

ANNUAL REPORT OF THE CHIEF OF ENGINEERS, 1924

EXTRACT ✓

REPORT UPON THE CONSTRUCTION AND
MAINTENANCE OF ROADS, BRIDGES,
AND TRAILS, ALASKA

BOARD OF ROAD COMMISSIONERS
FOR ALASKA



WASHINGTON
GOVERNMENT PRINTING OFFICE

1925

Estimate of funds, 1926

Estimate of funds, 1926

Name of route	Mileage	Items				Average per mile
		Repair and maintenance	Improvements	New construction	Total	
Southeastern Alaska:						
Haines-Pleasant Camp	43	\$10,500	\$7,000	\$40,000	\$67,500	\$1,337
Porcupine Extension	20	6,000			6,000	300
Douglas-Gastineau Channel	2	600	400		1,000	500
Haines-Chilkoot	3	900	1,500		2,400	800
Haines-Mud Bay	10	3,000		2,000	5,000	500
Strawberry Point	1 1/2	450	750		1,200	800
Total	79 1/2	21,450	9,650	42,000	75,100	920
Eagle subdistrict:						
Eagle-Fortymile	50	4,550	10,000	10,000	24,550	491
Eagle-Seventymile	60	1,725	5,000		6,725	112
Steel Creek-Jack Wade	15	1,200	1,800	1,000	4,000	267
Canyon Creek-Walkers Fork	21	500			500	24
Eagle-Circle	190	1,900	1,000	1,100	4,000	21
Woodchopper Creek	8	2,400	1,600	1,000	5,000	625
Fourth of July-Nation	10	3,000	2,000	5,000	10,000	1,000
Miscellaneous trails	261	2,610			2,610	10
Total	615	17,885	21,400	18,100	57,385	93
Bethel subdistrict: Miscellaneous trails						
	831	8,310			8,310	10
Total	831	8,310			8,310	10
Valdez district:						
Valdez-Ptarmigan Drop	32	16,000	16,000		32,000	1,000
Valdez-Mineral Creek	10 1/2	3,500	1,500	3,000	8,000	762
Chissna-Nizina	78	780			780	10
McCarthy-Nizina	16	4,800	1,200		6,000	375
Strelina-Kuskulana	16	4,800	1,200	4,000	10,000	625
Total	152 1/2	29,880	19,900	7,000	56,780	372
Chitina district:						
Ptarmigan Drop-Willow Creek	60	30,000	30,000		60,000	1,000
Chitina-Willow Creek	39	19,500	19,500		39,000	1,000
Willow Creek Rapids	139	69,500	69,500		139,000	1,000
Gulkana-Tanana Crossing	180	3,000	2,000	10,000	15,000	83
Chistochina-Slate Creek	40	400			400	10
Total	458	122,400	121,000	10,000	253,400	563
Southwestern Alaska:						
Kenik-Willow Creek (Government railroad)	53 1/2	16,050	10,470	2,500	29,020	542
Alaska Peninsula	30	9,000	10,000		19,000	633
Talkeetna-Cache Creek (Government railroad)	42	12,600	10,000	20,000	42,600	1,014
Talkeetna-Iron Creek (Government railroad)	45	1,150		40,000	41,150	914
Anchorage-Eagle River (Government railroad)	19 1/2	5,850	5,000		10,850	605
Matanuska Valley (Government railroad)	31 1/2	9,450	10,000		19,450	617
Kenai-Russian River	60	1,500	2,500		4,000	67
Kodiak	5	1,500			1,500	300
Trails	287 1/2	2,875			2,875	10
Total	574	59,975	47,970	62,500	170,445	297
Fairbanks district:						
Fairbanks-Rapids (Government railroad)	138 1/2	69,250	69,250		138,500	1,000
Fairbanks-Chatanika (Government railroad)	30	6,000	6,000		12,000	400
Summit-Fairbanks Creek (Government railroad)	13	3,900			3,900	300
Fairbanks-Ester Creek (Government railroad)	13	3,900			3,900	300
Fairbanks-Chena Hot Springs (Government railroad)	64	1,600	1,400	7,000	10,000	156
Chatanika-Circle (Government railroad)	130	22,000	8,000	50,000	80,000	615

Name of route	Mileage	Ream ten
Fairbanks district—Continued.		
Olmes-Beaver (Government railroad)	115	\$
Olmes-Livergood (Government railroad)	54	
Beaver-Caro	75	2
Winter trails	261	
Total	893 1/2	13
Nonana district:		
Dunbar-Fort Gibbon (Government railroad)	121	3
Fort Gibbon-Kaltag	257	8
Dunbar-Brooks (Government railroad)	63	1
Ruby-Poorman	59	9
Rampart-Eureka	27 1/2	2
Hot Springs Landing-Eureka	24	7
Hot Springs-Sullivan Creek	9	2
Roosevelt-Kantishna	34	10
Coldfoot-Wiseman	12	1
Moose Creek-Eva Creek (Government railroad)	14	1
Carlsons-Valdez Creek (Government railroad)	55	1
Winter trails	457 1/2	4
Total	1,133	47
Kuskokwim district:		
Ophir-Tokotna Landing	25	7
Medra-Nixon Forks	12	3
Iditarod-Flat	8	2
Poorman-Ophir (summer)	125	1
Tokotna-Flat	95	2
Flat-Georgetown (summer)	65	1
Winter trails	956	9
Total	1,286	25
Nome district:		
Nome-Council	82	24
Candle-Candle Creek	6	1
Deering-Immachuk	25	7
Nome-Dahl	99	8
Dahl-Immachuk	65	6
Winter trails	3,083 1/2	30
Total	3,360 1/2	79
SUMMARY		
Southeastern Alaska	79 1/2	21
Eagle subdistrict	615	17
Bethel subdistrict	831	8
Valdez district	152 1/2	29
Chitina district	458	122
Southwestern Alaska	574	59
Fairbanks district	1,333	47
Nonana district	1,286	25
Kuskokwim district	1,286	25
Nome district	3,360 1/2	79
Total	9,383	550

Commercial statistics.—Total commercial year 1923:

IMPORTS

Merchandise from the United States

Merchandise from foreign ports

Gold and silver from foreign ports

Total imports

Estimate of funds, 1926

Estimate of funds, 1926—Continued

Mileage	Items				Average per mile
	Repair and maintenance	Improvement	New construction	Total	
43	\$10,500	\$7,000	\$40,000	\$57,500	\$1,337
20	6,000			6,000	300
2	600	400		1,000	500
3	900	1,500		2,400	800
10	3,000		2,000	5,000	500
1 1/2	450	750		1,200	800
79 1/2	21,450	9,650	42,000	73,100	920
50	4,550	10,000	10,000	24,550	491
60	1,725	5,000		6,725	112
15	1,200	1,800	1,000	4,000	267
21	500			500	24
190	1,900	1,000	1,100	4,000	21
8	2,400	1,600	1,000	5,000	625
10	3,000	2,000	5,000	10,000	1,000
261	2,610			2,610	10
615	17,885	21,400	18,100	57,385	93
531	8,310			8,310	10
831	8,310			8,310	10
32	16,000	16,000		32,000	1,000
10 1/2	3,500	1,500	3,000	8,000	762
78	780			780	10
16	4,800	1,200		6,000	375
16	4,800	1,200	4,000	10,000	625
162 1/2	29,880	19,900	7,000	56,780	372
60	30,000	30,000		60,000	1,000
39	19,500	19,500		39,000	1,000
139	69,500	69,500		139,000	1,000
180	3,000	2,000	10,000	15,000	83
40	400			400	10
458	122,400	121,000	10,000	253,400	553
53 1/2	16,050	10,470	2,500	29,020	542
80	9,000	10,000		19,000	233
42	12,600	10,000	20,000	42,600	1,014
45	1,150		40,000	41,150	914
19 1/2	5,850	5,000		10,850	505
31 1/2	9,450	10,000		19,450	617
60	1,500	2,500		4,000	67
5	1,500			1,500	300
237 1/2	2,875			2,875	120
574	59,975	47,970	62,500	170,445	297
138 1/2	69,250	69,250		138,500	1,000
30	9,000	6,000		15,000	500
18	3,900			3,900	300
13	3,900			3,900	300
64	1,600	1,400	7,000	10,000	166
130	22,000	8,000	50,000	80,000	615

Name of route	Mileage	Items				Average per mile
		Repair and maintenance	Improvement	New construction	Total	
Fairbanks district—Continued.						
Olnes-Beaver (Government railroad)	115	\$1,150	\$350		\$1,500	\$13
Olnes-Livengood (Government railroad)	54	1,350			1,350	25
Beaver-Caro	75	22,500			22,500	300
Winter trails	261	2,610			2,610	10
Total	893 1/2	137,280	85,000	\$57,000	279,280	313
Nenana district:						
Dunbar-Fort Gibbon (Government railroad)	121	3,000	2,000	5,000	10,000	83
Fort Gibbon-Kaitag	257	3,000	2,000	5,000	10,000	39
Dunbar-Brooks (Government railroad)	63	1,600			1,600	25
Ruby-Poorman	59	9,000	6,000	15,000	30,000	508
Rampart-Eureka	27 1/2	2,000	3,000		5,000	182
Hot Springs Landing-Eureka	24	7,200	2,800		10,000	417
Hot Springs-Sullivan Creek	9	2,700	1,300		4,000	444
Roosevelt-Kantishna	34	10,000			10,000	294
Coldfoot-Wiseman	12	1,000			1,000	83
Moose Creek-Eva Creek (Government railroad)	14	1,800	3,200		5,000	357
Carlsons-Valdez Creek (Government railroad)	55	1,500			1,500	27
Winter trails	457 1/2	4,575			4,575	10
Total	1,133	47,375	17,100	28,200	92,675	82
Kuskokwim district:						
Ophir-Tokotna Landing	25	7,500	2,500	25,000	35,000	1,400
Medra-Nixon Forks	12	3,600			3,600	300
Iditarod-Flat	8	2,400	1,600		4,000	500
Poorman-Ophir (summer)	125	1,250			1,250	10
Tokotna-Flat	95	950			950	10
Flat-Georgetown (summer)	65	650			650	10
Winter trails	956	9,560			9,560	10
Total	1,286	25,910	4,100	25,000	55,010	43
Nome district:						
Nome-Council	82	24,600			24,600	300
Candle-Candle Creek	6	1,800	1,200	5,000	8,000	1,333
Deering-Imnachuk	25	7,500	7,500	10,000	25,000	1,000
Nome-Dahl	99	8,700		150,000	166,700	1,667
Dahl-Imnachuk	65	6,500		100,000	106,500	1,485
Winter trails	3,083 1/2	30,835			30,835	10
Total	3,360 1/2	79,935	8,700	265,000	353,635	105
Southeastern Alaska:						
Eastern Alaska	79 1/2	21,450	9,650	42,000	73,100	920
Eagle subdistrict	615	17,885	21,400	18,100	57,385	93
Bethel subdistrict	831	8,310			8,310	10
Valdez district	152 1/2	29,880	19,900	7,000	56,780	372
Chitina district	458	122,400	121,000	10,000	253,400	553
Southwestern Alaska	574	59,975	47,970	62,500	170,445	297
Fairbanks district	893 1/2	137,280	85,000	57,000	279,280	313
Nenana district	1,133	47,375	17,100	28,200	92,675	82
Kuskokwim district	1,286	25,910	4,100	25,000	55,010	43
Nome district	3,360 1/2	79,935	8,700	265,000	353,635	105
Total	9,382	550,380	334,820	514,800	1,400,000	149

Commercial statistics.—Total commerce of Alaska for the calendar year 1923:

Imports

Merchandise from the United States \$30,781,206

Merchandise from foreign ports 514,466

Gold and silver from foreign ports 4,769

Total imports 31,300,441

ANNUAL REPORT OF THE ALASKA ROAD COMMISSION
FISCAL YEAR 1924

REPORT UPON THE CONSTRUCTION AND
MAINTENANCE OF MILITARY AND POST
ROADS, BRIDGES AND TRAILS; AND OF
OTHER ROADS, TRAMWAYS, FERRIES,
BRIDGES, TRAILS, AND RELATED WORKS
IN THE TERRITORY OF ALASKA

TWENTIETH ANNUAL
REPORT

1924
PART II

BOARD OF ROAD COMMISSIONERS
FOR ALASKA

JUNEAU, ALASKA
1924

PORT ALASKA ROAD COMMISSION.

portable.
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e, brush.
s, garages, barns, etc., are located at all

GRESS OF THE WORK.

wages and supplies in the Territory is a
cost of this work. The rate paid for labor
per day with board for common labor. The
d forage is also correspondingly high. Be-
the nature of the work in Alaska adds to
make comparisons with road work in the
In the roads built here the cruising, clear-
struction of the road includes all work done
settled parts of the United States from
with this the milcage cost of our roads can
a great deal of gratification.

arge at the beginning of the 1920 working
board has been engaged in overhauling the
situation, rehabilitating or abandoning the
lled into disrepair or disuse, and drawing up
prehensive plan of operations covering a
rief resume of this situation as it has de-
iven.

of roads and trails constructed by the
sixteen years of existence (1905-1920) aggre-
gating of 1031 miles of wagon road, 636
miles of trail.

712 miles of temporary trail have been
Not all of this mileage has been maintained
has been in disuse or practically impassable
small mileage has been superseded by other
transportation as will appear more in detail

included in this 5602 miles are enumer-
V, Annual Report for 1921. The following
status of the work of investigation and re-
years ago. The funds available enabled
be made and the investigation is now prac-

ANNUAL REPORT ALASKA ROAD COMMISSION. II

STATUS	MILEAGE					Grand Total
	Wagon Road	Sled Road	Trail	Total	Flagged	
1920 Report	1,431	636	2,223	4,390	712	5,612
ADDITIONS:						
New Mileage	311	302	4,322	5,335	—	5,335
Reclassified	17	15	—	32	—	32
Grand Total	1,759	1,365	7,515½	10,890½	712	11,392½
DEDUCTIONS:						
Transferred to other Bureaus	117½	9	48½	175	—	175
Reclassified	—	144	189	333	—	333
Abandoned or dropped acct. duplication of routes	94%	123½	951½	1,169%	—	1,169%
Net Total	1,497%	1,088½	6,326½	8,912%	712	9,624%
Territorial Work 1924	69	54	4½	127½	—	127½
No Work 1924	127½	277	2,444	2,848½	234½	3,083
Alaska Road Commission Work 1924	1,301%	757½	3,878	5,936%	477½	6,414%

During the past fiscal year the expenditures were distributed over the following mileage:

DISTRICT	Wagon Road	Sled Road	Trails	Flagged Trails	Total
Southeastern Alaska	77	—	2	—	79
Eagle	17	93	336	—	446
Bethel	—	—	621	—	621
Valdez	67½	—	7	—	74½
Chitina	238	—	—	—	238
Fairbanks	333½	221½	333	—	888
Nenana	149	334½	389	—	872½
Southwestern Alaska	124½	92½	260	—	477
Kuskokwim	38	—	588½	—	626½
Nome	257	16	1,341½	477½	2,092
Totals	1,301%	757½	3,878	477½	6,414%

The Board has expended the following funds since the beginning of road and trail development in the Territory:

FEDERAL APPROPRIATIONS:

Alaska Fund, 1905-1920	\$2,155,030.92*
War Dept. Acts, 1905-1920	3,058,041.44**
Increase of Compensation, 1918-1920	145.20
U. S. Treasury Adjustments, 1905-1920	22,870.76
Alaska Fund, 1921-1924	493,348.19
War Dept. Acts, 1921-1924	2,062,844.18
Increase of Compensation, 1921-1924	79,795.17
Total	\$7,872,075.86

CONTRIBUTED FUNDS:

Territory of Alaska, 1920	\$ 101,184.56
Territory of Alaska, 1921-24	386,136.05
Miscellaneous, 1922-1924	4,103.31
Total	\$ 491,423.92
Grand Total	\$8,363,499.78

*Includes the following adjustments:

Appropriations	\$2,123,585.65
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ADDITIONS:

Receipts, from sales	\$48,694.14
Repayments, voucher corrections	1,326.68
Total	\$50,020.82
Total	\$2,173,606.47

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DEDUCTIONS:	
Disbursing officer shortage***	18,575.55
Net Total	\$2,155,030.92
**Includes the following adjustments:	
Appropriations	\$3,055,000.00
ADDITIONS:	
Navy Dept. reimbursement	\$ 3,976.19
Repayments, voucher corrections	291.80
Total	\$3,059,267.99
DEDUCTIONS:	
Disbursing officer shortage***	1,226.55
Net Total	\$3,058,041.44

***Defaulting officer was dismissed the service by G. O. No. 4, War Dept., Washington, D. C., Feb. 17, 1912.

In addition to the above funds, disbursed through the U. S. Treasury, the Board has supervised the expenditure of the following funds disbursed by other agencies for road and trail development:

Road tax, labor, and miscellaneous contributions, 1905-1920	\$200,000.00
Department of Agriculture, 1920	202,702.67
Quartermaster General, 1901-1902	100,000.00*
Chief of Engineers, 1904-1905	34,631.78*
Territorial Divisional Commissions, 1921-1923	56,500.02
Territorial Divisional Commissions, 1924	34,994.36
Seward Peninsula Tramway, 1923	24,010.65
Tolovana Tram Road, 1924	6,400.00
Mt. McKinley National Park, 1924	700.25
Total	\$659,939.73

*Expended prior to organization of the Alaska Road Commission.

The annual cost of maintenance of routes in Alaska varies considerably with the locality, the range of climate being greater than that of the United States, and the cost of labor varying greatly. The experience of this Board indicates that for all Alaska proper, average maintenance costs, including a fair allowance for floods, etc., are about as indicated in table following:

Classification	Mileage	Annual Maintenance per Mile	Total
Wagon Roads	1,497 3/4	\$300.00	\$449,325.00
Sled Roads	1,088 1/2	25.00	27,212.50
Trails	6,326 1/2	10.00	63,265.00
Flagged Trails	712	3.00	2,136.00
Totals	9,624 1/4	\$ 56.31	\$541,938.50

The above does not provide for any improvements or extensions. The intermediate, or interior, sections of many of the through routes need improvement to the same standard as the rest so that the entire route may be used throughout by the same traffic without the necessity of breaking loads. A certain amount of new work on extensions must be provided for each year to keep pace with developments. This has only been possible up to the present time at the expense of needed maintenance work.

ANNUAL REPORT ALASKA ROAD

The magnitude of the task and extent by the wide-flung activities of this board may be fact that it would take two years of continuous best facilities available for a single individual inspection of the entire mileage for which the. Actually the President and the Engineer 80% of their time in the field. They have and have inspected most of the projects a nt Secretary and Disbursing Officer has been en the property, accounts and office methods an of inspection of the district offices to stan accounts.

FEDERAL AID.

The provisions of the Federal Aid Road A the Territory of Alaska. They can be so app of Congress. The original Federal Aid Road July 11, 1916, and was amended by the Act ap 1919. Finally, the Federal Highway Act of No further defined the situation. Should the prov be applied to the Territory of Alaska by appu gress upon the same basis as to the States, t receive about 5 1/2 % of the Federal Aid money conditions:

- (a) The formal acceptance by the Territo the conditions imposed by the 3 Acts;
- (b) The provision by the Territorial Legis way Department acceptable to the Fede
- (c) The approval by the Federal Governme projects;
- (d) The approval by the Federal Governme plans, specifications, and estimates;
- (e) The approval by the Federal Governm before payment;
- (f) The provision by the Territory for all m pleted mileage;
- (g) The contribution by the Territory of a amount allotted by the Federal Govern

It will readily be seen from the above tha provisions of the Federal Aid Road Acts to the in the Territory, substantial modifications in the have to be provided for, if the work is to be as e as is now possible under the very broad enabling Road Commission.

Since the extension of the Federal Aid Road without modification was urged in the last Com

COMMERCIAL STATISTICS.

A careful traffic census was begun by the Commission in 1911. Comparing the expenditures for freight on each route at the present rate with the cost of transporting the same amount of freight at the rates prevailing before the road was constructed, a figure is obtained which represents the economic saving to the community served by the construction of the particular route in point.

Combining the saving for all the routes built by the Commission, the following table for 1911, 1912, and 1913, has been compiled:

TRAFFIC SUMMARY.

Year	Expenditures for the year	Total expenditures for roads to end of year	Economic saving to shippers
1911	\$266,777.95	\$1,903,103.27	\$1,981,677.00
1912	317,303.72	2,220,406.99	2,141,688.00
1913	353,118.29	2,573,525.28	2,144,667.00
1911-1913	937,199.96	2,573,525.28	6,268,032.00

From this table it will be seen that the saving in these three years alone was almost three times the total expenditure for roads to the end of 1913. Records for succeeding years were burned up in the fire of 1915. No census was taken during the war.

A new census was inaugurated January 1, 1921, and was continued through the last calendar year. Due to poor communications, reports of this census are still incomplete. Such fragmentary reports as have been received show a very gratifying reaction from recent work performed by this Board, and an astonishing aggregate of traffic upon trails lying in remote sections.

The Traffic Census table on pages 32 and 33 gives a synopsis of the traffic reported upon a few typical routes for the calendar year 1923. It has been impossible to date to obtain at any reasonable cost complete data upon the great majority of the routes. However, efforts are being continued in this direction and more complete results are expected during the current season.

In the interior, the great cost of moving freight by teaming or packing, together with the difficulty and uncertainty of moving it at all, constitutes the main obstacle to the growth and development of the district.

During the opening of the new diggings in the Chisana region a few years ago, beans, coffee, sugar, hay, candles, bacon, grain, etc., were sold at \$1.50 a pound. The freight charges were almost a dollar a pound, so that the original cost of the article was of relatively little importance. And even at that, the supply could not keep pace with the demand. Last summer the freight charges for transporting supplies from Dawson, in the Klondike, to some mines about one hundred miles away in the American 40-Mile Dis-

trict was greater than the original cost of the freight from the United States to the Klondike (miles from Seattle.)

