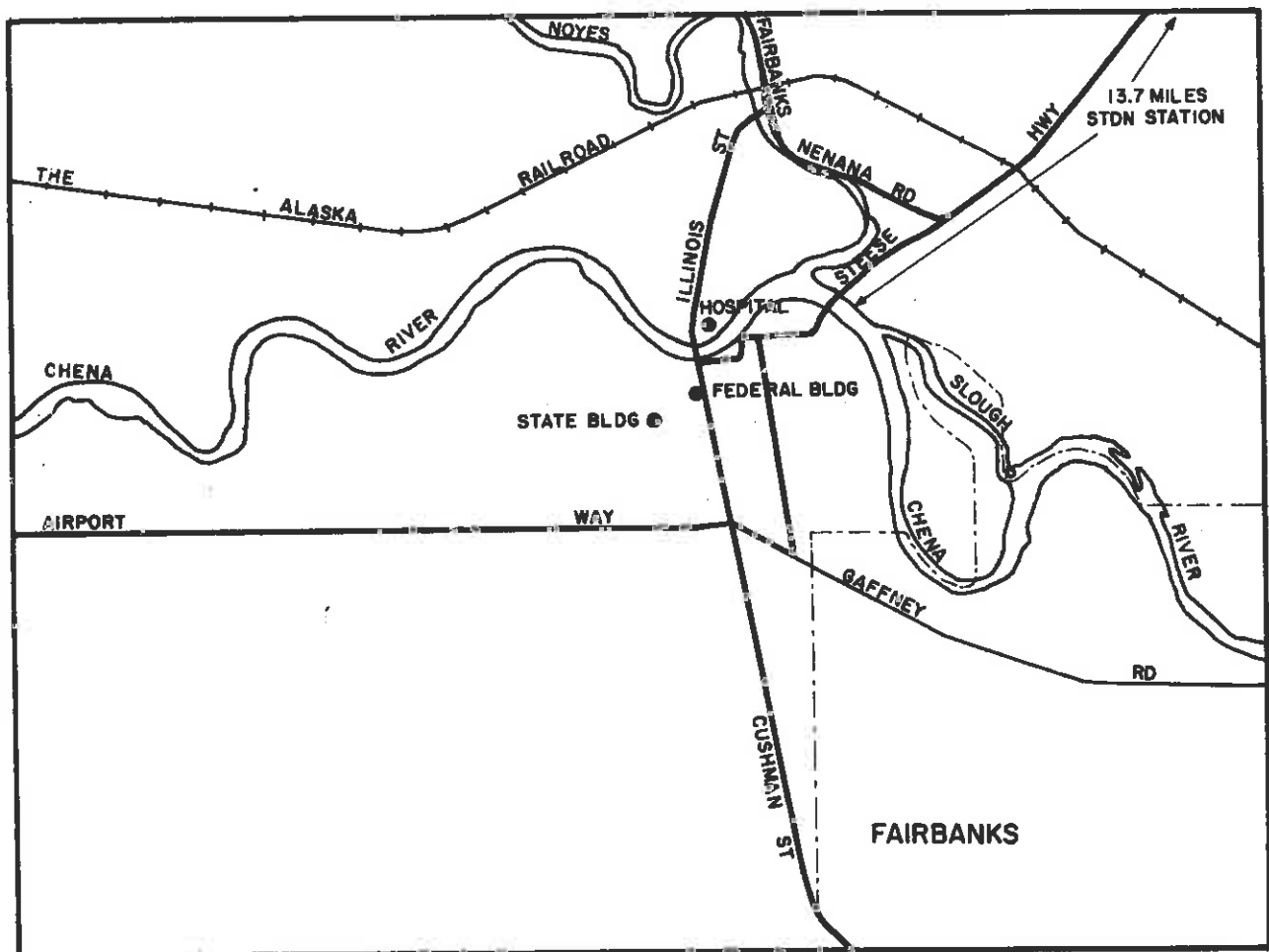
- A can of heat to use in case of gasoline freeze-in; this should be added to the gas tank if the engine balks or stops.
- Booster cables
- Tire chains and tire tools
- Fan belt; some cars require two
- Tow rope or chain
- Reflectors or flares
- Good quality flashlight
- Snow shovel
- Sand bags
- Blankets or sleeping bags
- Extra clothing: boots or mukluks, heavy socks, heavy mittens, hood or cap with earflaps, scarf, and a heavy jacket or parka (if you are not wearing it); for women, a pair of heavy wool slacks.
- Candy

NASA STDN Station

After arriving in Fairbanks, Alaska, you can contact the NASA STDN Station at the following address and telephone number. Ask for the Bendix Administrative Assistant.

NASA STDN Station
Pouch 820
Fairbanks, Alaska 99707
Telephone: 907-452-1155

For your convenience in locating the STDN Station, a map of Fairbanks showing the station location about 13.7 miles out Steese Highway is provided.



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