The cost of transportation by the usual methods in Alaska are shown in the following table:

Winter:

Bob-sled (sled road)	.....
Double-ender (trail)	.....
Dog-team (trail)	.....

Summer:

Truck (wagon road)	.....
Wagon (wagon road)	.....
Pack train (trail)	.....
Man (no trail)	.....

(*)—Average from very widely varying figures. Southeastern Alaska, in 1921, I observed lumber, cereals, etc., being carried on the backs of Indians slippery mountain trail about 7,500 feet long to a little basin at about 800 feet elevation at 4 cents per ton—over 1 cent per ton-foot.

Railroad transportation cannot yet be relied upon as a form for Alaska, and steamship rates are entirely dependent upon competition. They, like the existing rates, have been fixed by two factors only; 1st, the cost of the competing wagon road, sled road, or trail, where it exists (or, in the case of steamships, some steamer line); and 2d, by the highest rate that can be charged and be shipped at all.

The table shows the actual cost at the rate of food, forage, etc., prevailing in the great interior. They are based also on the costs of hauling to the south coast the comparative values are actual values are about one-third less because of above controlling elements.

FISCAL STATISTICS.

work was begun by the Commission in 1911 for freight on each route at the present rate of transporting the same amount of freight at the same rate as if the road was constructed, a figure is obtained showing the economic saving to the community of the particular route in point.

The cost for all the routes built by the Commission for 1911, 1912, and 1913, has been com-

FISCAL SUMMARY.

Year	Total expenditures for roads to end of year	Economic saving to shippers
1915	\$1,903,103.27	\$1,981,677.00
1912	2,220,406.99	2,141,688.00
1913	2,573,525.28	2,144,667.00
1916	2,573,525.28	6,268,032.00

It will be seen that the saving in these three years is three times the total expenditure for roads for succeeding years were burned up during the war.

The Commission was inaugurated January 1, 1921, and was successful in its first calendar year. Due to poor communications are still incomplete. Such fragmentary reports received show a very gratifying reaction from the public by this Board, and an astonishing aggregation of complaints in remote sections.

The table on pages 32 and 33 gives a synopsis of the actual cost on a few typical routes for the calendar year. It is impossible to date to obtain at any reasonable rate upon the great majority of the routes. How- ever, continued in this direction and more complete during the current season.

The great cost of moving freight by teaming is due to the difficulty and uncertainty of moving freight, the main obstacle to the growth and develop-

ment of the new diggings in the Chisana region for coffee, sugar, hay, candles, bacon, grain, etc., and. The freight charges were almost as high as the original cost of the article was of relative value. And even at that, the supply could not be obtained. Last summer the freight charges from Dawson, in the Klondike, to some 100 miles away in the American 40-Mile Dis-

trict was greater than the original cost of the supplies plus the freight from the United States to the Klondike. (Dawson is 1,700 miles from Seattle.)

The cost of transportation by the usual modes of transport in Alaska are shown in the following table:

Mode of Transport	Per Ton-Mile.
Winter:	
Bob-sled (sled road)	\$ 0.37
Double-ender (trail)	1.30
Dog-team (trail)	6.30
Summer:	
Truck (wagon road)	.50
Wagon (wagon road)	1.23
Pack train (trail)	4.80
Man (no trail)	26.67*

(*—Average from very widely varying figures. At Lisianski Inlet, in Southeastern Alaska, in 1921, I observed lumber, pipe, tar paper, groceries, etc., being carried on the backs of Indians from the beach up a slippery mountain trail about 7,500 feet long to a new gold strike in a little basin at about 800 feet elevation at 4 cents per pound, or \$80.00 per ton—over 1 cent per ton-foot.

Railroad transportation cannot yet be regarded as a usual form for Alaska, and steamship rates are entirely arbitrary, depending upon competition. They, like the existing railroad rates, have been fixed by two factors only; 1st, the cost of hauling on some competing wagon road, sled road, or trail, where such competition exists (or, in the case of steamships, sometimes by competing steamer line); and 2d, by the highest rate the freight can stand and be shipped at all.

The table shows the actual cost at the rates for teams, labor, food, forage, etc., prevailing in the great interior regions of Alaska. They are based also on the costs of hauling large quantities. On the south coast the comparative values are the same, but the actual values are about one-third less because of lower costs of above controlling elements.

TRAFFIC CENSUS

District	Route No.	Station	Period 1923	No. of Persons	Autos	Wagons	Sleds	Pack Horses	Ton-nage
ANCHORAGE									
Archangel Extension	35A	Fishhook	Jan-Jun	805	---	6	20	37	355
Willow Creek Extension	35D		Jan-Jun	245	1	1	5	---	32
Wasilla-Fishhook	35E	Wasilla	Jan-Dec	2546	792	334	723	---	927
Wasilla-Knik	35F	Wasilla	Jan-Jun	750	91	182	---	262	30
Wasilla-Finger Lake-Palmer	35H		Jan-Jun	881	2	273	270	---	64
Matanuska Trunk Road	35K	U. S. Exp. Station	Jan-Apr	479	---	447	---	---	---
Houston-Willow Creek	35N	Houston	Jan-Mar	353	---	---	200	---	263
Talkeetna-Cache Creek	51	Moose Creek	Jan-Dec	1459	3	137	596	302	476
FAIRBANKS									
Fairbanks-Chitina		Gulkana	Feb	29	4*	---	21	---	27
		Richardson	May-Dec	1488	813	30	3	11	357½
Dunbar-Ft. Gibbon	5A	Hot Springs	Jan-Apr	528	---	---	131	---	33
Fairbanks-Chena Hot Springs Trail	7J	Colorado Roadhouse	Jan-Jun	182	---	---	75	---	50½
			Aug-Dec	78	---	---	31	---	17
Chatanika-Circle	16	12 Mile Roadhouse	Jan-Apr	159	---	---	113	26	26
			Nov-Dec	58	---	---	51	---	9½
Ruby-Poorman	38A	Ruby	Jan	58	---	---	29	---	42
Kobi-Eureka	46	Knight's Roadhouse	Jan-Mar	420	---	---	432	---	175½
Nenana-Knights Roadhouse		Knight' Roadhouse	Jan	66	---	---	57	3	---
Kobi-Diamond	46	Toklat	Nov-Dec	139	---	---	82	---	4½
Kobi-McGrath Trail	46E	Diamond Roadhouse	Jan-Apr	618	---	---	---	454	523
Govt. R. R.-Valdez Creek	76	Carlson Roadhouse	Mar-May	218	---	---	86	---	16
Salcha Ferry		Mile 330, Richardson Highway	Jan-Dec	1373	737	10	---	26	215½
NOME									
Nome-Council	8	Nome	June-Sept	468	---	---	---	---	102
Nome-Bessie	13A	Nome	June-Sept	3400	2625	---	---	---	638
Bessie-Banner	13B	Nome	Jul-Sept	480	460	---	---	---	276
Bessie-Little Creek	13C	Nome	Jul-Sept	1748	368	---	---	---	460
Nome-Osborne	13F	Nome	Jul-Sept	375	273	---	---	---	92
Grass Gulch	13G	Nome	Jul-Sept	150	50	---	---	---	50
Nome River Extension	13I	Nome	Jul-Sept	368	184	---	---	---	15
Bessie Buster	13K	Dexter R. H.	Jan-Dec	944	315	39	87	---	20½
		Nome	Jul-Sept	460	460	---	---	---	184
Kourgarok		U. S. Roadhouse	Oct-Dec	153	3	69	10	---	24½

District	Route No.	Station	Period	No. of Persons	Autos	Wagons	Sleds	Pack Horses	Ton-nage
Kaltag-Solomon									
	18	Portage	Feb	21	---	---	---	---	---
		Bonanza	Nov-Dec	34	---	---	19	---	6
		Unalakleet	Jan-Dec	122	---	---	27	---	7
		Solomon	Jan-Dec	85	---	---	71	---	6
		Isaac's Point	Jan-Dec	498	---	---	76	---	7
	18	Bluff	Jan-Dec	326	---	---	396	---	5
	18A	Haycock	Jan-Dec	514	---	---	162	---	76
		Deering	Jan-Dec	92	---	---	250	---	8½
	25A	Nome	Jan-Dec	1201	---	---	78	---	28
	25B	Nome	Jul-Sept	15	---	---	903	---	28½
	25C	Nome	Jul-Sept	45	---	6	---	---	64
	25D	Nome	Jul-Sept	2760	20	20	---	---	10
	25E	Nome	Jul-Sept	1288	184	50	---	---	30
	25F	Nome	Jul-Sept	2070	460	---	---	---	50
	25G	Nome	Jul-Sept	598	276	---	---	---	5
	26	Candle	Jul-Sept	552	184	---	---	---	92
	28A	Dexter R. H.	Jan-Dec	1489	30	---	---	---	184
		P. O. Hot Springs	Jan-Dec	256	27	69	208	---	92
	41A	Noorvik	Jan-Dec	213	---	---	120	---	384
	67	Sinrock	Jan-Dec	1198	---	---	105	---	34½
		Teller	Jan-Dec	205	---	---	921	---	4
	67A	Wales	Jan-Dec	324	---	---	111	---	23
	73A	Old Hamilton	Jan-Apr	72	---	---	265	1	16
		Fortuna Ledge	Nov-Dec	360	---	---	71	---	59
			Jan-Dec	114	---	---	235	---	7½
				1282	---	---	95	---	17½
					---	---	730	---	11
					---	---	4	---	72½

*-Tractors.

FAIRBANKS									
Fairbanks-Chitina		Gulkana	Feb	29	4*	21	27		
		Richardson	May-Dec	1488	813	30	3	11	357½
Dunbar-Ft. Gibbon	5A	Hot Springs	Jan-Apr	528			131		33
Fairbanks-Chena Hot Springs Trail	7J	Colorado Roadhouse	Jan-Jun	182			75		50½
			Aug-Dec	78			31		17
Chatanika-Circle	16	12 Mile Roadhouse	Jan-Apr	159			113	26	26
			Nov-Dec	58			51		9½
Ruby-Poorman	38A	Ruby	Jan	58			29		42
Kobi-Eureka	46	Knight's Roadhouse	Jan-Mar	420			432		175½
Nenana-Knights Roadhouse		Knight' Roadhouse	Jan	66			57	3	
Kobi-Diamond	46	Toklat	Nov-Dec	139			82		4½
Kobi-McGrath Trail	46E	Diamond Roadhouse	Jan-Apr	618				454	523
Govt. R. R.-Valdez Creek	76	Carlson Roadhouse	Mar-May	218			86		16
Salcha Ferry		Mile 330, Richardson Highway	Jan-Dec	1373	737	10		26	215½
NOME									
Nome-Council	8	Nome	June-Sept	468	453				102
Nome-Bessie	13A	Nome	June-Sept	8400	2625				638
Bessie-Banner	13B	Nome	Jul-Sept	480	460				276
Bessie-Little Creek	13C	Nome	Jul-Sept	1748	368				460
Nome-Osborne	13F	Nome	Jul-Sept	375	273				92
Grass Gulch	13G	Nome	Jul-Sept	150	50				50
Nome River Extension	13I	Nome	Jul-Sept	363	184				15
Bessie Buster	13K	Dexter R. H.	Jan-Dec	944	315	39	87		20½
		Nome	Jul-Sept	460	460				184
Kourgarok		U. S. Roadhouse	Oct-Dec	153	3	69	10		24½

RT ALASKA ROAD COMMISSION.

Kaltag-Solomon	18	Portage	Feb	21			19		6
			Nov-Dec	34			27		6
		Bonanza	Jan-Dec	122			71		7
		Unalakleet	Jan-Dec	85			76		5
		Solomon	Jan-Dec	498			396		76
Kaltag-Solomon	18	Isaac's Point	Jan-Dec	326			162		8½
Bonanza-Kotzebue	18A	Bluff	Jan-Dec	514			250		28
		Haycock	Jan-Dec	92			78		28½
Cripple River	25A	Deering	Jan-Dec	1201			903		64
Penny River	25B	Nome	Jul-Sept	15		6			10
Nome-Wireless	25C	Nome	Jul-Sept	45		20			30
Mouth of Center Creek	25D	Nome	Jul-Sept	2760	20	50			50
Submarine Paystreak	25E	Nome	Jul-Sept	1238	184				5
Anvil Glacier	25F	Nome	Jul-Sept	2070	460				92
Snake River Extension	25G	Nome	Jul-Sept	598	276				184
Candle-Candle Creek	26	Candle	Jul-Sept	552	184				92
Nome-Taylor	28A	Dexter R. H.	Jan-Dec	1489	30	69	208		384
		P.O. Hot Springs	Jan-Dec	266	27		120		34½
Koyzebue-Shungnak	41A	Noorvik	Jan-Dec	213			105		4
Nome-Teller	67	Sinrock	Jan-Dec	1198			921		23
		Teller	Jan-Dec	205			111	1	16
Teller-Lost River	67A	Wales	Jan-Dec	324			265		59
Kotlik-Marshall	73A	Old Hamilton	Jan-Apr	72			71		7½
		Fortuna Ledge	Nov-Dec	114			235		17½
			Jan-Dec	1282			95		11
							730	4	72½

*-Tractors.

ANNUAL REPORT ALASKA ROAD COMMISSION. 33

ESTIMATE OF FUNDS, 1926.

Name of Route	Mile-age	ITEMS			Total	Aver- per Mile
		I. Repair and Main-tenance	II. Im- prove-ment	III New Construc- tion		
Southeastern Alaska:						
Haines-Pleasant Camp	43	\$ 10,500	\$ 7,000	\$ 40,000	\$ 57,500	\$ 1,337
Porcupine Extension	20	6,000	-----	-----	6,000	300
Douglas-Gastineau Channel	2	600	400	-----	1,000	500
Haines-Chilkoot	3	900	1,500	-----	2,400	800
Haines-Mud Bay	10	3,000	-----	2,000	5,000	500
Strawberry Point	1½	450	750	-----	1,200	800
Total	79½	\$ 21,450	\$ 9,650	\$ 42,000	\$ 75,100	\$ 920
Eagle Sub-District:						
Eagle-Fortymile	50	\$ 4,550	\$ 10,000	\$ 10,000	\$ 24,550	\$ 491
Eagle-Seventymile	60	1,725	5,000	-----	6,725	112
Steel Creek-Jack Wade Canyon	15	1,200	1,800	1,000	4,000	267
Fork	21	500	-----	-----	500	24
Eagle-Circle	190	1,900	1,000	1,100	4,000	21
Woodchopper Creek	8	2,400	1,600	1,000	5,000	625
Fourth of July-Nation	10	3,000	2,000	5,000	10,000	1,000
Miscellaneous trails	261	2,610	-----	-----	2,610	10
Total	615	\$ 17,885	\$ 21,400	\$ 18,100	\$ 57,385	\$ 93
Bethel Sub-District:						
Miscellaneous Trails	831	\$ 8,310	-----	-----	\$ 8,310	\$ 10
Total	831	\$ 8,310	\$ -----	\$ -----	\$ 8,310	\$ 10
Valdez District:						
Valdez-Ptarmigan Drop	32	\$ 16,000	\$ 16,000	-----	\$ 32,000	\$ 1,000
Valdez-Mineral Creek	10½	3,500	1,500	3,000	8,000	762
Chisana-Nizina	78	780	-----	-----	780	10
McCarthy-Nizina	16	4,800	1,200	-----	6,000	375
Strelna-Kuskulana	16	4,800	1,200	4,000	10,000	625
Total	152½	\$ 29,880	\$ 19,900	\$ 7,000	\$ 56,780	\$ 372
Chitina District:						
Ptarmigan Drop-Willow Creek	60	\$ 30,000	\$ 30,000	-----	\$ 60,000	\$ 1,000
Chitina-Willow Creek	39	19,500	19,500	-----	39,000	1,000
Willow Creek-Rapids	139	69,500	69,500	-----	139,000	1,000
Gulkana-Tanana Crossing	180	3,000	2,000	10,000	15,000	83
Chistochina-Slate Creek	40	400	-----	-----	400	10
Total	458	\$ 122,400	\$ 121,000	\$ 10,000	\$ 253,400	\$ 553
Fairbanks District:						
Fairbanks - Rapids (Gov-ernment Railroad)	138½	\$ 69,250	\$ 69,250	-----	\$ 138,500	\$ 1,000
Fairbanks-Chatanika (Gov-ernment Railroad)	30	9,000	6,000	-----	15,000	500
Summit - Fairbanks Creek (Government Railroad)	13	3,900	-----	-----	3,900	300
Fairbanks - Ester Creek (Government Railroad)	13	3,900	-----	-----	3,900	300
Fairbanks - Chena Hot Springs (Government Railroad)	64	1,600	1,400	7,000	10,000	156
Chatanika - Circle (Gov-ernment Railroad)	130	22,000	8,000	50,000	80,000	615
Olnes - Beaver (Gov-ernment Railroad)	115	1,150	350	-----	1,500	13
Olnes - Livengood (Gov-ernment Railroad)	54	1,350	-----	-----	1,350	25
Beaver-Caro	75	22,500	-----	-----	22,500	300
Winter Trails	261	2,610	-----	-----	2,610	10
Total	893½	\$ 137,260	\$ 85,000	\$ 57,000	\$ 279,260	\$ 313

Name of Route	Mile-age	I. Repair and Main-tenance	II. Im- prov-ment	III. New Construc- tion	Total	Aver- per Mile
Nenana District:						
Dunbar-Port Gibbon (Gov-ernment Railroad)	121	\$ 3,000	-----	-----	\$ 3,000	2,000
Ft. Gibbon-Kaitag	257	3,000	-----	-----	3,000	2,000
Dunbar - Brooks (Gov-ernment Railroad)	63	1,600	-----	-----	1,600	-----
Ruby-Poorman	59	9,000	-----	-----	9,000	6,000
Rampart-Eureka	27½	2,000	-----	-----	2,000	3,000
Hot Springs Land- ing-Eureka	24	7,200	-----	-----	7,200	2,800
Hot Springs - Sullivan Creek	9	2,700	-----	-----	2,700	1,300
Roosevelt-Kantishna	34	10,000	-----	-----	10,000	-----
Coldfoot-Wiseman	12	1,000	-----	-----	1,000	-----
Moose Creek-Eva Creek (Government Railroad)	14	1,800	-----	-----	1,800	-----
Carlson's - Valdez Creek (Government Railroad)	55	1,500	-----	-----	1,500	-----
Winter Trails	457½	4,575	-----	-----	4,575	-----
Total	1,133	\$ 47,375	\$ -----	\$ -----	\$ 47,375	\$ 17,100
Southwestern Alaska:						
Knik-Willow Creek (Gov-ernment Railroad)	53½	\$ 16,050	-----	-----	\$ 16,050	\$ 10,400
Alaska Peninsula	30	9,000	-----	-----	9,000	10,000
Talkeetna - Cache Creek (Government Railroad)	42	12,600	-----	-----	12,600	10,000
Talkeetna - Iron Creek (Government Railroad)	45	1,150	-----	-----	1,150	-----
Anchorage - Eagle River (Government Railroad)	19½	5,850	-----	-----	5,850	5,000
Matanuska Valley (Gov-ernment Railroad)	31½	9,450	-----	-----	9,450	10,000
Kenai-Russian River	60	1,500	-----	-----	1,500	2,500
Kodiak	5	1,500	-----	-----	1,500	-----
Trails	287½	2,875	-----	-----	2,875	-----
Total	574	\$ 59,975	\$ -----	\$ -----	\$ 59,975	\$ 47,970
Kuskokwim District:						
Ophir-Takotna Landing	25	\$ 7,500	-----	-----	\$ 7,500	\$ 2,500
Medra-Nixon Forks	12	3,600	-----	-----	3,600	-----
Iditarod-Flat	8	2,400	-----	-----	2,400	1,600
Poorman-Ophir (Summer)	125	1,250	-----	-----	1,250	-----
Takotna-Flat	95	950	-----	-----	950	-----
Flat-Georgetown (Summer)	65	650	-----	-----	650	-----
Winter Trails	956	9,560	-----	-----	9,560	-----
Total	1,286	\$ 25,910	\$ -----	\$ -----	\$ 25,910	\$ 4,100
Nome District:						
Nome-Council	82	\$ 24,600	-----	-----	\$ 24,600	-----
Candle-Candle Creek	6	1,800	-----	-----	1,800	1,200
Deering-Inmachuk	25	7,500	-----	-----	7,500	7,500
Nome-Dahl	99	8,700	-----	-----	8,700	-----
Dahl-Inmachuk	65	6,500	-----	-----	6,500	-----
Winter Trails	3,083½	30,835	-----	-----	30,835	-----
Total	3,360½	\$ 79,935	\$ -----	\$ -----	\$ 79,935	\$ 8,700
Summary:						
Southeastern Alaska	79½	\$ 21,450	\$ 9,650	\$ 42,000	\$ 75,100	\$ 965
Eagle Sub-District	615	17,885	21,400	18,100	57,385	93
Bethel Sub-District	831	8,310	-----	-----	8,310	10
Valdez District	152½	29,880	19,900	7,000	56,780	372
Chitina District	458	122,400	121,000	10,000	253,400	553
Fairbanks District	893½	137,260	85,000	57,000	279,260	313
Nenana District	1,133	47,375	-----	-----	47,375	17,100
Southwestern Alaska	574	59,975	-----	-----	59,975	47,970
Kuskokwim District	1,286	25,910	-----	-----	25,910	4,100
Nome District	3,360½	79,935	-----	-----	79,935	8,700
Total	9,383	\$ 550,380	\$ -----	\$ -----	\$ 550,380	\$ 334,820

ALASKA ROAD COMMISSION.

ANNUAL REPORT ALASKA ROAD COMMISSION. 37

STATE OF FUNDS, 1926.

ITEMS		III New Construction	Total	Aver. per Mile
I. Repair and Maintenance	II. Improvement			
\$ 10,500	\$ 7,000	\$ 40,000	\$ 57,500	\$ 1,337
6,000	400	5,000	6,000	300
600	400	1,000	500	500
900	1,500	2,400	3,000	300
3,000	750	2,000	5,000	500
450	750	1,200	800	800
\$ 21,450	\$ 9,650	\$ 42,000	\$ 75,100	\$ 920
\$ 4,550	\$ 10,000	\$ 10,000	\$ 24,550	\$ 491
1,725	5,000	6,725	112	112
1,200	1,800	1,000	4,000	267
500	1,000	1,100	500	24
1,900	1,000	1,000	4,000	21
2,400	1,600	1,000	5,000	625
3,000	2,000	5,000	10,000	1,000
2,610	2,000	2,610	10	10
\$ 17,885	\$ 21,400	\$ 18,100	\$ 57,385	\$ 93
\$ 8,310	\$	\$	\$ 8,310	\$ 10
\$ 8,310	\$	\$	\$ 8,310	\$ 10
\$ 16,000	\$ 16,000	\$	\$ 32,000	\$ 1,000
3,500	1,500	3,000	8,000	762
780			780	10
4,800	1,200	6,000	375	375
4,800	1,200	4,000	10,000	625
\$ 29,830	\$ 19,900	\$ 7,000	\$ 56,730	\$ 372
\$ 30,000	\$ 30,000	\$	\$ 60,000	\$ 1,000
19,500	19,500		39,000	1,000
69,500	69,500	139,000	1,000	1,000
3,000	2,000	10,000	15,000	83
400		400	400	10
\$ 122,400	\$ 121,000	\$ 10,000	\$ 253,400	\$ 553
\$ 69,250	\$ 69,250	\$	\$ 138,500	\$ 1,000
9,000	6,000		15,000	500
3,900			3,900	300
3,900			3,900	300
1,600	1,400	7,000	10,000	156
22,000	8,000	50,000	80,000	615
1,150	350		1,500	13
1,350			1,350	25
22,500			22,500	300
2,610			2,610	10
\$ 137,260	\$ 85,000	\$ 57,000	\$ 279,260	\$ 313

Name of Route	Mile-age	ITEMS			Total	Aver. per Mile
		I. Repair and Main-tenance	II. Im-prove-ment	III New Construction		
Nenana District:						
Dunbar-Fort Gibbon (Gov-ernment Railroad)	121	\$ 3,000	\$ 2,000	\$ 5,000	\$ 10,000	\$ 83
Ft. Gibbon-Kaltag	257	3,000	2,000	5,000	10,000	39
Dunbar - Brooks (Govern-ment Railroad)	63	1,600			1,600	25
Ruby-Poorman	59	9,000	6,000	15,000	30,000	508
Rampart-Eureka	27½	2,000	3,000		5,000	182
Hot Springs Land-ing-Eureka	24	7,200	2,800		10,000	417
Hot Springs - Sullivan Creek	9	2,700	1,300		4,000	444
Roosevelt-Kantishna	34	10,000			10,000	294
Coldfoot-Wiseman	12	1,000			1,000	83
Moose Creek-Eva Creek (Government Railroad)	14	1,800		3,200	5,000	357
Carlson's - Valdez Creek (Government Railroad)	55	1,500			1,500	27
Winter Trails	457½	4,575			4,575	10
Total	1,133	\$ 47,375	\$ 17,100	\$ 28,200	\$ 92,675	\$ 82
Southwestern Alaska:						
Knik-Willow Creek (Gov-ernment Railroad)	53½	\$ 16,050	\$ 10,470	\$ 2,500	\$ 29,020	\$ 542
Alaska Peninsula	30	9,000	10,000		19,000	633
Talkeetna - Cache Creek (Government Railroad)	42	12,600	10,000	20,000	42,600	1,014
Talkeetna - Iron Creek (Government Railroad)	45	1,150		40,000	41,150	914
Anchorage - Eagle River (Government Railroad)	19½	5,850	5,000		10,850	505
Matanuska Valley (Gov-ernment Railroad)	31½	9,450	10,000		19,450	617
Kenai-Russian River	60	1,500	2,500		4,000	67
Kodiak	5	1,500			1,500	300
Trails	287½	2,875			2,875	10
Total	574	\$ 59,975	\$ 47,970	\$ 62,500	\$ 170,445	\$ 297
Kuskokwim District:						
Ophir-Takotna Landing ..	25	\$ 7,500	\$ 2,500	\$ 25,000	\$ 35,000	\$ 1,400
Medra-Nixon Forks	12	3,600			3,600	300
Iditarod-Flat	8	2,400	1,600		4,000	500
Poorman-Ophir (Summer) ..	125	1,250			1,250	10
Takotna-Flat	95	950			950	10
Flat-Georgetown (Summer) ..	65	650			650	10
Winter Trails	956	9,560			9,560	10
Total	1,286	\$ 25,910	\$ 4,100	\$ 25,000	\$ 55,010	\$ 43
Nome District:						
Nome-Council	82	\$ 24,600	\$	\$	\$ 24,600	\$ 300
Candle-Candle Creek	6	1,800	1,200	5,000	8,000	1,333
Deering-Inmachuk	25	7,500	7,500	10,000	25,000	1,000
Nome-Dahl	99	8,700		150,000	158,700	1,603
Dahl-Inmachuk	65	6,500		100,000	106,500	1,485
Winter Trails	3,083½	30,835			30,835	10
Total	3,360½	\$ 79,935	\$ 8,700	\$ 265,000	\$ 353,635	\$ 105
Summary:						
Southeastern Alaska	79½	\$ 21,450	\$ 9,650	\$ 42,000	\$ 73,100	\$ 920
Eagle Sub-District	615	17,885	21,400	18,100	57,385	93
Bethel Sub-District	831	8,310			8,310	10
Valdez District	152½	29,860	19,900	7,000	56,760	372
Chitina District	458	122,400	121,000	10,000	253,400	553
Fairbanks District	893½	137,260	85,000	57,000	279,260	313
Nenana District	1,133	47,375	17,100	28,200	92,675	82
Southwestern Alaska	574	59,975	47,970	62,500	170,445	297
Kuskokwim District	1,286	25,910	4,100	25,000	55,010	43
Nome District	3,360½	79,935	8,700	265,000	353,635	105
Total	9,383	\$ 550,380	\$ 334,820	\$ 514,800	\$ 1,400,000	\$ 149

for the season of 1923 was made by a para-appropriation act approved June 30, 1922:

if an appropriation for this purpose ending June 30, 1924, shall not have been made by March 1, 1923, the Secretary of War shall direct the board of road Commissioners to incur such an appropriation for the purpose of not to exceed 75 per centum of the appropriation for this purpose for the fiscal year ending June 30, 1923, payment of these obligations to be made by appropriation for the fiscal year ending June 30, 1924.

for the season of 1924 was included in an appropriation act approved March 2, 1923. It was dropped out of the corresponding act approved June 7, 1924, and a new appropriation for the 1925 working season should be made by March 4, 1925, and contain the customary provisions for the same to be readily available."

aid of this work has been included each year in an appropriation act for the support of the Army, the Department of the Interior, and the Department of the Navy, and the point of order prior to July 9th, 1918, and the Department of the Interior. In 1918 the Secretary of War would submit no further estimates for the support of the work unless specifically authorized to do so. The act of July 9, 1918 (40 Stat. 863) contains the following provisions:

hereafter, so long as the construction of "military and post roads" in Alaska, and the improvement of trails in that Territory shall be in the direction of the Secretary of War, he shall submit such estimates for the consideration of the President, in his judgment, necessary for the support of the work."

Therefore, the Secretary of War has been held responsible for the submission of estimates for the support of the work not only of "military and post roads, but of "other roads, bridges and trails" in Alaska. On June 30, 1922, making appropriations for the fiscal year ending June 30, 1922, the War Department transferred the item for the support of the work to the Department of the Interior. The work is therefore no longer the responsibility of the Army.

for the fiscal year ending June 30, 1926, five of the years of the program of operations will have elapsed. The amount of appropriations will have been less than half* of the amount of the appropriation of \$100,000 for 1920, each year of which has been secured, but only in 1924 did the amount reach the pre-war figure (\$500,000).

*For the years 1922-1925 actual appropriations, as in the table on page 40, have aggregated only \$2,165,000 as against

With the meagre amounts granted during the intervening years, the Commission was faced with the need for continuing the new construction begun in 1916 upon a \$500,000 per year basis, to repair the damage due to the neglect of the lean war years, to keep the existing system in repair, to build a more substantial type of road to withstand motor traffic, and to embark upon a \$3,000,000 project to provide feeder highways and trails to the newly constructed \$60,000,000 Government railroad; and all this in spite of the greatly increased cost of labor, materials, and supplies. New construction could be accomplished only at the expense of much needed maintenance. However, a comparison of the current report with the report for 1920 will show that substantial results have been accomplished for the money expended. The close of the five-year period will see the 1920 system rehabilitated and improved, annual maintenance performed as required, and a considerable mileage of new construction accomplished.

It now becomes necessary to revise the table for the second five-year period of the Ten Year Program. Many changes in the transportation situation have developed since 1920 and it must be emphasized that in developing a pioneer country great flexibility of plans and organization must be maintained. Any program proposed to extend over several years in advance can only be tentative. Here again a comparison of the current report with the report for 1920 will be enlightening.

For the five-year period, 1927-1931 (working seasons 1926-1930), the following appropriations are recommended:

(a) For Maintenance of Existing Routes 9,624 $\frac{1}{2}$ miles @ \$542,000 per year	\$2,710,000
(b) For Improvement of Existing Routes to the same standard throughout	2,600,000
(c) For Completion of Projects already Undertaken	1,180,000
(d) For Completion of Projects already Approved but not yet Undertaken	2,335,000
(e) For Completion of Projects likely to arise with Development during the 5 years	1,135,000
Total for five years	\$9,960,000
Less Alaska Fund and Territorial Contributions (estimated)	960,000
Net Federal Appropriations	\$9,000,000

Item (a), Maintenance of Existing Routes, is necessary in order to hold the existing system in service and to prevent further deterioration. The present condition and needs of the 9,624 $\frac{1}{2}$ miles of the existing system are described in detail under the different district reports herein.

Item (b) Improvement of Existing Routes, is necessary to enable existing through routes to be utilized throughout in all kinds of weather by the same class of traffic without the necessity of breaking loads. The principal routes requiring substantial improvement are the Eagle-Fortymile, Richardson Highway, Fairbanks Sys-

tem, Circle System, Beaver-Caro, Knik-Willow Creek, Wasilla-Mat-anuska, Anchorage System, Roosevelt-Kantishna, Ruby-Poorman and Ophir-Tacotna Landing.

Item (c) Completion of Projects already Undertaken, is necessary to raise the classification of parts of existing routes and to complete new projects within a reasonable time, especially those undertaken to provide highway and trail feeders to the Government Railroad. 118 miles of new construction estimated to cost an average of \$10,000 per mile, including maintenance of completed sections during the construction period, will be required. The following routes are included:

Haines System	7 miles
Gulkana-Chistochina	36 "
Fairbanks-Circle	53 "
Talkeetna-Cache Creek	20 "
Iliamna Bay-Iliamna Lake	2 "
Total	118 "

Item (d), Completion of Approved New Projects is necessary to permit aggressive action toward completing the proposed system so as to provide Alaska with a complete road and trail system, such as immediate needs justify and probably sufficient to meet all reasonable demands until the Territory shall be sufficiently developed to take over internal public works as a part of its own government. 264½ miles of new construction will be required, including the following routes:

Eagle-Fortymile	38 miles
McCarthy-Nizina	7 "
Brooks Tramway (Extension)	12 "
Moose Creek-Eva Creek	8 "
Willow Creek System	8 "
Kanatak-Pearl Creek Dome	11 "
Homer Spit	12 "
Kantishna-Park Boundary	8 "
Rampart-Eureka	16½ "
East Fork-Council	25 "
Nome-Dahl Tramway (Extension)	12 "
Inmachuk-Candle Creek Tramway	30 "
Deering-Inmachuk	13 "
Dahl-Inmachuk	65 "
Total	264½ "

Item (e), Completion of Road and Trail Projects to Arise with Development during the Five Year Period, provides a reserve to meet new conditions or changes in existing conditions. Among the many possible development routes, the following are of most immediate importance and warrant further study:

- Eagle-Seventymile.
- Fortymile-International Boundary.
- Grundler-Tetling.
- Chistochina-Slate Creek.
- Chistochina-Nabesna-Chisana.
- Chitina-Kotsina.
- Katalla-Yakataga.
- Kenai-Homer.
- Iliamna Lake-Lake Clark.
- Talkeetna-Iron Creek.
- Fairbanks-Chena Hot Springs.
- Lignite-Kantishna.
- Flat-Georgetown.
- Alatna-Shungnak.

The above program is the result of a comprehensive study of the transportation system by the President of the Commission. During this study he has visited practically every inhabited district and has made reconnaissances into remote areas. This program, calling for an expenditure of \$25,000,000 for maintenance, is very modest compared with the plan of the Alaska advisory committee in 1920. That committee recommended about \$25,000,000 for construction, including the following wagon routes which have not yet adopted and some of which have proved so far as any consideration during the past year is concerned:

Kantishna-McGrath-Iditarod
Cache Creek-Rainy Pass-McGrath
Fairbanks-Ruby
Poorman-Ophir
Ruby-Nome

Estimated Cost

Distributing the above work over a five year period in a manner that the entire project may be handled on an eventual economy, we have the following appropriations:

Knik-Willow Creek, Wasilla-Mat-
 elt-Kantishna, Ruby-Poorman and

ects already Undertaken, is nec-
 of parts of existing routes and
 reasonable time, especially those
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..... me	11 "
.....	12 "
.....	8 "
.....	15½ "
.....	25 "
..... (tension)	12 "
..... Tramway	30 "
.....	13 "
.....	65 "
.....	264½ "

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 e Year Period, provides a reserve
 es in existing conditions. Among
 utes, the following are of most
 nt further study:

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The above program is the result of over four years of intensive study of the transportation system of the Territory by the President of the Commission. During this time he has repeatedly visited practically every inhabited district of any importance, and has made reconnaissances into remote and little known regions. This program, calling for an expenditure of \$9,000,000, including maintenance, is very modest compared with the recommendations of the Alaska advisory committee in 1920, referred to heretofore. That committee recommended about \$25,000,000 worth of new construction, including the following wagon roads which this Board has not yet adopted and some of which it has definitely disapproved so far as any consideration during the present generation is concerned:

	Approx. mileage
Kantishna-McGrath-Iditarod	350
Cache Creek-Rainy Pass-McGrath	280
Fairbanks-Ruby	300
Poorman-Ophir	125
Ruby-Nome	375
	1430
Estimated Cost	\$15,000,000

Distributing the above work over a five year period in such manner that the entire project may be handled with the greatest eventual economy, we have the following table of proposed appropriations:

Belt Line Tour. During the current season many hundreds of tourists made this truly magnificent scenic trip without any delays or inconveniences other than are incident to motoring in any mountainous country.

During its first fifteen years of development, the Richardson Highway was the only overland means of access to the interior of Alaska. In addition to its value in aiding local travel and development, its function of bringing new people and new money for permanent investment into the Territory is of constantly growing importance. It is truly remarkable that the federal government should have constructed and maintained this excellent overland highway in such a remote and sparsely settled region so long before the federal aid idea was accepted in the States. Its cost of only \$9,000 per mile, including twenty years' maintenance, coupled with the fact that it has been rendering service in the transportation of mail, express, passengers and freight, throughout its length from the very start in 1905, is even more remarkable. It stands as a permanent and outstanding monument to its projectors.

DETAILED OPERATIONS BY DISTRICTS.

The nature of the construction work varies from primitive pioneer cruising and blazing of pack trails to surveying and locating well graded gravel roads. In Southeastern Alaska and the centers of population of Southwestern Alaska and of the Interior, several hundred miles of road exist, well surfaced and well graded and meeting adequately the increased motor transportation thereon. A considerable amount of work is constantly required in improving portions of old roads, involving regrading, realignment, and gravel surfacing. The condition of roads here in Alaska continues to improve by thawing and drying out from year to year. For this reason, the carrying along of construction through protracted periods has not always been a disadvantage. The cruising, location and clearing of the right-of-way and the gradual grading results in a road structure of less total cost than would have been possible had the construction been completed the first season. In many cases the construction of the road in one season is impossible. This applies to the large areas of marshy and permanently frozen ground which always require two or three seasons of exposure to the sun's rays to become dried out and compacted.

The work of the Board is carried out almost entirely by its own forces. A few small contracts are let. In the general case no organization competent to do our work can be found in the district in which it is executed. The preparing of our work for letting by contract would involve elaborate surveys and constant engineering supervision, finally resulting in an overhead cost totally out of proportion to the extent of our funds. At the same time, no location without elaborate clearing and digging of

test pits could, previous to construction, prede cross section or the road alignment. After a road up and cleared many improvements can be made grade. This is done. The work is so scatter man, assisted from time to time by the district su be competent to make local improvements and lo

The high cost of labor and its scarcity durin was a serious handicap. Except in the interior, l tiful and efficient at reasonable wages during th The cost of maintaining horses through the winter been a serious loss to this Board.

Recently an excellent mechanical equipment l and distributed. This includes tractors and dum expected largely to remove the loss of maintaini the winter time and to increase the quantity of One advantage in the use of mechanical equipme now has, and will have increasingly, a local coa The lignite from the Nenana fields can now be p banks at \$8.00 per ton. Katalla distillate is avail in the Prince William Sound region at 24 cents p

A gas and oil station recently established a the procurement of fuels and lubricants at low c for distribution over the Alaska Railroad. The new coal fields and oil prospects will decrease th All these developments are very important for of our work.

I wagon road construction a maximum grade and curvature of not less than one hundred fee mitted. The width of our roads is generally such wagon track. In a few cases, where congested t road section has been widened out to provide for location of wagon roads to provide a firm road be requires considerable meandering to reach thawed Sled roads, on the other hand, require a clearing a width of eight feet and are located, as near tangent. An effort is made to locate winter a upon identical routes. Winter dog trails, of ex in the interior, must, above all, be carefully blaze that travelers can easily follow them. Shelters as it is inconvenient, if not dangerous, to camp in the winter time. The marking of pack trai portant with that of winter dog trails. These, a ful alignment to avoid swamps and thawed spc passable in the summer time.

In general, in the interior, winter time afford working therein. The dry cold, with the light

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cross section or the road alignment. After a road has been opened
up and cleared many improvements can be made in alignment and
grade. This is done. The work is so scattered that the fore-
man, assisted from time to time by the district superintendent, must
be competent to make local improvements and locations.

The high cost of labor and its scarcity during the war years
was a serious handicap. Except in the interior, labor will be plen-
tiful and efficient at reasonable wages during the present season.
The cost of maintaining horses through the winter time has always
been a serious loss to this Board.

Recently an excellent mechanical equipment has been received
and distributed. This includes tractors and dump trucks, and is
expected largely to remove the loss of maintaining horses through
the winter time and to increase the quantity of work performed.
One advantage in the use of mechanical equipment is that Alaska
now has, and will have increasingly, a local coal and oil supply.
The lignite from the Nenana fields can now be purchased at Fair-
banks at \$8.00 per ton. Katalla distillate is available in quantities
in the Prince William Sound region at 24 cents per gallon.

A gas and oil station recently established at Seward permits
the procurement of fuels and lubricants at low cost and available
for distribution over the Alaska Railroad. The development of
new coal fields and oil prospects will decrease these costs of fuel.
All these developments are very important for the preservation
of our fuel.

I wagon road construction a minimum grade of 100 feet
and curvature of not less than one hundred feet radius are per-
mitted. The width of our roads is generally such as to afford one
wagon track. In a few cases, where congested traffic occurs, the
road section has been widened out to provide for two tracks. The
location of wagon roads to provide a firm road bed in summer time
requires considerable meandering to reach thawed and firm ground.
Sled roads, on the other hand, require a clearing of all stumps to
a width of eight feet and are located, as nearly as possible, on
tangent. An effort is made to locate winter and summer roads
upon identical routes. Winter dog trails, of extreme importance
in the interior, must, above all, be carefully blazed and marked so
that travelers can easily follow them. Shelters must be provided
as it is inconvenient, if not dangerous, to camp out in the interior
in the winter time. The marking of pack trails is equally im-
portant with that of winter dog trails. These, again, require care-
ful alignment to avoid swamps and thawed spots absolutely im-
passable in the summer time.

In general, in the interior, winter time affords access to every
working therein. The dry cold, with the light snow of the in-

terior, affords opportunity for the use of dog teams in reaching almost every working. On the other hand, the open streams in summer time, by the use of river and polling boats, afford access almost equally well. Between these periods there exists in the spring the "break-up" period, in which the ice goes out of the streams and the snow disappears, and the "freeze-up" period in the fall, when the rivers close and the snow begins to cover the ground. The first, coming at the commencement of work on the many small mines of the interior, and the latter at the close of work are of immense importance for the interior operator and must be given grave consideration by this board. In accordance with these conditions it is the general policy of the board to construct first a sled road to a working which it is desired to make accessible and to follow this with the bridges and the necessary detours around lakes and swamps to make the route passable in summer time. This, then, gives a means of access to the interior operator's workings in the two most important periods of the year for him, that is, the "freeze-up" and the "break-up." Work so conducted very substantially increases the working period for the interior miner.

JUNEAU HEADQUARTERS.

The general office of the Board is located at Juneau, the capital of the Territory. This is the headquarters for all activities of the members of the Board.

The field activities of the Board extend to all inhabited parts of the Territory, but the largest projects and the bulk of its expenditures are located in the central part of the Territory tributary to the Richardson Highway and The Alaska Railroad. Close liason is obtained with all other Federal or Territorial bureaus or officials.

The President of the Board has general charge of the operations of the Board, conducts hearings, investigates new projects, allots available funds, and approves and certifies, on behalf of the Board, all vouchers and expenditures. He spends a majority of his time in the field keeping in close touch with the progress of the work and of conditions generally in the Territory.

The Engineer Officer supervises the work of construction in the field, prepares estimates, requisitions, etc., and oversees the design of major structures. He spends most of his time in the field and undertakes a great deal of pioneer reconnaissance work. The President and the Engineer Officer interchange functions in different parts of the Territory, thus expediting the handling of emergencies.

The Secretary and Disbursing Officer is in general charge of the office, handles purchases and supply, and disburses the

funds of the Board. He has a bonded district who draws overdrafts on the nea house to make prompt payments for la overdrafts are met monthly by the disb as "cash advanced" until the covering several months and frequently two year district office periodically to standardize n means of the cable, telegraph, and radio, constant touch with each district office.

WASHINGTON, D. C., SU

Routine business with the War De through the Chief of Engineers, U. S. Arm Board is required to defend the annual e person before the Appropriations Committ also called upon to testify upon Alaska other committees and to confer with other ington. To meet these conditions, he m Washington, D. C., for several weeks each

SEATTLE, WASH., DISTRICT EN

By informal arrangement, the Distric gineer Department, Seattle, Wash., has cor chasing agent of the Board. Upon req canvasses bids, inspects and ships supplie cures information, and, in general, represen For this service he charges the Board only such of his subordinates as may be actual This accommodation results in a considerab States, as otherwise the Board would be busy season, to maintain a high-priced re and to provide for office space, fuel and

The services rendered to this Board and shipments are invaluable. The low p prompt shipments made have been an impor our work.

During the fiscal year \$183,247.50 wort cured at a cost of \$3,048.17 or 1% for p

ION OF EXPENDITURES

Miles*	Expenditure	Unit Cost Dollars per Mile
77		
2		
79	\$52,045.84	\$658.81

* maintained during fiscal year.

EAGLE SUB-DISTRICT.

Supervised from the Juneau Office.

Fred Price, General Foreman in Charge.

(July 1 to Oct. 31, 1923.)

This sub-district includes the Territory east of the 144th meridian between the Yukon and Tanana Rivers. The work is confined largely to the roads and trails centering around the town of Eagle and supplying the mining camps tributary thereto.

This sub-district, which includes an area of very early development in Alaska, was reopened during the last four years. A thorough reconnaissance was made by the Engineer Officer in 1921. This reconnaissance included all routes within the sub-district and was concluded by traversing the old historic Eagle Trail from Eagle to Gulkana on the Richardson Road. The information gathered in this reconnaissance has been the basis for work during the last three years. No lively new mining developments have occurred within the district during these years, and the work has been largely directed toward keeping open existing routes, improving winter sled road and summer trail mileage, and relieving in every possible way the light traffic existing over this widely scattered and remote district.

There are twenty-one sub-projects in this district affording communication between Eagle and the Seventymile country to the north and northwest and the Fortymile country to the south and southwest. With the completion of these sub-projects by the United States and the extension of the Dawson-Miller Creek Road to the International Boundary by Canada, there will be provided a through route for wheeled traffic from Eagle to Dawson, the main distributing center for the Klondike and Yukon Territory. Eagle or Fort Egbert, nearby, is the northern terminus of the Valdez-Fort Egbert trail and telegraph line, the original American route to the Yukon.

SUMMARY OF ROADS.

Sub-Project No.	Name of Route	Wagon Road	Sled Road	Trail	Total Miles
11A	Eagle-O'Brien Creek	12	15		27
11AA	Gravel Gulch-Liberty			15	15
11B	O'Brien Creek-Fortymile		23		23
11C	Steel Creek-Jack Wade	2½	12½		15
11CC	Steel Creek-Jack Wade			15	15
11D	Canvon Creek-Walker's Fork		21		21
11E	Eagle-Seventymile	2½	17½	40	60
11F	Jack Wade-Chicken			20	20
11G	Steel Creek-Moose Creek		15		15
11H	Liberty Cabin-Dome			10	10

Sub-Project No.	Name of Route	Wagon Road	Sled Road	Trail	Total Miles
11I	Dome-Steel Creek			12	12
11J	Fortymile-Franklin		30		30
11K	Fortymile-Steel Creek		8		8
11L	Franklin-Chicken		10		10
11LL	Franklin-Chicken		20		20
11M	Jack Wade-Walker's Fork			18	18
53	Eagle-Circle			190	190
65D	Kechumstuk-Tanana Crossing ..			60	60
65E	Chicken-Kechumstuk			28	28
86	Fourth of July Creek		10		10
87	Woodchopper Creek			8	8
Totals		17	182	416	615

SUMMARY OF EXPENDITURES.

Sub-Project Number	Federal	Territorial	Construction	Maintenance	TOTAL
11A	\$ 4,670.05	.....	.....	\$ 4,670.05	\$ 4,670.05
11AA	.....	.....	.....	.....	.....
11B	122.64	.....	.....	122.64	122.64
11C	60.00	.....	.....	60.00	60.00
11CC	.....	.....	.....	.....	.....
11D	.....	.....	.....	.....	.....
11E	1,406.53	.....	.....	1,406.53	1,406.53
11F	.....	.....	.....	.....	.....
11G	35.00	.....	.....	35.00	35.00
11H	381.84	.....	.....	381.84	381.84
11I	.....	.....	.....	.....	.....
11J	.....	.....	.....	.....	.....
11K	.....	.....	.....	.....	.....
11L	.....	.....	.....	.....	.....
11LL	.....	.....	.....	.....	.....
11M	.....	.....	.....	.....	.....
53	412.51	.....	.....	412.51	412.51
65D	189.00	.....	.....	189.00	189.00
65E	672.00	.....	.....	672.00	672.00
86	1,063.86	.....	.....	1,063.86	1,063.86
87	445.00	.....	.....	445.00	445.00
Totals	\$ 9,458.43	.....	.....	\$ 9,458.43	\$ 9,458.43

ROUTE 11A—EAGLE O'BRIEN CREEK....(12 MILES WAGON ROAD, 15 MILES SLED ROAD)

This is the main route from Eagle to the Fortymile District. The first 12 miles have been improved to summer wagon road standard. This section starts from Eagle and follows up the right limit of American Creek, to Discovery Fork, thence along the right limit to Gravel Gulch at Mile 12. From Gravel Gulch a winter sled road follows to the summit and down the right limit of King Solomon to the mouth of Liberty Fork, at Mile 27.

During the past season considerable damage from early summer storms occurred to this road. This damage was repaired, several culverts were replaced, a new bridge was constructed over Marion Creek and several slides were removed. Minor repairs were made to the sled road portion of the route, leaving it in fair condition for winter travel.

Expenditure: \$4,670.05.

ROUTE 11AA—GRAVEL GULCH-LIBERTY.....(15 MILES TRAIL)

Between Gravel Gulch and the mouth of Liberty Fork a summer pack trail leaves Gravel Gulch. Following the ridge along

the heads of Boundary and the north fork of it continues along the high, dry ground to the mouth of Liberty Creek. The distance is the sled road included in Route 11A.

Expenditure: None.

ROUTE 11B—O'BRIEN CREEK-FORTY MILE ROAD)

This is a continuation of Route 11A from the mouth of O'Brien Creek on Fortymile Road, 50 miles, or 50 miles from Eagle.

Several washouts were repaired and other made on this sled road placing it in fair condition.

Expenditure: \$122.64.

ROUTE 11C—STEEL CREEK-JACK WADE..... ROAD, 12 1/2 MILES SLED ROAD)

This winter sled road starts at the mouth of the end of Route 11K, follows up the left limit of the ridge, crosses over and down the left limit of the post office, a distance of 15 miles, or 73 miles from Eagle.

Road was cleared of slides and minor repairs made.

Expenditure: \$60.00.

ROUTE 11CC—STEEL CREEK-JACK WADE..... ROAD, 12 1/2 MILES SLED ROAD)

This is the alternate summer pack trail to the ridge to the northeastward of the winter sled road.

Expenditure: None.

ROUTE 11D—CANYON CREEK-WALKER'S SLED ROAD)

This sled road branches off Route 11G at Canyon Creek six miles east of Steel Creek, and follows Canyon Creek to its head and then crosses and follows Walker's Fork to within five miles of the mouth of Steel Creek. The distance from the mouth of Steel Creek is 27 miles, or 85 miles.

Expenditure: None.

ROUTE 11E—EAGLE-SEVENTYMILE....(2 1/2 MILES TRAIL, 17 1/2 MILES SLED ROAD, 40 MILES TRAIL)

The route to Seventymile leaves Eagle through the post of Fort Egbert, following the wagon road across the ridge a mile and a half. It then continues as a winter sled road to the mouth of Steel Creek.

of Route	Wagon Road	Sled Road	Trail	Total Miles
Creek			12	12
Franklin		30		30
Gravel Creek		8		8
King		10		10
Walker's Fork		20		20
.....			18	18
.....			190	190
Tanana Crossing			60	60
Umstuk			28	28
Liberty Creek		10		10
.....			8	8
.....	17	182	416	615

MARY OF EXPENDITURES.

	Territorial	Construction	Maintenance	TOTAL
05			\$ 4,670.05	\$ 4,670.05
64			122.64	122.64
00			60.00	60.00
53			1,406.53	1,406.53
00			35.00	35.00
84			381.84	381.84
51			412.51	412.51
00			189.00	189.00
00			672.00	672.00
86			1,063.86	1,063.86
00			445.00	445.00
43			\$ 9,458.43	\$ 9,458.43

O'BRIEN CREEK....(12 MILES WAGON ROAD, 18 MILES SLED ROAD)

A route from Eagle to the Fortymile District have been improved to summer wagon road. The route starts from Eagle and follows up the right bank of Liberty Creek to Discovery Fork, thence along the right bank to Mile 12. From Gravel Gulch a winter sled road starts at the summit and down the right limit of King Solomon Creek to the mouth of Liberty Fork, at Mile 27. In the winter season considerable damage from early summer rains was done to this road. This damage was repaired, and a new bridge was constructed over the river. Several slides were removed. Minor repairs were made on a portion of the route, leaving it in fair condition. Expenditure: \$4,670.05.

GRAVEL GULCH-LIBERTY.....(15 MILES TRAIL)

From Gravel Gulch and the mouth of Liberty Fork a winter sled road leaves Gravel Gulch. Following the ridge along

the heads of Boundary and the north fork of King Solomon Creeks it continues along the high, dry ground to Liberty cabin at the mouth of Liberty Creek. The distance is the same as by the winter sled road included in Route 11A.

Expenditure: None.

ROUTE 11B—O'BRIEN CREEK-FORTYMILE....(23 MILES SLED ROAD)

This is a continuation of Route 11A from Liberty Cabin to the mouth of O'Brien Creek on Fortymile River, a distance of 23 miles, or 50 miles from Eagle.

Several washouts were repaired and other minor repairs were made on this sled road placing it in fair condition for winter use.

Expenditure: \$122.64.

ROUTE 11C—STEEL CREEK-JACK WADE....(2 1/2 MILES WAGON ROAD, 12 1/2 MILES SLED ROAD)

This winter sled road starts at the mouth of Steel Creek, at the end of Route 11K, follows up the left limit to the summit of the ridge, crosses over and down the left limit of Jack Wade to the post office, a distance of 15 miles, or 73 miles from Eagle.

Road was cleared of slides and minor repairs made to sled road.

Expenditure: \$60.00.

ROUTE 11CC—STEEL CREEK-JACK WADE....(15 MILES TRAIL)

This is the alternate summer pack trail to Route 11C crossing the ridge to the northeastward of the winter sled road.

Expenditure: None.

ROUTE 11D—CANYON CREEK-WALKER'S FORK....(21 MILES SLED ROAD)

This sled road branches off Route 11G near the mouth of Canyon Creek six miles east of Steel Creek, and follows up Canyon Creek to its head and then crosses and follows the right limit of Walker's Fork to within five miles of the boundary line. The total distance from the mouth of Steel Creek is 27 miles, and from Eagle is 85 miles.

Expenditure: None.

ROUTE 11E—EAGLE-SEVENTYMILE....(2 1/2 MILES WAGON ROAD, 17 1/2 MILES SLED ROAD, 40 MILES TRAIL)

The route to Seventymile leaves Eagle through the old army post of Fort Egbert, following the wagon road across American Creek a mile and a half. It then continues as a winter sled road for 18 1/2

miles up Excelsior Creek, across a low summit and down the right limit of Rock Creek to its mouth at Seventymile. The pack trail leaves the sled road at Rock Creek Bridge several miles above the mouth of Rock Creek, crosses over a low divide into Bryant Creek and follows up the right limit to a mile below the falls where it crosses and continues up the left limit to Barney Creek. Here another crossing is made to the right limit and again back to the left limit and across Placer Creek near its mouth. The trail then climbs the ridge which it follows for a distance of 10 miles, dropping down again and crossing the Seventymile just below Nugget Creek. It then continues up the right limit of Seventymile to Alder and Flume Creeks, a total distance of 60 miles from Eagle.

Portions of the wagon road damaged by high water were regraded and one mile of new wagon road was constructed.

Light repairs were made throughout.

Expenditure: \$1,406.53.

ROUTE 11F—JACK WADE-CHICKEN.....(20 MILES TRAIL)

This trail climbs the ridge west of Jack Wade post office, following around the head of Uhler, Polly and Napoleon Creeks and drops down to the crossing of the Fortymile River at Franklin post office, again climbs the ridge, following around the heads of Kettle George and a fork of Chicken, where the winter sled road is followed upon the right limit of Chicken Creek to Chicken Post Office. The distance from Jack Wade to Franklin by this route is 12 miles, and from Franklin to Chicken 8 miles.

Expenditure: None.

ROUTE 11G—STEEL CREEK-MOOSE CREEK....(15 MILES SLED ROAD)

This winter road extends from the mouth of Chicken Creek along the left limit of Fortymile River, a distance of 15 miles, to the international boundary near Moose Creek.

A small amount of work was done on this sled road clearing slides.

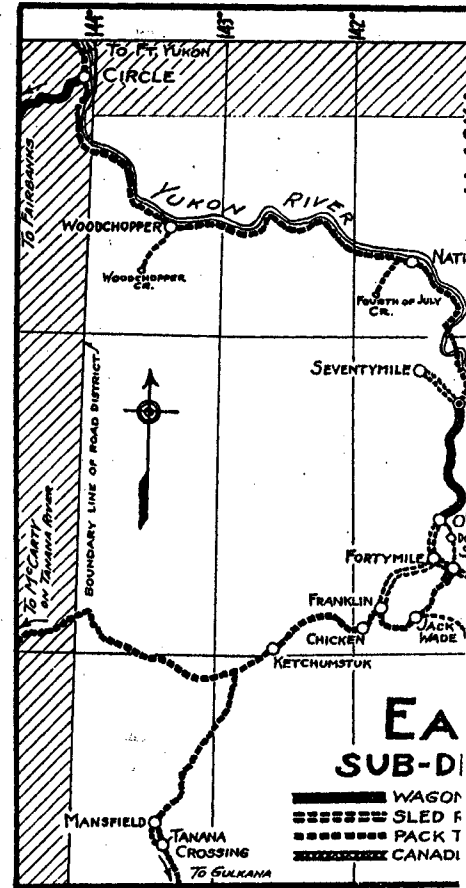
Expenditure: \$35.00.

ROUTE 11H—LIBERTY CABIN-DOME.....(10 MILES TRAIL)

From Liberty Cabin a summer pack trail follows the ridge around the head of McKinley Creek and down the right limit of Dome Creek to the hydraulic workings near the mouth of Dome Creek.

During the past season a bridge of thirty-two foot span, eleven feet wide, was constructed over Liberty Creek. This bridge is a great improvement to this route.

Expenditure: \$381.84.



PORT ALASKA ROAD COMMISSION.

...eck, across a low summit and down the right
...o its mouth at Seventymile. The pack trail
...t Rock Creek Bridge several miles above the
...crosses over a low divide into Bryant Creek
...ght limit to a mile below the falls where it
...p up the left limit to Barney Creek. Here
...ade to the right limit and again back to the
...Placer Creek near its mouth. The trail then
...a it follows for a distance of 10 miles, dropping
...ing the Seventymile just below Nugget Creek.
...the right limit of Seventymile to Alder and
...al distance of 60 miles from Eagle.

...wagon road damaged by high water were re-
...of new wagon road was constructed.

...ere made throughout.

...06.53.

WADE-CHICKEN.....(20 MILES TRAIL)

...s the ridge west of Jack Wade post office,
...e head of Uhler, Polly and Napoleon Creeks
...the crossing of the Fortymile River at Franklin
...limbs the ridge, following around the heads of
...fork of Chicken, where the winter sled road is
...ght limit of Chicken Creek to Chicken Post
...e from Jack Wade to Franklin by this route
...m Franklin to Chicken 8 miles.

L CREEK-MOOSE CREEK....(15 MILES SLED)

...d extends from the mouth of Chicken Creek
...of Fortymile River, a distance of 15 miles, to
...undary near Moose Creek.

...of work was done on this sled road clearing

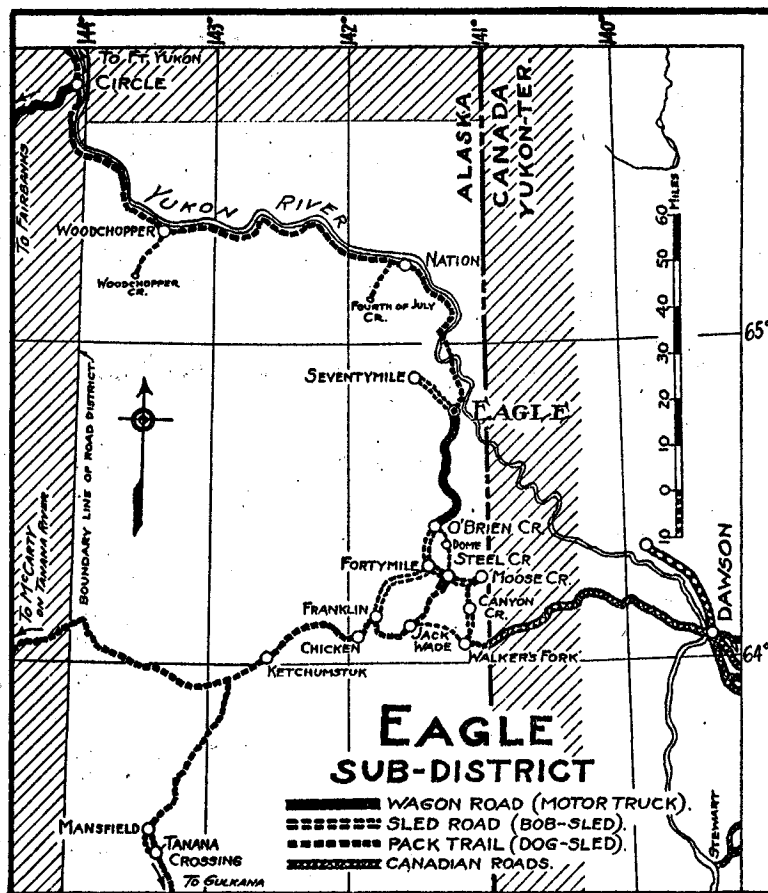
...35.00.

RTY CABIN-DOME.....(10 MILES TRAIL)

...Cabin a summer pack trail follows the ridge
...McKinley Creek and down the right limit of
...hydraulic workings near the mouth of Dome

...season a bridge of thirty-two foot span, eleven
...constructed over Liberty Creek. This bridge is
...t to this route.

...81.84.



ROUTE 11I—DOME-STEEL CREEK.....(12 MILES TRAIL)

This is a continuation of Route 11H from Dome Creek up the right limit of Dick Dale Creek, around the heads of Flat and Twin creeks and down a steep bench to Steel Creek.

Expenditure: None.

ROUTE 11J—FORTY MILE-FRANKLIN.....(30 MILES SLED ROAD)

This sled road is a continuation of Route 11B, extending from the mouth of O'Brien Creek up the Fortymile River to Franklin Post Office at the mouth of Franklin Gulch, a distance of 30 miles, or 80 miles from Eagle.

Expenditure: None.

ROUTE 11K—FORTY MILE-STEEL CREEK..(8 MILES SLED ROAD)

This winter sled road branches off Route 11B at the mouth of O'Brien Creek and follows down the Fortymile River a distance of 8 miles to the mouth of Steel Creek, 58 miles from Eagle.

Expenditure: None.

ROUTE 11L—FRANKLIN-CHICKEN.....(10 MILES SLED ROAD)

This winter sled road is a continuation of Route 11J and follows up Franklin Gulch to the mouth of Kettle Creek, then over a low divide, along the right limit into a fork of Chicken Creek. It follows down the right limit to the post office, a distance of 10 miles, or 90 miles from Eagle.

Expenditure: None.

ROUTE 11LL—FRANKLIN-CHICKEN.....(20 MILES SLED ROAD)

This is an alternative winter sled route which follows the main Fortymile River to the mouth of Dennison Fork and then across to Chicken post office.

Expenditure: None.

ROUTE 11M—JACK WADE-WALKER'S FORK....(18 MILES TRAIL)

This pack trail leaves Jack Wade Creek at Robinson Creek, climbs to the top of the ridge and follows around the head of Squaw, Baby, Camp and Twelvemile creeks to the head of Canyon Creek. It there picks up the winter sled road, Route 11D, and follows it to Walker's Fork.

Expenditure: None.

ROUTE 53—EAGLE-CIRCLE.....(190 MILES TRAIL)

This winter trail follows the Yukon River from Eagle to Circle. It is used principally by mail carrier but also serves all winter travel between these points.

Several important improvements were made to this trail during the past season. A trail was cut around Tacoma Bluff near Circle taking the trail off the river at this point. All fallen timber was removed from trail and the so-called Montuk and Seventy-Mile cut-offs improved. One small bridge was built.

Expenditure: \$412.51.

ROUTE 65D—KECHUMSTUK-TANANA CROSSING.....(60 MILES TRAIL)

This is a continuation of Route 65E, and extends from Kechumstuk along the left limit and across Little Indian and Indian Creeks to Mitchell's Ranch, a distance of 15 miles. From Mitchell's Ranch it crosses the flats, then across Lake Mansfield and Marsh Lake and on to Tanana Crossing, a total distance from Kechumstuk of 60 miles.

Trail was cleared of brush, several small bridges built and signposts erected. This trail is now in fair condition.

Expenditures: \$189.00.

ROUTE 65E—CHICKEN-KECHUMSTUK.....(28 MILES TRAIL)

From Chicken this pack trail crosses the flats, then across Mosquito Fork and around Taylor Mountain, and down across Mosquito Fork again at Kechumstuk.

During the past season this trail was cleared throughout its entire length. Several small bridges were built. During the past winter contract was let to Dick Mitchell for the construction of a fifty-foot span bridge over Mosquito Fork. This work places this trail in fairly good condition.

Expenditure: \$672.00.

ROUTE 86—FOURTH OF JULY CREEK....(10 MILES SLED ROAD)

This winter sled road leads from the landing on the Yukon River up the right limit of Fourth of July Creek to the hydraulic workings of the July Creek Placer Company, then crosses the creek and follows up the left limit to the camp.

The bridge over Fourth of July Creek, washed away during extremely high water, was rebuilt, several portions of the road which had been damaged by a heavy rainstorm were repaired and several culverts were replaced. One mile of new road was built leading to the Company's camp.

Expenditure: \$1,063.86.

ROUTE 87—WOODCHOPPER CREEK.....(8 MILES TRAIL)

This is a new project.

The trail leads from Woodchopper Landing on Yukon River eight miles up Woodchopper Creek, serving several miners and prospectors along the creek.

During the past season this trail was brushed and several of small bridges and culverts were built. The trail is now in fair condition and will prove of great benefit in moving supplies to mining camps in this section.

Expenditure: \$445.00.

DISTRIBUTION OF EXPENDITURE

Type	Miles*	Expenditure
Wagon Road	17	\$ 4,876.58
Sled Road	93	2,481.50
Trail	336	2,100.35
Totals	446	\$ 9,458.43

(*—Includes only routes maintained during fiscal

Important improvements were made to this trail during the season. A trail was cut around Tacoma Bluff near Circle Bay off the river at this point. All fallen timber was removed from the trail and the so-called Montuk and Seventy-Mile trails were moved. One small bridge was built.

Expenditure: \$412.51.

—KECHUMSTUK-TANANA CROSSING.....(60 MILES TRAIL)

This trail is a continuation of Route 65E, and extends from the left limit along the left limit and across Little Indian and Indian trails to Mitchell's Ranch, a distance of 15 miles. From Mitchell's Ranch it crosses the flats, then across Lake Mansfield and Marsh Lake to Tanana Crossing, a total distance from Kechumstuk of 60 miles.

The trail was cleared of brush, several small bridges built and repaired. This trail is now in fair condition.

Expenditure: \$189.00.

—CHICKEN-KECHUMSTUK.....(28 MILES TRAIL)

This pack trail crosses the flats, then across Mosquito Fork and around Taylor Mountain, and down across Mosquito Fork to Kechumstuk.

During the past season this trail was cleared throughout its length. Several small bridges were built. During the past season the contract was let to Dick Mitchell for the construction of a new bridge over Mosquito Fork. This work places this trail in good condition.

Expenditure: \$672.00.

FOURTH OF JULY CREEK....(10 MILES SLED ROAD)

This sled road leads from the landing on the Yukon River to the right limit of Fourth of July Creek to the hydraulic mine of the July Creek Placer Company, then crosses the flats to follow up the left limit to the camp.

Large ice over Fourth of July Creek, washed away during the season. Heavy water, was rebuilt, several portions of the road which had been damaged by a heavy rainstorm were repaired and new bridges were replaced. One mile of new road was built from the July Creek Placer Company's camp.

Expenditure: \$1,063.86.

WOODCHOPPER CREEK.....(8 MILES TRAIL)

This is a new project.

The trail leads from Woodchopper Landing on Yukon River to the right limit of Woodchopper Creek, serving several miners and following the creek.

During the past season this trail was brushed out. A number of small bridges and culverts were built. The route is now passable and will prove of great benefit in moving supplies to the mining camps in this section.

Expenditure: \$445.00.

DISTRIBUTION OF EXPENDITURES

Type	Miles*	Expenditure	Unit Cost Dollars per Mile
Wagon Road	17	\$ 4,876.53	\$286.86
Sled Road	93	2,481.50	26.68
Trail	336	2,100.35	6.25
Totals	446	\$ 9,458.43	\$ 21.21

(*—Includes only routes maintained during fiscal year.

BETHEL SUB-DISTRICT.

Supervised from the Juneau Office.

Earle M. Forrest, District Superintendent, Bureau of Education, Inspector.

This sub-district includes the lower Kuskokwim Valley, and the Yukon-Kuskokwim Portage routes. There are twelve sub-projects in this sub-district, making the hinterland accessible from Bethel, a deep sea port at the mouth of the Kuskokwim River, having direct communication by sea with Seattle and San Francisco during the open summer season.

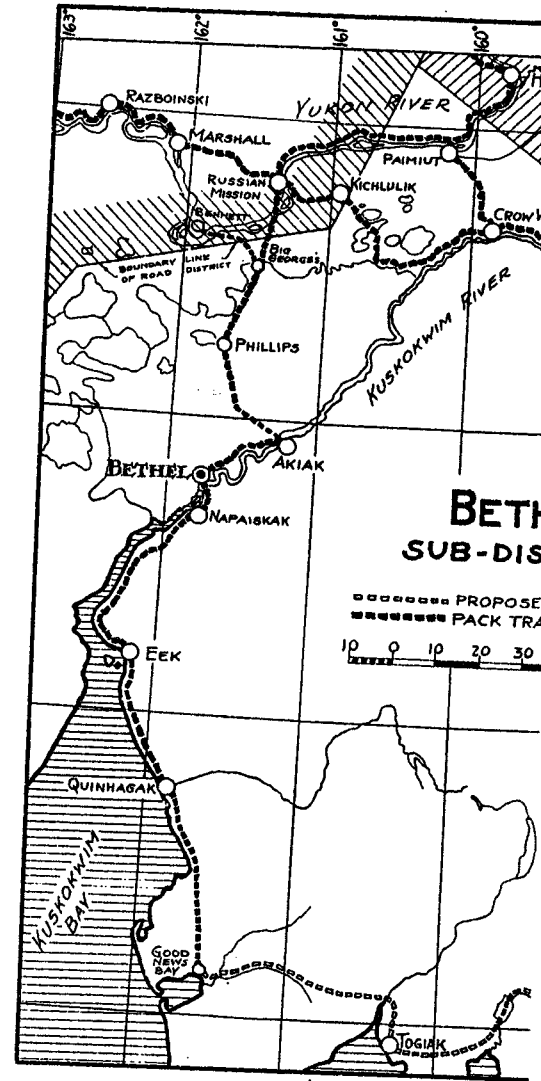
Prior to the fall of 1921, neither this Board nor the Territory had expended any funds for road or trail construction in this region. In September 1921 the President of the Board accompanied by the Surveyor-General of the Territory made a reconnaissance trip from McGrath down the Kuskokwim River to Bethel and then crossed the portage to the Yukon River at Russian Mission. Several contracts were let at this time and systematic work was undertaken which will result in a few years in giving this remote district a complete system of overland communication for winter use.

During the past winter, the Surveyor-General of the Territory representing this Board, made a reconnaissance of all winter trails in this district from McGrath on the upper Kuskokwim by way of Bethel, Goodnews Bay and Nushagak to Cold Bay on the Alaska Peninsula. Contracts were let for the permanent staking of winter trails and the erection of shelter, extending the system of trails to connect with the winter boat service at Kanatak.

The work is supervised from Juneau by means of the new radio station established at Bethel. Inspections are made through the courtesy of Mr. Earle M. Forrest, District Superintendent for the Bureau of Education, located at Akiak, 26 miles up the Kuskokwim River from Bethel. All sub-projects are paid from cooperative funds contributed by this Board and the Territory of Alaska.

SUMMARY OF ROADS.

Sub-Project No.	Name of Route	Wagon Road	Sled Road	Trails	Total Miles.
90C	Shelter Cabins-3rd Divn.				
90D	Shelter Cabins-4th Divn.				
92A	Bethel-Quinhagak			90	90
92B	Bethel-Akiak			26	26
92C	Akiak-Russian Mission			75	75
92D	Bennett's Cutoff			18	18



BETHEL SUB-DISTRICT.

Supervised from the Juneau Office.
 Forrest, District Superintendent, Bureau of Education,
 Inspector.

istrict includes the lower Kuskokwim Valley, and the
 wim Portage routes. There are twelve sub-projects.
 istrict, making the hinterland accessible from Bethel.
 ort at the mouth of the Kuskokwim River, having
 igation by sea with Seattle and San Francisco during
 ner season.

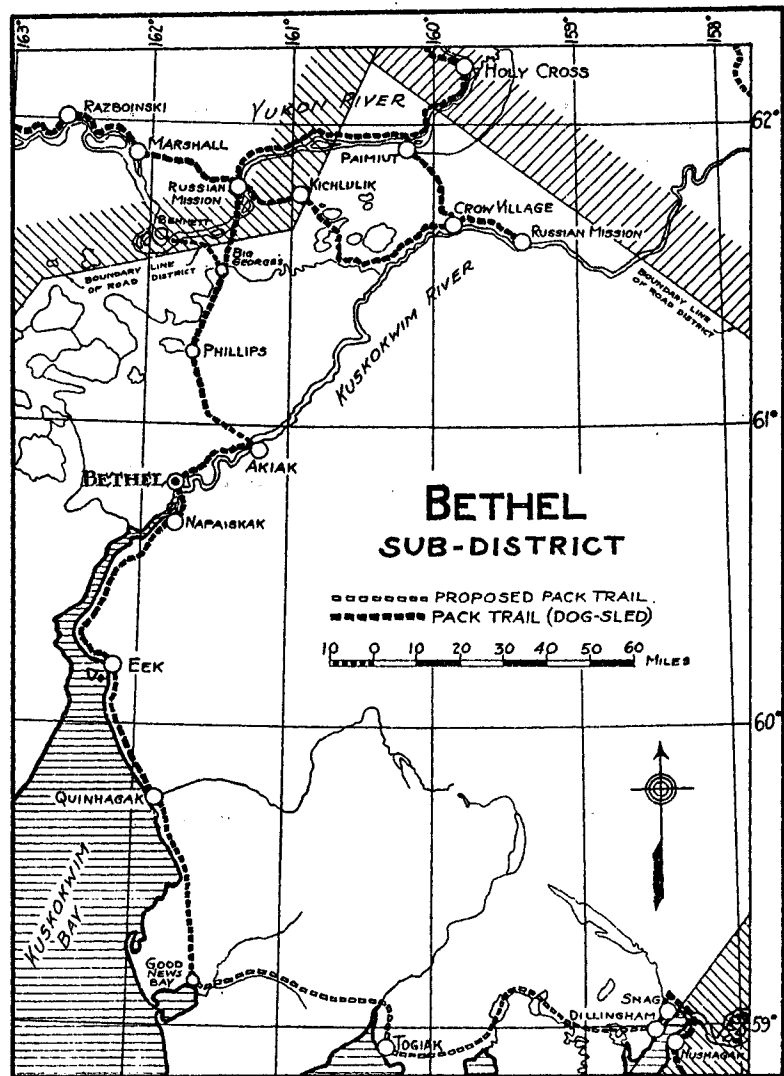
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SUMMARY OF ROADS.

Section of Route	Whgon Road	Sled Road	Trails	Total Miles.
bins-3rd Divn.				
bins-4th Divn.				
hagak			90	90
ik			26	26
lan Mission			75	75
utoff			18	18



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Sub-Project No.	Name of Route	Wagon Road	Sled Road	Trail	Total Miles
92E	Yukon-Kuskokwim Portage			120	120
92G	Quinhagak-Goodnews Bay			60	60
92G	Goodnews Bay-Togiak			53	53
92H	Togiak-Nushagak			125	125
92I	Nushagak-Naknek			90	90
92J	Naknek-Egekik			65	65
92L	Kolmakof-Aniak			25	25
92M	Aniak-Tuluksak			84	84
Totals				831	831

SUMMARY OF EXPENDITURES.

Sub-Project Number	Federal	Territorial	Construction	Maintenance	TOTAL
90C					
90D		\$ 1,625.00	\$ 1,625.00		\$ 1,625.00
92A					
92B	\$ 195.00	200.00	395.00		395.00
92C	784.00	800.00	1,584.00		1,584.00
92D	196.00	200.00	396.00		396.00
92E					
92F	1,659.32	758.45	2,417.77		2,417.77
92G	185.00		185.00		185.00
92H	488.44		488.44		488.44
92I	325.00		325.00		325.00
92J	210.00		210.00		210.00
92L	95.00		95.00		95.00
92M	269.96		269.96		269.96
Totals	\$ 4,407.72	\$ 3,583.45	\$ 7,991.17		\$ 7,991.17

90C—SHELTER CABINS—3RD. DIVISION

In January, 1924, contracts were let for the erection of shelter cabins as follows:

Route	Contractor	Item	Amount
Goodnews Bay-Togiak	W. M. Noden	1 cabin	\$ 575.00
Nushagak-Naknek	Ernest Olsen	2 cabins	750.00
Naknek-Egekik	Frank Altonen	1 cabin	500.00
Total			\$1825.00

Expenditure: None.

90D—SHELTER CABINS—4TH. DIVISION

The following work was completed and settlement made:

Akiak-Russian Mission	2 cabins rebuilt	\$ 425.00
Quinhagak-Goodnews Bay	2 cabins erected	1200.00
Total		\$1625.00

In January, 1924, contracts were let for the erection of shelter cabins as follows:

Route	Contractor	Item	Amount
Goodnews Bay-Togiak	W. M. Noden	1 cabin	\$ 424.50
Aniak-Tuluksak	W. J. Cribbee	2 cabins	700.00
Total			\$1124.50

Expenditure: \$1,625.00.

ROUTE 92A—BETHEL-QUINHAGAK.....(90 MILES TRAIL)

This is the winter mail trail between Bethel and the village of Quinhagak to the south and on the east side of the estuary of the Kuskokwim River. This trail was permanently staked and improved in winter of 1921 and 1922. No maintenance work was

required during the past season and the trail is now in good condition.

Expenditure: None.

ROUTE 92B—BETHEL-AKIAK.....(26 MILES TRAIL)

This is a winter mail trail. Akiak is upstream from Bethel. This trail was permanently staked in the winter of 1921 and 1922. In the fall of 1922 a 60 foot bridge was built by contract across a creek on this trail. Voucher in payment for this work is included in this fiscal year.

Expenditure:

Alaska Road Commission	\$195.00
Territory of Alaska	200.00

Total	\$395.00
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ROUTE 92C—AKIAK-RUSSIAN MISSION.....(75 MILES TRAIL)

This winter mail trail extends from Akiak on the Kuskokwim River to Russian Mission on the Yukon River, via Phillips and Big Georges. This trail was permanently staked in the winter of 1922 and 1923. A total of 421 tripods and beacons were erected. Voucher in payment for this work is included in this fiscal year.

Expenditure:

Alaska Road Commission	\$784.00
Territory of Alaska	800.00

Total	\$1,584.00
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ROUTE 92D—BENNETT'S CUT-OFF.....(18 MILES TRAIL)

This winter mail trail extends from Big Georges on Route 92C to Bennett's Trading Post on the Yukon River, about 24 miles below Russian Mission. The permanent staking of this cut-off was performed in the winter of 1922 and 1923. Voucher in payment for this work went into the account during the current fiscal year.

Expenditure:

Alaska Road Commission	\$196.00
Territory of Alaska	200.00

Total	\$396.00
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ROUTE 92E—YUKON-KUSKOKWIM PORTAGE.....(120 MILES TRAIL)

This summer portage is passable with difficulty for canoes and poling boats from Russian Mission via the Yukon River, Portage Slough and the Tulakwicksak River to the High Portage, then by a series of grassy lakes and sloughs, down Crooked Creek, up

Johnson Creek and over Portage No. 4, to the Kuskokwim River.

This portage was well marked in the summer and directing arms were set up in the grassy swamps to indicate the route. A reconnaissance view to its improvement under the River made during the past season and report has

Expenditure: None.

ROUTE 92F—QUINHAGAK-GOODNEWS BAY.

This winter mail trail is an extension of the east shore of the estuary of the Kuskokwim Bay. The contract let for staking this trail was made during the past season. Tripods 8 feet high were erected at intervals except across water surfaces. Beacons and arms 12 feet high were erected at lake crossing points of ingress and egress from lakes where the trail cut out 12 feet wide where it passed the river.

Two shelter cabins were erected, one at the mouth of Indian River.

Expenditure: (Exclusive of shelter cabins)

Alaska Road Commission	
Territory of Alaska	

Total	
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92G—GOODNEWS BAY-TOGIAK.....

This winter trail extends along the coast from the Togiak school house on Togiak Bay to Kanatak. A permanent staking of this route was let to W. work to be completed this season.

Expenditure shown covers cost of reconnaissance, and inspection.

Expenditure:

Alaska Road Commission	
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92H—TOGIAK-NUSHAGAK.....

This is a winter trail connecting the settlement at Nushagak at the mouth of the settlement at the mouth of the Togiak. It is a part of the through route from Bethel to Togiak. The tract was let to Ed McCann for the permanent route for \$2990, the work to be completed this season. Expenditure shown covers cost of reconnaissance, and inspection.

Expenditure:

Alaska Road Commission	
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past season and the trail is now in good condition.

EL-AKIAK.....(26 MILES TRAIL)
 Winter mail trail. Akiak is upstream from Bethel. Permanently staked in the winter of 1921 and 1922. A 60 foot bridge was built by contract across the river. Voucher in payment for this work in this fiscal year.

Alaska Road Commission	\$195.00
Alaska	200.00
	<hr/>
	\$395.00

RUSSIAN MISSION.....(75 MILES TRAIL)
 Winter mail trail extends from Akiak on the Kuskokwim River to the Yukon River, via Phillips and Big Rapids. Was permanently staked in the winter of 1922. 421 tripods and beacons were erected. Voucher work is included in this fiscal year.

Alaska Road Commission	\$784.00
Alaska	800.00
	<hr/>
	\$1,584.00

BETHEL'S CUT-OFF.....(18 MILES TRAIL)
 Winter trail extends from Big Georges on Route 92C to the Yukon River, about 24 miles below Bethel. Post on the Yukon River, about 24 miles below Bethel. The permanent staking of this cut-off was completed in the winter of 1922 and 1923. Voucher in payment for this work is included on the account during the current fiscal year.

Alaska Road Commission	\$196.00
Alaska	200.00
	<hr/>
	\$396.00

PORTAGE KUSKOKWIM.....(120 MILES TRAIL)
 Winter portage is passable with difficulty for canoes and sledges. The route from the Russian Mission via the Yukon River, Portage Kuskokwim River to the High Portage, then by the Yukon River, down Crooked Creek, up

Johnson Creek and over Portage No. 4, to Mud Creek and down to the Kuskokwim River.

This portage was well marked in the summer of 1922. Stakes and directing arms were set up in the grassy lakes, sloughs and swamps to indicate the route. A reconnaissance of this route with a view to its improvement under the River and Harbor Act was made during the past season and report has been submitted.

Expenditure: None.

ROUTE 92F—QUINHAGAK-GOODNEWS BAY....(60 MILES TRAIL)

This winter mail trail is an extension of Route 92A down the east shore of the estuary of the Kuskokwim River to Goodnews Bay. The contract let for staking this trail was completed during the past season. Tripods 8 feet high were erected at 200 foot intervals except across water surfaces. Beacons with directing arms 12 feet high were erected at lake crossings. The banks at points of ingress and egress from lakes were graded down and the trail cut out 12 feet wide where it passed through brush or timber.

Two shelter cabins were erected, one at Jack Smith Bay and one at mouth of Indian River.

Expenditure: (Exclusive of shelter cabins):

Alaska Road Commission	\$1,659.32
Territory of Alaska	758.45
	<hr/>
Total	\$2,417.77

ROUTE 92G—GOODNEWS BAY-TOGIAC.....(53 MILES TRAIL)

This winter trail extends along the coast from Goodnews Bay to the Togiak school house on Togiak Bay and is a part of the through route from Bethel to Kanatak. A contract for the permanent staking of this route was let to W. M. Noden for \$1500, work to be completed this season.

Expenditure shown covers cost of reconnaissance, awarding contracts, and inspection.

Expenditure:

Alaska Road Commission	\$185.00
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ROUTE 92H—TOGIAC-NUSHAGAK.....(125 MILES TRAIL)

This is a winter trail connecting the settlement of Togiak with the settlement at Nushagak at the mouth of the Nushagak River. It is a part of the through route from Bethel to Kanatak. A contract was let to Ed McCann for the permanent staking of this route for \$2990, the work to be completed this season. Expenditure shown covers cost of reconnaissance, awarding contract, and inspection.

Expenditure:

Alaska Road Commission	\$488.44
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92I—NUSHAGAK-NAKNEK.....(90 MILES TRAIL)

This is the winter trail from Nushagak by way of Kogiung at the head of Kvichak Bay to the canneries at the mouth of Naknek River. This is a portion of the through route from Bethel to Kanatak. A contract for the permanent staking of this trail was let to Ernest Olson for \$1800, work to be completed this season. Expenditure shown hereunder covers cost of reconnaissance, awarding contract, and inspection.

Expenditure:

Alaska Road Commission\$325.00

92J—NAKNEK-EGEKIK.....(55 MILES TRAIL)

This winter trail extends along the shore of Kvichak Bay from the Naknek River to the mouth of the Egekik River. This is a portion of the through route from Bethel to Kanatak. A contract for the permanent staking of this route was let to Frank Altomen for \$1500, work to be completed this season. The expenditure shown hereunder covers cost of reconnaissance, awarding contract, and inspection.

Expenditure:

Alaska Road Commission\$210.00

92L—KOLMAKOF-ANIAC.....(25 MILES TRAIL)

This is the portion of the winter mail trail along the Kuskokwim River between Kolmakof and Aniak. A contract was let for the permanent staking of this route to W. J. Cribbee for \$500, the work to be completed during the summer of 1924. Expenditure shown hereunder covers cost of reconnaissance, awarding contract, and inspection.

Expenditure:

Alaska Road Commission\$95.00

92M—ANIAC-TULUKSAK.....(84 MILES TRAIL)

This winter mail trail is a part of the through route from Iditarod to Bethel. It connects the settlements at Aniak and at Tuluksak, both on the Kuskokwim River. A contract for the permanent staking of this trail was let to H. Downey for \$1800, the work to be completed during the summer of 1924. Expenditure shown hereunder covers the cost of reconnaissance, awarding contract, and inspection.

Expenditure:

Alaska Road Commission\$269.96

DISTRIBUTION OF EXPENDITURES.

Type	Miles*	Expenditure	Unit Cost Dollars per Mile
Trail	621	\$ 6,366.17	\$ 10.24

(*)—Includes only routes maintained during fiscal year.

VALDEZ DISTRICT.

T. H. Huddleston, Superintendent,
A. W. Longaker, Jr. Engineer, Mo

This district embraces all that portion of of the Alaska Range between the 141st and 142nd meridians except the Richardson Highway and its tributaries between Mile 32 and Mile 233, the latter forming the Chitina River.

Valdez, at the head of Prince William Sound, is the most open all-the-year-round port in Alaska. It is the terminus of the Military Road and Telegraph Line. The Fort Lisicum, nearby, was abandoned as a military installation in 1922. A company of the Signal Corps is stationed here and charged with the maintenance and repair of the road. At Valdez is located also the U. S. Court for the District of Alaska. This Board has heretofore maintained a depot at Valdez.

The work in this district was in very bad shape at the time of taking over this work in 1920. Numerous roads on Lowe River and Keystone Canyon near Valdez had become inaccessible the 92 miles of the Richardson Highway between low Creek and Valdez. The decision being reached that entry to interior Alaska was worthy of retention, the Board were vigorously turned to opening up a new entirely new location was made over Keystone Canyon. Bridges were built across Bear and Sheep Creeks. New locations were made along Lowe River. The construction has resulted in this road being opened up. This route opens up a wonderful commercial outlet from Valdez to the interior of Alaska. Since its opening up a very healthful increase of traffic has been noted.

A very important new project in this district is the Nizina River Road and Bridge. Work on this project was begun in 1920 and with cooperative funds from the Territory to \$25,000, work on the bridge across the Nizina River was completed in 1922.

There are nine sub-projects in this district under the vision of this Board. The maintenance of the roads finally constructed by this Board, is paid for by the Territory at Valdez.

SUMMARY OF ROADS.

Sub-Project No.	Name of Route	Wagon Road	Trail	Total Miles
4BA	Valdez-Ptarmigan Drop	32		32
36*	Valdez-Mineral Creek	10½		10½
36A*	Granby Road	5		5
54	Chisana-Nizina		78	78
56A	Katalla-Yakataga		60	60
57	McCarthy-Nizina	9	7	16
57A	Nizina River Bridge			
60	Valdez Dike			
61*	Streina-Kuskulana	16		16
61A	Kotsina Reconnaissance			
90C	Shelter Cabins, 3rd Div.			
Totals		72½	145	217½

(*)—Also Territorial Projects.

SUMMARY OF EXPENDITURES.

Sub-Project Number	Federal	Territorial	Construction	Maintenance	TOTAL
4BA	\$29,526.20		\$13,026.20	\$16,500.00	\$29,526.20
36*	1,424.56	\$ 1,500.00		2,924.56	2,924.56
36A*					
54					
56A					
57	19,055.24		16,355.24	2,700.00	19,055.24
57A	16,697.58		14,197.58	2,500.00	16,697.58
60					
61*	556.85	500.00		1,056.85	1,056.85
61A	475.93		475.93		475.93
90C		1,000.00	1,000.00		1,000.00
Totals	\$67,736.36	\$ 3,000.00	\$45,054.95	\$25,681.41	\$70,736.36

(*)—Expenditures by the Territory.

ROUTE 4BA—VALDEZ-PTARMIGAN DROP....(32 MILES WAGON ROAD)

This portion of the Richardson Road extends from Valdez across the Coast Range to the interior between the Coast and Alaska Ranges. The severe and varied climate and topography encountered makes this section the most difficult to maintain of any of the entire road. During 1918 a severe freshet caused by swollen glacier streams destroyed and cut into the roadway for nearly six miles. In addition to this the roadway had been neglected for some years previous. Starting in the summer of 1920 the present Commission carried out energetic measures to reopen this important section. This was accomplished and the road was opened for through traffic in July 1921 though much additional work was necessary to prevent further washouts.

Two sections of new road were built during the past season, made necessary by the encroachment of Lowe River at Mile 8 and by overflows of Sheep Creek, Mile 19. This work consisted of the following items:

Cleared	3,500 lin. ft.
Graded, 12 ft. wide	6,990 lin. ft.
Gravel Surfaced	5,650 lin. ft.
Culverts constructed	12
Bridges constructed	126 lin. ft.

Brush was cleared from sides of roadway. Numerous slides were removed, washouts repaired to roadway made over the entire section.

Expenditure: \$29,526.20.

ROUTE 36—VALDEZ-MINERAL CREEK....(10½ MILES WAGON ROAD)

This route extends from Valdez along the coastward as far as the mouth of Mineral Creek, through McIntosh's Roadhouse and to the mining workings.

During the past season this road was improved. A section which had been washed out was detoured. The road was graded 8 feet wide. A foot bridge was repaired.

Expenditure:

Alaska Road Commission	
Territory of Alaska	

Total

ROUTE 36A—GRANBY ROAD.....(5 MILES WAGON ROAD)

This road was originally built by the Granby Mines to supply from their wharf on the beach to the Gulch. On the beach, it also connected with the Fort Liscum to Valdez. All heavy supplies are carried up the cliffs by an aerial tram, but the upper end of the road is used as a means of communication between the town and the Gulch, principally the Granby Mines and the City of Valdez which supplies the City of Valdez with light and power.

Expenditure: None.

ROUTE 54—CHISANA-NIZINA TRAIL.....(10 MILES TRAIL)

This trail leads from the Copper River and extends over the Alaska Range to the Chisana mining camp in White River country.

No work was done on this trail during the past season. The erection of one shelter cabin on the Rohn Glacier was completed.

Expenditure: None.

ROUTE 56A—KATALLA-YAKATAGA.....(6 MILES TRAIL)

This trail extends from the town of Katalla along the coast to the settlement at Yakataga. It was constructed during the summer of 1922.

No work was done on this trail during the past season. Expenditure: None.

REPORT ALASKA ROAD COMMISSION.

SUMMARY OF ROADS.

Name of Route	Wagon Road	Trail	Total Miles
Ptarmigan Drop	32		32
Mineral Creek	10½		10½
Road	5		5
Ch-Nizina		78	78
Yakataga		60	60
Ch-Nizina	9	7	16
River Bridge			
Dike			
Kuskulana	16		16
Reconnaissance			
Cabins, 3rd Div.			
Totals	72½	145	217½
Territorial Projects.			

SUMMARY OF EXPENDITURES.

Federal	Territorial	Construction	Maintenance	TOTAL
\$29,526.20		\$13,026.20	\$16,500.00	\$29,526.20
1,424.56	\$ 1,500.00		2,924.56	2,924.56
19,055.24		16,355.24	2,700.00	19,055.24
16,697.58		14,197.58	2,500.00	16,697.58
556.85	500.00		1,056.85	1,056.85
475.93		475.93		475.93
	1,000.00	1,000.00		1,000.00
\$7,736.36	\$ 3,000.00	\$45,054.95	\$25,681.41	\$70,736.36

VALDEZ-PTARMIGAN DROP....(32 MILES WAGON ROAD)

of the Richardson Road extends from Valdez to the interior between the Coast and Range. The severe and varied climate and topography in this section the most difficult to maintain of any road. During 1918 a severe freshet caused by streams destroyed and cut into the roadway for In addition to this the roadway had been neglected for years previous. Starting in the summer of 1920 the Commission carried out energetic measures to reopen this section. This was accomplished and the road was opened to heavy traffic in July 1921 though much additional work was necessary to prevent further washouts. Portions of new road were built during the past season, and by the encroachment of Lowe River at Mile 8 and of Sheep Creek, Mile 19. This work consisted of the following items:

.....	3,500 lin. ft.
wide	6,990 lin. ft.
ced	5,650 lin. ft.
structed	12
structed	126 lin. ft.

ANNUAL REPORT ALASKA ROAD COMMISSION. 75

Brush was cleared from sides of roadway Miles 3 to 10. Numerous slides were removed, washouts repaired, and general repairs to roadway made over the entire section.

Expenditure: \$29,526.20.

ROUTE 36—VALDEZ-MINERAL CREEK....(10½ MILES WAGON ROAD)

This route extends from Valdez along the beach to the westward as far as the mouth of Mineral Creek, then up the creek to McIntosh's Roadhouse and to the mining workings.

During the past season this road was improved. A 150 foot section which had been washed out was detoured, 4,835 feet of new road was graded 8 feet wide. A foot bridge over Mineral Creek was repaired.

Expenditure:

Alaska Road Commission	\$1,424.56
Territory of Alaska	1,500.00
Total	\$2,924.56

ROUTE 36A—GRANBY ROAD.....(5 MILES WAGON ROAD)

This road was originally built by the Granby Company to haul supplies from their wharf on the beach to the mines in Solomon Gulch. On the beach, it also connected with the old trail from Fort Liscum to Valdez. All heavy supplies are now hauled up the cliffs by an aerial tram, but the upper end of the road is still used as a means of communication between the different properties in the Gulch, principally the Granby Mines and the power plant which supplies the City of Valdez with light and power.

Expenditure: None.

ROUTE 54—CHISANA-NIZINA TRAIL.....(78 MILES TRAIL)

This trail leads from the Copper River and Northwestern Railroad over the Alaska Range to the Chisana mining district in the White River country.

No work was done on this trail during the year except the erection of one shelter cabin on the Rohn Glacier as shown under 90C.

Expenditure: None.

ROUTE 56A—KATALLA-YAKATAGA.....(60 MILES TRAIL)

This trail extends from the town of Katalla on Controller Bay, along the coast to the settlement at Yakataga. Shelter cabin was erected during the summer of 1922.

No work was done on this trail during the year.

Expenditure: None.

ROUTE 57—McCARTHY-NIZINA.....(9 MILES ROAD, 7 MILES TRAIL)

This route connects the Copper River and Northwestern Railroad at McCarthy with the mining operations in the Nizina district, crossing the Nizina River at Mile 10.

Prior to last season the road had been completed 2½ miles from McCarthy, the right of way cleared and several stretches of grading and corduroying done to the 6 mile. From the 6 mile to the river crossing very little improvement had been made.

Work the past season consisted in the construction of 2 miles of new road from Mile 7 to 9 and the improvement of the road from Mile 2 to 7. The principal items of work accomplished were:

Clearing	9.7 acres
Grading	3500 lin. ft.
Regrading	5280 lin. ft.
Ditching	5455 lin. ft.
Corduroy	300 lin. ft.
Culverts (17)	272 lin. ft.
Bridges (2)	48 lin. ft.

The road at the close of the season was passable for light wheeled traffic throughout, though the section between 5 and 7 mile posts was soft in places and rough.

Expenditure: \$19,055.24.

ROUTE 57A—NIZINA RIVER BRIDGE.

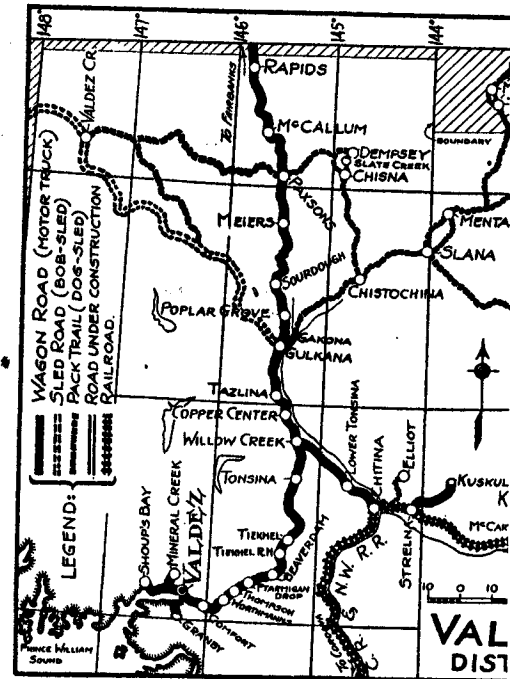
This important project to bridge the Nizina River and make accessible the mineralized section of the upper Chitina Valley progressed satisfactorily. The five piers, each consisting of two cylinders of steel sheet piling were placed in the spring of 1923. During the past season these cylinders were capped with concrete and are now in readiness to receive the spans. The design for the superstructure is complete and present plans contemplate its erection during the winter of 1924 and 1925.

Expenditure: \$16,697.58.

ACCOUNT NO. 60—VALDEZ DIKE.

The Valdez Dike was constructed by the Board in 1913 to protect the government property within the limits of Valdez from overflow by the streams issuing from the Valdez Glacier. A special appropriation for the purpose was made by Congress. Subsequent maintenance charges have been met by contribution by the City, the Board performing the work.

Expenditure: None.



REPORT ALASKA ROAD COMMISSION.

WAGON ROAD (MOTOR TRUCK).....(9 MILES ROAD, 7 MILES

connects the Copper River and Northwestern Rail-
road with the mining operations in the Nizina dis-
trict. The road crosses the Nizina River at Mile 10.

During the season the road had been completed 2½ miles
and the right of way cleared and several stretches
of road grading done to the 6 mile. From the 6 mile
to the 10 mile very little improvement had been made.

The season consisted in the construction of 2 miles
from Mile 7 to 9 and the improvement of the road
from Mile 6 to 7. The principal items of work accomplished were:

.....	9.7 acres
.....	8500 lin. ft.
.....	5280 lin. ft.
.....	5455 lin. ft.
.....	300 lin. ft.
.....	272 lin. ft.
.....	48 lin. ft.

At the close of the season the road was passable for light
traffic throughout, though the section between 5 and 7 mile
was in places and rough.

Cost \$19,055.24.

WAGON ROAD BRIDGE.

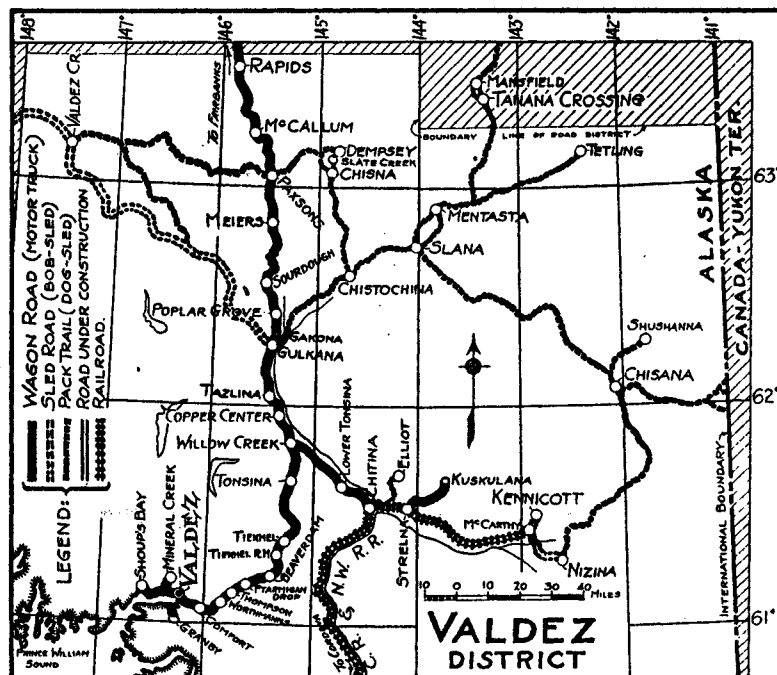
This project is to bridge the Nizina River and make
the road a motorized section of the upper Chitina Valley
highway. The five piers, each consisting of two
cylinders of sheet piling were placed in the spring of 1923.
During the season these cylinders were capped with concrete
in readiness to receive the spans. The design for
the bridge is complete and present plans contemplate
completion by the winter of 1924 and 1925.

Cost \$16,697.58.

VALDEZ DIKE.

This dike was constructed by the Board in 1913 to
prevent the overflow of water from the glacier within the limits of Valdez from
streams issuing from the Valdez Glacier. A special
act of Congress was passed for the purpose. Subsequent
acts have been made by Congress. Subsequent
acts have been met by contribution by the City,
and the State in carrying out the work.

None.



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ROUTE 61—STREINA-KUSKULANA....(16 MILES WAGON ROAD)

This road leads from Strelna on the Copper River and North-western Railroad up the right limit of the Kuskulana River to several groups of mining properties. A substantial bridge across the Kuskulana River near Mile 10, built by the Territory, gives access to operations on the left limit.

Repairs were made to the approach to the Kuskulana bridge and to the abutments. Culverts were repaired, soft spots graveled and 300 feet of road which had washed away was rebuilt. The road is now in fair condition.

Expenditure:

Territorial Divisional Chairman	\$1,499.98
Territorial Cooperative	500.00
Alaska Road Commission	556.85
Total	\$2,556.83

ROUTE 61A—KOTSINA RECONNAISSANCE.

A reconnaissance was made by an engineer employed by this Board, of the region surrounding the Kotsina River. Three feasible routes were covered between the mining districts and the Copper River & Northwestern Railroad. All of the prospects in the vicinity were visited. The construction of a 35 mile road serving these prospects would be an expensive undertaking, and is not justified at this time.

Expenditure: \$475.93.

ACCOUNT 90C—SHELTER CABINS.

Trall	Work Done	Cost
Chisana-Nizina	1 cabin erected on Rohn Glacier	\$1,000.00

Expenditure:

Territory of Alaska	\$1,000.00
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DISTRIBUTION OF EXPENDITURES.

Type	Miles*	Expenditures	Unit Cost Dollars per Mile
Wagon Road	67½	\$52,487.85	\$777.60
Trail	7	75.00	10.71
Totals	74½	\$52,562.85	\$705.54

(*)—Includes only routes maintained during fiscal year.

CHITINA DISTRICT.

Frank Shipp, Assistant Superintendent.

This district embraces that portion of the Richardson Highway from Ptarmigan Drop, Mile 32 to Rapids, Mile 233, together with all tributary roads and trails between these points. This includes the branch of the Richardson Highway from Chitina, on the Copper River and Northwestern Railroad to the junction with the main Highway at Willow Creek.

A sub-office was established at Chitina in 1918, when a disastrous flood closed the military road through the Keystone Canyon, 16 miles from Valdez. This section of the road was reopened for traffic in 1921. Meanwhile the overland route was by way of the Copper River and Northwestern Railroad from Cordova to Chitina, 130 miles; thence by the Chitina cut-off (military road), 39 miles from Chitina to Willow Creek, Mile 92 north of Valdez on the main road.

The most important project within this district, that is the Richardson Highway, in 1920 were not yet completely graded, Bridges and culverts were badly in disrepair and almost no surfacing had been performed. Very meager road building equipment existed, New machinery was procured. Means were found to obtain local Alaska fuel for the operation of the excellent motor equipment obtained. All broken bridges and culverts were replaced. New bridges were constructed across the Tazlina River, Tonsina River, Miller's Glacier Stream and the Gakona River. Grading was completed and about 60 miles of gravel surfacing was placed. Important work was also carried out on the Gulkana-Chistochena-Slate Creek Trail. Reconnaissances were extended by the Engineer Officer and his assistants into all possible tributary regions.

There are 12 sub-projects in this district. Of this number, 10 were maintained during the past year.

SUMMARY OF ROADS

Sub-Project No.	Name of Route	Wagon Road	Sled Road	Trail	Total Miles
4BB	Ptarmigan Drop-Ernestine	31			31
4C	Ernestine-Willow Creek	29			29
4D	Willow Creek-Gulkana	36			36
4E	Gulkana-Sourdough	21½			21½
4F	Sourdough-Mile 168	18			18
4G	168 Mile Post-Delta River	38			38
4HI	Delta River-Rapids	25½			25½
6A	Willow Creek-Tonsina	24			24
6B	Tonsina-Chitina	15			15
65A	Gulkana-Chistochina	4		36	40
65B	Chistochina-Slate Creek			40	40
65C	Chistochina-Tanana Crossing			140	140
Totals		242		216	458

SUMMARY OF EXPENDITURE

Sub-Project Number	Federal	Territorial	Constructive
4BB	\$ 6,340.35		
4C	11,912.79		
4D	27,180.52		1,980.52
4E	22,290.89		11,540.89
4F	28,582.41		19,582.41
4G	18,130.62		6,730.62
4HI	38,967.63		26,417.63
6A	14,893.05		2,898.05
6B	19,821.91		7,821.91
65A	25,252.41		22,752.41
65B			
65C			
Totals	\$213,377.58		\$99,724.44

ROUTE 4BB—PTARMIGAN DROP-ERNESTINE WAGON ROAD)

This portion of the Richardson Highway down and Tiekhell River Gorges and then climbs Dome.

The usual maintenance and seasonal work was performed during the past season. Material was made for the erection of the Tsaina bridge, erected early this season.

Expenditure: \$6,340.35.

ROUTE 4C—ERNESTINE-WILLOW CREEK ROAD)

This portion of the road is located over country between Ernestine and Willow Creek connection is made with the road to Chitina and Northwestern Railroad.

Work during the past season consisted repairing bridges and culverts, cleaning ditches gravel surfacing. The principal items of work as follows:

Light Regrading	.....
Light Gravel Surface	.....
Culverts Constructed	.....
Bridges Constructed (1)	.....
Ditches Cleaned	.....

Expenditure: \$11,912.79.

ROUTE 4D—WILLOW CREEK-GULKANA ROAD)

This section of the Richardson Highway Creek, the Junction of the Chitina Branch to the Gulkana River. The route follows up the right limit of the Copper River Valley.

SUMMARY OF EXPENDITURES.

Sub-Project Number	Federal	Territorial	Construction	Maintenance	TOTAL
4BB	\$ 6,340.35	.....	.....	\$ 6,340.35	\$ 6,340.35
4C	11,912.79	.....	.....	11,912.79	11,912.79
4D	27,180.52	.....	1,980.52	25,200.00	27,180.52
4E	22,290.89	.....	11,540.89	10,750.00	22,290.89
4F	28,582.41	.....	19,582.41	9,000.00	28,582.41
4G	18,130.62	.....	6,730.62	11,400.00	18,130.62
4HI	38,967.63	.....	26,417.63	12,550.00	38,967.63
6A	14,898.05	.....	2,898.05	12,000.00	14,898.05
6B	19,821.91	.....	7,821.91	12,000.00	19,821.91
65A	25,252.41	.....	22,752.41	2,500.00	25,252.41
65B	.....	.....	.....	.....	.....
65C	.....	.....	.....	.....	.....
Totals	\$213,377.58	.....	\$99,724.44	\$113,653.14	\$213,377.58

ROUTE 4BB—PTARMIGAN DROP-ERNESTINE.....(31 MILES WAGON ROAD)

This portion of the Richardson Highway drops down the Tsaina and Tiekhell River Gorges and then climbs again over Ernestine Dome.

The usual maintenance and seasonal repair work was performed during the past season. Material was purchased and plans made for the erection of the Tsaina bridge. This bridge will be erected early this season.

Expenditure: \$6,340.35.

ROUTE 4C—ERNESTINE-WILLOW CREEK....(29 MILES WAGON ROAD)

This portion of the road is located over the elevated rolling country between Ernestine and Willow Creek. At the latter point connection is made with the road to Chitina on the Copper River and Northwestern Railroad.

Work during the past season consisted of constructing and repairing bridges and culverts, cleaning ditches, light regrading and gravel surfacing. The principal items of work accomplished are as follows:

- Light Regrading4¼ miles
 - Light Gravel Surface4¼ miles
 - Culverts Constructed38
 - Bridges Constructed (1) 18 lin. ft.
 - Ditches Cleaned1800 lin. ft.
- Expenditure: \$11,912.79.

ROUTE 4D—WILLOW CREEK-GULKANA.....(36 MILES WAGON ROAD)

This section of the Richardson Highway extends from Willow Creek, the Junction of the Chitina Branch road to the Crossing of the Gulkana River. The route follows up the gravel benches on the right limit of the Copper River Valley.

CHITINA DISTRICT.

Assistant Superintendent.

that portion of the Richardson Highway from the junction of the Copper River to Rapids, Mile 233, together with the road between these points. This includes the road on Highway from Chitina, on the Copper River Railroad to the junction with the main road.

published at Chitina in 1918, when a dismilitarized road through the Keystone Canyon. This section of the road was reopened while the overland route was by way of the Northwestern Railroad from Cordova to Chitina by the Chitina cut-off (military road), Willow Creek, Mile 92 north of Valdez.

project within this district, that is the road between 1920 were not yet completely graded, and badly in disrepair and almost no surfacing. Very meager road building equipment was procured. Means were found to obtain operation of the excellent motor equipment. Bridges and culverts were replaced. Constructed across the Tazlina River, Tonsina River and the Gakona River. Grading of 60 miles of gravel surfacing was placed. Work carried out on the Gulkana-Chistochena-branches were extended by the Engineer into all possible tributary regions. Projects in this district. Of this number, 10 were completed in the past year.

SUMMARY OF ROADS

Route	Wagon Road	Sled Road	Trail	Total Miles
Ernestine	31			31
Creek	29			29
Gulkana	36			36
Ch	21½			21½
68	18			18
Ta River	38			38
Tsaina	25½			25½
Tsaina	24			24
na	15			15
na	4		36	40
Creek			40	40
na Crossing			140	140
	242		216	458

In the late spring of 1923 one 60 foot pony truss span and one 100 foot Howe truss span, both of Douglas fir, were erected at the crossing of the Tazlina River. The three old piers in this bridge were repaired. The piers on the Gulkana bridge were repaired, culverts renewed, ditches cleaned and light regrading performed over eight miles of this route.

Expenditure: \$27,180.52.

ROUTE 4E—GULKANA-SOURDOUGH.....(21½ MILES WAGON ROAD)

This section of the Richardson Highway extends from the crossing of the Gulkana River up the left limit of the Gulkana to the Sourdough Roadhouse. The route is largely over gravel, affording good bottom and drainage.

Work during the past season consisted of rebuilding culverts and bridges, ditching, regrading, and gravel surfacing. The brush was cleared from the sides of the road for a distance of three miles. The principal items of work accomplished are as follows:

Culverts constructed	22
Bridges constructed (4)	58 lin. ft.
Light regrading	3 miles
Gravel surfacing, 2,222 cu. yds.....	2¾ miles
Log cache constructed, size 24x36 ft.....	1
Expenditure: \$22,290.89.	

ROUTE 4F—SOURDOUGH-MILE 168....(18 MILES WAGON ROAD)

This portion of the Richardson Highway is located in an elevated plateau in the midst of lakes and swamps. A considerable amount of graveling is necessary to bring this section up to the standard of the remainder of the road.

The past season work consisted of regrading, gravel surfacing, cleaning ditches, repairing bridges and culverts, and clearing brush from sides of road. The principal items of work accomplished are as follows:

Gravel surfacing, 5,620 cu. yds.	5¾ miles
Corduroy placed	7120 lin. ft.
Ditches cleaned	5 miles
Brush cleared from sides of roadway.....	8 miles

For placing 2,370 cu. yds. of gravel surfacing with an average haul of ¾ mile, the cost was \$1.50 per cu. yd. For placing 3,250 cu. yds. with an average haul of 2½ miles, the cost was \$2.50 per cu. yd.

Expenditure: \$28,582.41.

ROUTE 4G—MILE 168-DELTA RIVER....(38 MILES WAGON ROAD)

This section of the Richardson Highway extends over Isabelle Pass, the summit of the Alaska Range, to the headwaters of

the Delta River. The portion south of the road is a swampy plateau and will require considerable work to bring it up to the standard of the remainder of the road. The portion north of the range, however, is on good gravel.

Work during the past season consisted of cleaning ditches, and the construction and repair of bridges. The principal items of work accomplished are as follows:

Regrading	
Gravel surfacing, 2400 cu. yds.	
Resurfacing	
Ditches cleaned	
Bridges constructed (1)	
Culverts constructed	
Expenditure: \$18,130.62.	

ROUTE 4H—DELTA RIVER-RAPIDS.....(25 MILES WAGON ROAD)

This section of the Richardson Highway extends from the right limit of the Delta River, following the Sourdough Roadhouse. It is necessary to cross several miles along this route and as the glaciers are not yet melted, considerable difficulty is encountered in crossing streams due to heavy rains and warm weather.

During the past season the usual maintenance work was performed. Slides were cleared from the road, bridges repaired, and new culverts constructed. Extra effort was necessary to protect the bridge at Mile 168 from stream. During the spring (1924) this bridge was repaired. 60 foot spans were placed on pile foundation and filled cribs on the upstream face. The greatest amount of lumber for this structure was acquired during the past season. The following are the principal items of work accomplished:

Bridges rebuilt (2)	
Bridges constructed, 7 60-foot spans	
Culverts rebuilt	
Dykes constructed (2)	
Expenditures: \$38,967.63.	

ROUTE 6A—WILLOW CREEK-TONSINA.....(25 MILES WAGON ROAD)

This is a portion of the road leading from the mouth of the Chitina, which makes connection between Chitina River and Northwestern Railroad, and the trail from Fairbanks to Fairbanks.

The principal work on this route during the past season consisted of dragging. The section was dragged four times and was made over the road with a grader, filling in the holes.

During of 1923 one 60 foot pony truss span and a truss span, both of Douglas fir, were erected on the Tazlina River. The three old piers in this bridge were renewed, ditches cleaned and light regrading performed. The principal items of work accomplished are as follows:

27,180.52.
KA-SOURDOUGH.....(21½ MILES WAGON

The Richardson Highway extends from the Gulkana River up the left limit of the Gulkana Roadhouse. The route is largely over gravel, and drainage.

The past season consisted of rebuilding culverts, regrading, and gravel surfacing. The brush on the sides of the road for a distance of three miles was removed. The principal items of work accomplished are as follows:

Regraded 22
 Regraded (4) 58 lin. ft.
 Resurfaced 3 miles
 Gravel, 2,222 cu. yds. 2¼ miles
 Constructed, size 24x36 ft. 1
 22,290.89.

ROUGH-MILE 168....(18 MILES WAGON ROAD)

The Richardson Highway is located in an elevated position amidst of lakes and swamps. A considerable amount of work is necessary to bring this section up to the standard of the road.

The principal work consisted of regrading, gravel surfacing, repairing bridges and culverts, and clearing brush. The principal items of work accomplished are as follows:

5,620 cu. yds. 5¾ miles
 7120 lin. ft.
 5 miles
 on sides of roadway 8 miles
 cu. yds. of gravel surfacing with an average cost was \$1.50 per cu. yd. For placing 3,250 cu. yds. of gravel, the cost was \$2.50 per cu. yd.
 582.41.

DELTA RIVER....(38 MILES WAGON ROAD)

The Richardson Highway extends over Isabelle Pass, through the Alaska Range, to the headwaters of

the Delta River. The portion south of the range is largely through a swampy plateau and will require considerable graveling to bring it up to the standard of the remainder of the road. The portion north of the range, however, is on good gravel bottom.

Work during the past season consisted of regrading, surfacing, cleaning ditches, and the construction and repair of culverts and bridges. The principal items of work accomplished follow:

Regrading 6½ miles
 Gravel surfacing, 2400 cu. yds. 3½ miles
 Resurfacing 7¼ miles
 Ditches cleaned 4¾ miles
 Bridges constructed (1) 36 lin. ft.
 Culverts constructed 20
 Expenditure: \$18,130.62.

ROUTE 4HI—DELTA RIVER-RAPIDS.....(25½ MILES WAGON ROAD)

This section of the Richardson Highway extends down the right limit of the Delta River, following the river closely, to the Rapids Roadhouse. It is necessary to cross several glacier streams along this route and as the glaciers are not far back from the road, considerable difficulty is encountered with floods in these streams due to heavy rains and warm weather.

During the past season the usual maintenance work was performed. Slides were cleared from the roadway, culverts and bridges repaired, and new culverts constructed. Considerable effort was necessary to protect the bridge at Mile 223 over a glacier stream. During the spring (1924) this bridge was rebuilt. Seven 60 foot spans were placed on pile foundations, protected by rock filled cribs on the upstream face. The greater part of the timber and lumber for this structure was acquired near the site. The following are the principal items of work accomplished:

Bridges rebuilt (2) 205 lin. ft.
 Bridges constructed, 7 60-foot spans 420 lin. ft.
 Culverts rebuilt 16
 Dykes constructed (2) 1100 lin. ft.
 Expenditures: \$38,967.63.

ROUTE 6A—WILLOW CREEK-TONSINA.....(24 MILES WAGON ROAD)

This is a portion of the road leading from Willow Creek to Chitina, which makes connection between Chitina, on the Copper River and Northwestern Railroad, and the through road from Valdez to Fairbanks.

The principal work on this route during the past season was dragging. The section was dragged four times. One round trip was made over the road with a grader, filling in ruts.

This section requires a gravel surface practically throughout. Two large pits were stripped late this season preparatory to the early prosecution of this work.

Expenditure: \$14,898.05.

ROUTE 6B—TONSINA-CHITINA.....(15 MILES WAGON ROAD)

This portion of the road leading into Chitina is in good repair and needs only a light gravel surface to make it excellent.

Work the past season consisted of resurfacing, repairing culverts, and widening narrow sections of grade. The following are the principal items of work accomplished:

- Culverts rebuilt 8
- Gravel placed for surfacing986 cu. yds.
- Excavation, widening roadway650 cu. yds.
- Expenditure: \$19,821.91.

ROUTE 65A—GULKANA-CHISTOCHINA.....(4 MILES WAGON ROAD, 36 MILES TRAIL)

This route extends from the junction with the Richardson Highway at Gulkana, up the Copper River Valley on the right limit, to the mouth of the Chistochina River.

During the past year a bridge, consisting of two 100 foot Howe truss spans, together with 150 ft. of trestle approach, was erected over the Gokona River at the end of the wagon road section of this route. This bridge gives access at all times of the year to the large district along the Chistochina River.

Expenditure: \$25,252.41.

ROUTE 65B—CHISTOCHINA-SLATE CREEK....(40 MILES TRAIL)

This trail extends from the end of route 65A, up the right limit of the Chistochina River, to the mining operations on Slate Creek.

Expenditure: None.

ROUTE 65C—CHISTOCHINA-TANANA CROSSING.....(140 MILES TRAIL)

This is the part of the old Valdez-Ft. Egbert trail from the Chistochina River to the crossing of the Tanana River. A reconnaissance of this trail was made by the Engineer Officer of the Board in 1921. The trail is little used and no work is contemplated in the near future.

Expenditure: None.

DISTRIBUTION OF EXPENDITURES.

Type	Miles*	Expenditure	Unit Cost Dollars per Mile
Wagon Road	238	\$188,125.17	\$790.44

(*)—Includes only routes maintained during fiscal year.

FAIRBANKS DISTRICT.

Ike P. Taylor, Supt., July 1 to Sept. 30
 M. C. Edmunds, Asst. Supt. to Sept. 30, 1923 and
 1923 to June 30, 1924.

Abe McKinnon, Asst. Supt. to Aug. 5,

H. G. Haslem, Locating Engineer to August

Donald MacDonald, Asst. Supt. May 26 to June

This district embraces that portion of the territory between the 144th and 148th meridians and between the Yukon north of the Alaska Range; also that territory lying south of the Yukon River from the 150th meridian to the Canadian boundary.

There are 39 sub-projects in this district of which 17 have been completed. 22 of the remaining 32 are road or trail projects. 15 are projects on the Government Railroad, and the balance are projects on sections of these feeders into more remote sections of the district. The system of roads and trails devised by this district along the railroad in this district as follows:

Main Line	Mile	Route
463	Happy	7D Ester Creek
		7R Goldstream-O'Connell
470	Fairbanks	4K Fairbanks-Salchaket
		4J Salchaket-Richardson
		4I Richardson-Grundler
		4H2 Grundler-Rapids
		7G Fairbanks-Gilmore
		7J Fairbanks-Chenena
		7N Farmers Birch
		7T Farmers Chenena
		31 Caribou Creek
Chatanika Branch:	Mile	Route
11	Fox	7B Fox-Olnes
13	Gilmore	7G Fairbanks-Gilmore
		7I Gilmore-Summit
26	Olnes	7B Olnes-Fox
		7K Olnes-Livengood
		23A Olnes-Beaver
29	Eldorado	7H Little Eldorado
32	Chatanika	7A Summit-Chatanika
		7C Summit-Fairbanks
		16 Chatanika-Miller
		15 Circle-Miller-Hooper
		23A Chatanika-Beaver

res a gravel surface practically throughout. stripped late this season preparatory to the his work. \$898.05.

CHITINA.....(15 MILES WAGON ROAD) e road leading into Chitina is in good repair at gravel surface to make it excellent. sion consisted of resurfacing, repairing cul- arrow sections of grade. The following are f work accomplished:

.....	8
r surfacing	986 cu. yds.
ing roadway	650 cu. yds.
	\$821.91.

ANA-CHISTOCHINA.....(4 MILES WAGON MILES TRAIL)

nds from the junction with the Richardson up the Copper River Valley on the right the Chistochina River.

ear a bridge, consisting of two 100 foot Howe with 150 ft. of trestle approach, was erected er at the end of the wagon road section of ge gives access at all times of the year to ng the Chistochina River.

\$5,252.41.

CHINA-SLATE CREEK....(40 MILES TRAIL)

s from the end of route 65A, up the right ina River, to the mining operations on Slate

ne.

CHINA-TANANA CROSSING.....(140 MILES

of the old Valdez-Ft. Egbert trail from the the crossing of the Tanana River. A recon- il was made by the Engineer Officer of the trail is little used and no work is contem- ture.

ne.

DISTRIBUTION OF EXPENDITURES.

Miles*	Expenditure	Unit Cost Dollars per Mile
.....238	\$188,125.17	\$790.44

outes maintained during fiscal year.

FAIRBANKS DISTRICT.

Ike P. Taylor, Supt., July 1 to Sept. 30, 1923.

M. C. Edmunds, Asst. Supt. to Sept. 30, 1923 and Supt. October 1, 1923 to June 30, 1924.

Abe McKinnon, Asst. Supt. to Aug. 5, 1923.

H. G. Haslem, Locating Engineer to August 31, 1923.

Donald MacDonald, Asst. Supt. May 26 to June 30, 1924.

This district embraces that portion of the territory between the 144th and 148th meridians and between the Yukon River and north of the Alaska Range; also that territory lying north of the Yukon River from the 150th meridian to the Canadian boundary.

There are 39 sub-projects in this district of which 7 are abandoned. 22 of the remaining 32 are road or trail feeders directly tributary to the Government Railroad, and the balance are etxensions of these feeders into more remote sections of the Territory. The system of roads and trails devised by this Board ties into the railroad in this district as follows:

Main Line

Mile	Route
463 Happy	7D Ester Creek
	7R Goldstream-O'Connor Creek
	4K Fairbanks-Salchaket
	4J Salchaket-Richardson
	4I Richardson-Grundler
	4H2 Grundler-Rapids
	7G Fairbanks-Gilmore
	7J Fairbanks-Chena Hot Springs
	7N Farmers Birch Hill
	7T Farmers Chena Slough
	31 Caribou Creek

Chatanika Branch:

Mile	Route
11 Fox	7B Fox-Olnes
13 Gilmore	7G Fairbanks-Gilmore
	7I Gilmore-Summit
	7B Olnes-Fox
	7K Olnes-Livengood
	23A Olnes-Beaver
	7H Little Eldorado Creek
26 Olnes	7A Summit-Chatanika
	7C Summit-Fairbanks Creek
	16 Chatanika-Miller House
29 Eldorado	15 Circle-Miller House
32 Chatanika	23A Chatanika-Beaver

The following sub-projects of this Board have been abandoned:

Sub-Project No.	Name of Route	Wagon Road	Sled Road	Trail	Total Miles
4A	Donnelly-Washburn		55		55
5*	Ester-Dunbar		27		27
7E	Vault Creek	2			2
7F	Vault Creek-Treasure Creek	1½			1½
7L	Chena-Ester	4			4
7M	Fairbanks-Tanana Landing	3			3
63A	Brooks-Terminal	13			13
Totals		23½	82	—	105½

(*)—Section of original Ester-Ft. Gibbon Route—148 miles.

The Donnelly-Washburn sled road is a portion of the winter route from Fairbanks to Valdez. Since the completion of the Government Railroad to Fairbanks, there is no through winter travel over this route and its period of usefulness is ended.

All winter mail to the westward was formerly distributed from Fairbanks and followed the Ester-Fort Gibbon sled road. Since the completion of the Government Railroad, this mail now leaves the railroad at Dunbar and follows the Dunbar-Fort Gibbon section of the same sled road.

The Vault Creek and Vault Creek-Treasure Creek Roads connect the old town of Vault with claims on Treasure Creek and with the Happy-Chatanika Railroad. No work has been done on these routes for a number of years and there is at present no occasion for doing any work.

The Chena-Ester Road connects the abandoned town of Chena on the Tanana River with Ester City on Ester Creek. The road has not been used for several years. The Fairbanks-Tanana Landing Road connects Fairbanks with the Tanana River, being a part of the old original Fairbanks-Valdez Road. No money has been spent on this road for many years nor are present expenditures warranted.

The Brooks Terminal Road extends from Brooks to the head of navigation on the Tolovana River. No improvements have been made on this route in a number of years and the project is now abandoned in view of the purchase by the Territory of the tram road which connects the above points.

This district had especially suffered during the war period. The most important project within the district, the Richardson Road, was in very bad disrepair for the entire distance from Fairbanks to McCarty. Very few reconnaissances had been made over the important winter trails. Many winter trails had fallen into disuse. No progressive plan existed for adjusting the road work of the district to the new conditions brought about by the completion of the Government Railroad.

With reorganization and elimination of remote districts, a new organization was planned. Modern road building equipment was

obtained. The rehabilitation of the Richardson Road from Circle to Grundler. About 50 miles of the same was and culverts were rebuilt. An important feeder Railroad from Circle to Chatanika was located to construction well advanced. All Fairbanks local roads were rehabilitated.

The important winter trails, Salcha to Caribou, Chena Hot Springs, Olnes to Beaver and Beaver and Koyukuk were all opened and rehabilitated. The route overland into Fairbanks is already an important means for traffic to get to the Alaska Railroad. The construction of the interior has begun with the construction of facilities.

The following sub-projects, upon which work was done by the Board, are arranged in two groups; First, those during the fiscal year from funds of this Board of Alaska, disbursed through the U. S. Treasury, and those supported by Territorial funds disbursed by the Road Commission for the Fourth Division. All work in the first group was performed by an assistant superintendent who also served as chairman and secretary of the Territorial Divisional Commission; under the direction of the Board, who also served as Director of Public Works in the Territory.

FEDERAL PROJECTS.

Sub-Project No.	Name of Route	Wagon Road	Sled Road
4H2	Rapids-Grundler	48	
4I	Grundler-Richardson	20½	
4J	Richardson-Salchaket	30	
4K	Salchaket-Fairbanks	40	
7A*	Summit-Chatanika	11	
7C*	Summit-Fairbanks Creek	13	
7D*	Ester Creek	13	
7G	Fairbanks-Gilmore	13	
7I	Gilmore-Summit	6	
7J*	Fairbanks-Chena Hot Springs ..		64
7R	Goldstream-O'Connor Creek		6
7V	Wireless Road	¼	
15	Circle-Miller House	49	
16	Chatanika-Miller House	14½	
23A*	Olnes-Beaver		66
23B	Beaver-Caro	75	
23C	Big Creek Trail		
23D	Caro-Flat Creek		45
23E	Caro-Coldfoot		
31	Caribou Creek		46
59	Fairbanks Bridge		
65F	Grundler-Tanana Crossing		
90D	Shelter Cabins		
Totals		333¼	227½

(*)—Also Territorial Projects.

REPORT ALASKA ROAD COMMISSION.

sub-projects of this Board have been abandoned:

Name of Route	Wagon Road	Sled Road	Trail	Total Miles
Washburn		55		55
Dunbar		27		27
Creek	2			2
Creek-Treasure Creek	1½			1½
Ester	4			4
Chena-Tanana Landing	3			3
Terminal	13			13
Totals	23½	82		105½

Original Ester-Ft. Gibbon Route—148 miles.

Washburn sled road is a portion of the winter trails from Fairbanks to Valdez. Since the completion of the Government Railroad to Fairbanks, there is no through winter travel and its period of usefulness is ended.

Mail to the westward was formerly distributed from Fairbanks followed the Ester-Fort Gibbon sled road. Since the completion of the Government Railroad, this mail now leaves Fairbanks and follows the Dunbar-Fort Gibbon section of the Government Railroad.

Trail from Fairbanks to Vault Creek-Treasure Creek Roads connected with claims on Treasure Creek and Chatanika Railroad. No work has been done on this trail for a number of years and there is at present no work being done on any work.

Ester Road connects the abandoned town of Chena with Ester City on Ester Creek. The road has not been used for several years. The Fairbanks-Tanana Landing trail connects Fairbanks with the Tanana River, being a part of the Fairbanks-Valdez Road. No money has been spent on this trail for many years nor are present expenditures warranted.

Terminal Road extends from Brooks to the head of the Tolovana River. No improvements have been made on this trail in a number of years and the project is now abandoned. In view of the purchase by the Territory of the tram line between Brooks and the above points.

The Richardson Road had especially suffered during the war period. The most important project within the district, the Richardson Road, has had disrepair for the entire distance from Fairbanks to Valdez. Very few reconnaissances had been made over the winter trails. Many winter trails had fallen into disrepair. A comprehensive plan existed for adjusting the road work to meet the new conditions brought about by the completion of the Government Railroad.

The rehabilitation and elimination of remote districts, a new plan was planned. Modern road building equipment was

obtained. The rehabilitation of the Richardson Road was completed to Grundler. About 50 miles of the same was graveled. Bridges and culverts were rebuilt. An important feeder to the Government Railroad from Circle to Chatanika was located throughout and construction well advanced. All Fairbanks local roads were rehabilitated.

The important winter trails, Salcha to Caribou, Fairbanks to Chena Hot Springs, Olmes to Beaver and Beaver to the Chandalar and Koyukuk were all opened and rehabilitated. The transportation overland into Fairbanks is already an important item as a means for traffic to get to the Alaska Railroad, and the revival of the interior has begun with the construction of these overland facilities.

The following sub-projects, upon which work is being done by the Board, are arranged in two groups; First, those supported during the fiscal year from funds of this Board or of the Territory of Alaska, disbursed through the U. S. Treasury; and, second, those supported by Territorial funds disbursed by the Territorial Road Commission for the Fourth Division. All work on the second group was performed by an assistant superintendent of this Board who also served as chairman and secretary of the Territorial Divisional Commission, under the direction of the President of this Board, who also served as Director of Public Works for the Territory.

FEDERAL PROJECTS.

Sub-Project No.	Name of Route	Wagon Road	Sled Road	Trail	Total Miles
4H2	Rapids-Grundler	48			48
4I	Grundler-Richardson	20½			20½
4J	Richardson-Salchaket	30			30
4K	Salchaket-Fairbanks	40			40
7A*	Summit-Chatanika	11			11
7C*	Summit-Fairbanks Creek	13			13
7D*	Ester Creek	13			13
7G	Fairbanks-Gilmore	13			13
7I	Gilmore-Summit	6			6
7J*	Fairbanks-Chena Hot Springs		64		64
7R	Goldstream-O'Connor Creek		6		6
7V	Wireless Road		¼		¼
15	Circle-Miller House	49			49
16	Chatanika-Miller House	14½	66½		81
23A*	Olmes-Beaver			115	115
23E	Beaver-Caro	75			75
23C	Big Creek Trail			20	20
23D	Caro-Flat Creek		45		45
23E	Caro-Coldfoot			85	85
31	Caribou Creek		46		46
59	Fairbanks Bridge				
65F	Grundler-Tanana Crossing			113	113
90D	Sheiter Cabins				
Totals		333¼	227½	333	893¾

(*)—Also Territorial Projects.

SUMMARY OF EXPENDITURES.

Sub-Project Number	Federal	Territorial	Construction	Maintenance	TOTAL
4H2	\$16,224.11			\$16,224.11	\$16,224.11
4I	30,684.19		\$20,434.19	10,250.00	30,684.19
4J	12,786.74		3,786.74	9,000.00	12,786.74
4K	48,430.73		28,430.73	20,000.00	48,430.73
7A*	8,427.79		5,127.79	3,300.00	8,427.79
7C*	187.00			187.00	187.00
7D*	100.00			100.00	100.00
7G	5,785.58		1,885.58	3,900.00	5,785.58
7I	2,326.20		526.20	1,800.00	2,326.20
7J*	3,014.22			3,014.22	3,014.22
7R					
7V	342.00			342.00	342.00
15	3,482.90			3,482.90	3,482.90
16	68,609.81		61,009.81	7,500.00	68,609.81
23A*	3,749.64		2,549.64	1,200.00	3,749.64
23B	5,482.64		3,607.64	1,875.00	5,482.64
23C	277.64			277.64	277.64
23D	1,928.26		803.26	1,125.00	1,928.26
23E	6,969.15		6,119.15	850.00	6,969.15
31	738.64	540.00 (c)		1,278.64	1,278.64
59	5,227.59			5,227.59	5,227.59
65F	1,000.00		1,000.00		1,000.00
90D		1,900.00	1,600.00	300.00	1,900.00
Totals	\$225,674.83	\$ 2,440.00	\$136,880.73	\$91,234.10	\$228,114.83

(*)—Also Territorial Projects.
(c)—Contributed by Stewart and Denhart.

ROUTE 4H2—RAPIDS-GRUNDLER.....(48 MILES WAGON ROAD)

This road is the section of the Richardson Highway between Rapids Roadhouse on the upper Delta River and the ferry crossing of the Tanana River at Grundler, just above the confluence of the Delta and Tanana Rivers.

This entire section was dragged, gravel surfaced over Pillsbury Dome and repaired and broken culverts renewed. The road was moved back from the bank of the Delta River in Mile 275 where the river was encroaching.

Expenditure: \$16,224.11.

ROUTE 4I—GRUNDLER-RICHARDSON—.....(20½ MILES WAGON ROAD)

This section of the Richardson Highway practically parallels the Tanana River on its north side between the ferry crossing at Grundler and the old mining town of Richardson.

Marked improvement was made over this section during the past season. Gravel and broken rock surfacing was placed on 8½ miles of road, culverts were renewed and work started on a new location through the town of Richardson, made necessary by the encroachment of the Tanana River on the old road. The entire section was dragged three times during the season.

Late in the fall a one hundred foot Howe truss span of Douglas fir with native spruce pile foundations, together with seventy-five feet of trestle approach was erected over a slough of the Tanana River, one-half mile north of Grundler.

The following is a summary of work accomplished:
 Surfacing material placed
 Culverts, corrugated iron pipe, 44 placed.....
 Culverts, timber, 11 placed.....
 Clearing, 60 ft. wide, new road.....
 Grubbing, 32 feet wide, new road.....
 Graded, 32 ft. wide, new road.....
 Road brushed both sides

Bridges, 1-100 ft. Howe Truss span, 75 foot truss
 Expenditure: \$30,684.19.

ROUTE 4J—RICHARDSON-SALCHAKET.....(30 MILES WAGON ROAD)

This is the section of the Richardson Highway between the old mining town of Richardson and the Salchaket River where the road crosses the Salchaket River by a trestle.

General repairs were made to culverts and sections were gravel surfaced. The road was dragged the entire length. Due to the encroachment of the river in Mile 224, a new location was made and 1,700 feet of road was built.

Expenditure: \$12,786.74.

ROUTE 4K—SALCHAKET-FAIRBANKS.....(40 MILES WAGON ROAD)

This is the most northerly section of the Richardson Highway extending from the ferry across the Salchaket River to Fairbanks. Considerable attention has been given to the highway in past years.

Graveling of this section was continued during the past season. A Marion steam shovel, tractors and dump trucks were used. Surface was placed on 10½ miles, the gravel surface continuous from Fairbanks south for 28 miles. Culverts renewed where necessary with corrugated iron pipe. Bridges were replaced with culverts and filled.

The section of road north from the Salchaket River for a distance of five miles was practically all surfaced with gravel. Broken rock by team haul; only a light surface was placed on the portion of road, which has previously been all gravel, is now in fair condition.

The cribbing around the pier and abutments of the bridge was completed and cribs filled with gravel. The bridge was dragged four times its entire length.

SUMMARY OF EXPENDITURES.

Federal	Territorial	Construction	Maintenance	TOTAL
16,224.11			\$16,224.11	\$16,224.11
30,684.19		\$20,434.19	10,250.00	30,684.19
12,786.74		3,786.74	9,000.00	12,786.74
48,430.73		28,430.73	20,000.00	48,430.73
8,427.79		5,127.79	3,300.00	8,427.79
187.00			187.00	187.00
100.00			100.00	100.00
5,785.58		1,885.58	3,900.00	5,785.58
2,326.20		526.20	1,800.00	2,326.20
3,014.22			3,014.22	3,014.22
342.00			342.00	342.00
3,482.90			3,482.90	3,482.90
68,509.81		61,009.81	7,500.00	68,509.81
3,749.64		2,549.64	1,200.00	3,749.64
5,482.64		3,607.64	1,875.00	5,482.64
277.64			277.64	277.64
1,928.26		803.26	1,125.00	1,928.26
6,969.15		6,119.15	850.00	6,969.15
738.64	540.00(c)		1,278.64	1,278.64
5,227.59			5,227.59	5,227.59
1,000.00		1,000.00		1,000.00
	1,900.00	1,600.00	300.00	1,900.00
25,674.83	\$ 2,440.00	\$136,880.73	\$91,234.10	\$228,114.83

Territorial Projects.
 ed by Stewart and Denhart.

GRUNDLER-GRUNDLER.....(48 MILES WAGON ROAD)

the section of the Richardson Highway between the upper Delta River and the ferry crossing at Grundler, just above the confluence of the Tanana Rivers.

section was dragged, gravel surfaced over Pills-repaired and broken culverts renewed. The road from the bank of the Delta River in Mile 275 was encroaching.

\$16,224.11.

GRUNDLER-RICHARDSON.....(20½ MILES WAGON ROAD)

of the Richardson Highway practically parallels on its north side between the ferry crossing at old mining town of Richardson.

Improvement was made over this section during the season. Gravel and broken rock surfacing was placed on the road, culverts were renewed and work started on a new road through the town of Richardson, made necessary by the encroachment of the Tanana River on the old road. The road was dragged three times during the season.

A one hundred foot Howe truss span of Douglas spruce pile foundations, together with seventy-five foot approach was erected over a slough of the Tanana River half mile north of Grundler.

The following is a summary of work accomplished:
 Surfacing material placed5,419 cu. yds.
 Culverts, corrugated iron pipe, 44 placed..... 552 lin. ft.
 Culverts, timber, 11 placed..... 176 lin. ft.
 Clearing, 60 ft. wide, new road.....4,000 lin. ft.
 Grubbing, 32 feet wide, new road.....4,000 lin. ft.
 Graded, 32 ft. wide, new road.....2,000 lin. ft.
 Road brushed both sides 10 miles

Bridges, 1-100 ft. Howe Truss span, 75 foot trestle 175 lin ft.
 Expenditure: \$30,684.19.

ROUTE 4J—RICHARDSON-SALCHAKET.....(30 MILES WAGON ROAD)

This is the section of the Richardson Highway between the old mining town of Richardson and the Salchaket Trading Post, where the road crosses the Salchaket River by ferry.

General repairs were made to culverts and several short sections were gravel surfaced. The road was dragged three times the entire length. Due to the encroachment of the Tanana River in Mile 224, a new location was made and 1,700 feet of new road built.

Expenditure: \$12,786.74.

ROUTE 4K—SALCHAKET-FAIRBANKS.....(40 MILES WAGON ROAD)

This is the most northerly section of the Richardson Highway, extending from the ferry across the Salchaket River to the town of Fairbanks. Considerable attention has been given to this section of the highway in past years.

Graveling of this section was continued during the season, with a Marion steam shovel, tractors and dump trucks. A heavy gravel surface was placed on 10½ miles, the gravel surface now being continuous from Fairbanks south for 28 miles. Culverts were renewed where necessary with corrugated iron pipe, several small bridges were replaced with culverts and filled.

The section of road north from the Salchake ferry for a distance of five miles was practically all surfaced with gravel and broken rock by team haul; only a light surface was given. This portion of road, which has previously been almost impassible at times, is now in fair condition.

The cribbing around the pier and abutments on the Piledriver bridge was completed and cribs filled with rock. The road was dragged four times its entire length.

The principal items of work accomplished were as follows:

Road surfaced	14½ miles
Surfacing material placed	13,228 cu. yds.
Culverts placed, corrugated iron.....	270 lin. ft.
Culverts placed, timber	40 lin. ft.
Side ditches cleaned	4 miles
Logs in cribbing	920 lin. ft.
Rock in cribbing	175 cu. yds.

Expenditure: \$48,430.73.

ROUTE 7A—SUMMIT-CHATANIKA.....(11 MILES WAGON ROAD)

This is a cooperative project, partly supported by Territorial funds as described below.

Federal Expenditure\$8,427.79

ROUTE 7C—SUMMIT-FAIRBANKS CREEK....(13 MILES WAGON ROAD)

This is a cooperative project, partly supported by Territorial funds as described below.

Federal Expenditure\$187.00

ROUTE 7D—ESTER CREEK.....(13 MILES WAGON ROAD)

This is a cooperative project, partly supported by Territorial funds as described below.

Federal Expenditure\$100.00

ROUTE 7G—FAIRBANKS-GILMORE.....(13 MILES WAGON ROAD)

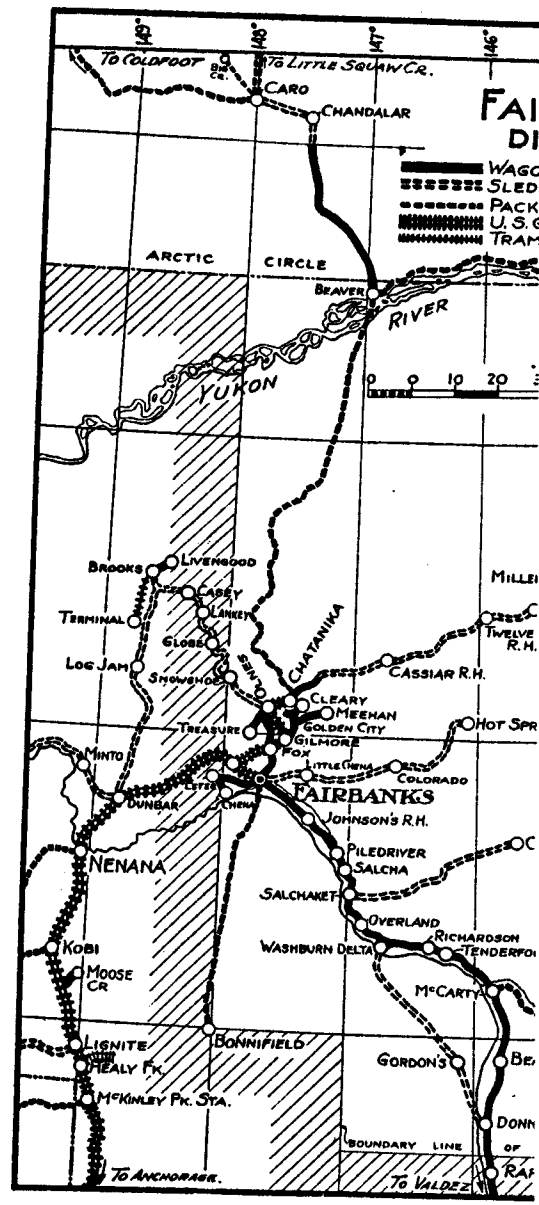
This road forms an integral part of the proposed extension of the Richardson Highway to Circle City, connecting Fairbanks with the town of Gilmore, near the headwaters of Goldstream Creek, in the center of a prominent placer district. It is a very important feeder road to the town of Fairbanks, serving as it does an area of mines and farms.

Several short sections of this road were gravel surfaced, culverts repaired and brush along road cut. A new location was made near the town of Fox, necessitated by mining operations. 1,200 feet of new road was graded over tailing piles. A new bridge 30 feet long was built over Goldstream Creek; 8 new plank culverts were placed; and road dragged three times.

Expenditure: \$5,785.58.

ROUTE 7I—GILMORE-SUMMIT.....(6 MILES WAGON ROAD)

This route also forms a part of the proposed extension of the Richardson Highway. It extends from the town of Gilmore to the Summit Roadhouse on the divide where the road branches, one branch Route 7C, going to Fairbanks Creek and the other, Route



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Items of work accomplished were as follows:

.....	14½ miles
Material placed	13,228 cu. yds.
....., corrugated iron.....	270 lin. ft.
....., timber	40 lin. ft.
.....leaned	4 miles
.....ag	920 lin. ft.
.....ng	175 cu. yds.

\$48,430.73.

MIT-CHATANIKA.....(11 MILES WAGON ROAD)

Operative project, partly supported by Territorial below.

Expenditure

MIT-FAIRBANKS CREEK....(13 MILES WAGON ROAD)

Operative project, partly supported by Territorial below.

Expenditure

FAIRBANKS-CREEK.....(13 MILES WAGON ROAD)

Operative project, partly supported by Territorial below.

Expenditure

FAIRBANKS-GILMORE.....(13 MILES WAGON ROAD)

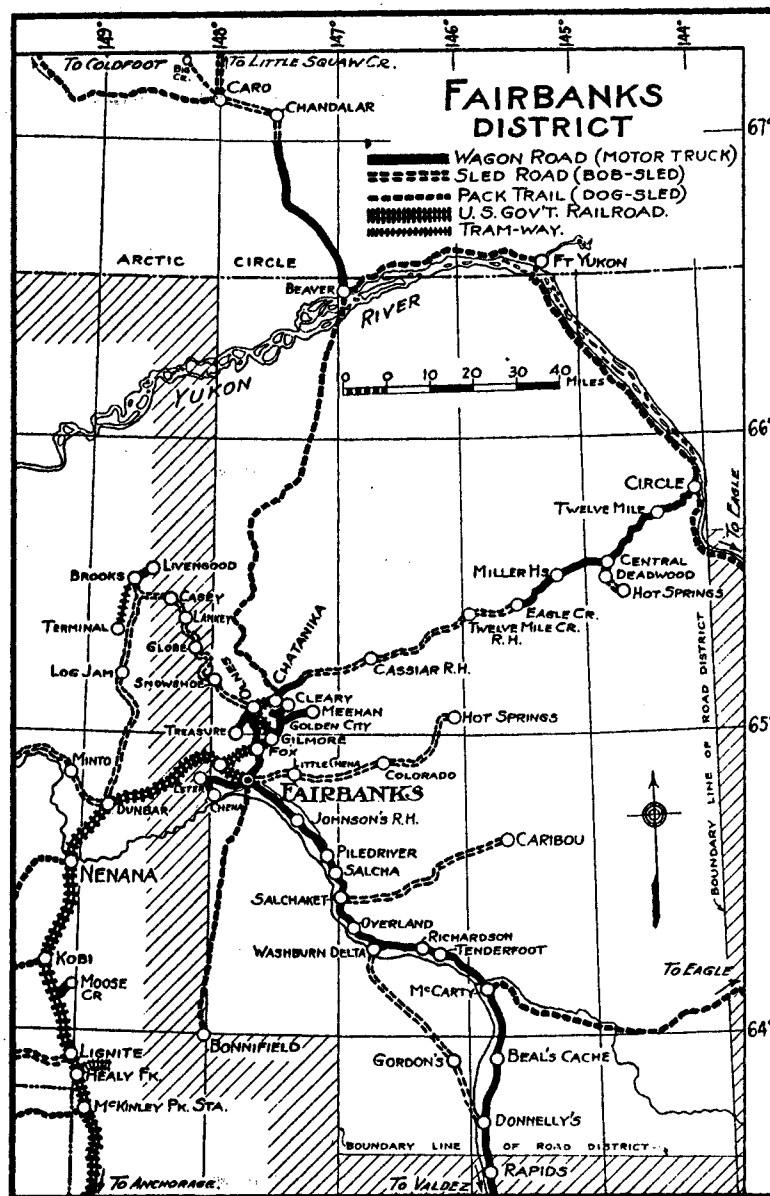
This road forms an integral part of the proposed extension of the Fairbanks Highway to Circle City, connecting Fairbanks and Gilmore, near the headwaters of Goldstream Creek, a prominent placer district. It is a very important road in the town of Fairbanks, serving as it does an area of placer.

Sections of this road were gravel surfaced, and brush along road cut. A new location was made on the town of Fox, necessitated by mining operations. The road was graded over tailing piles. A new bridge was built over Goldstream Creek; 8 new plank culverts; and road dragged three times.

Expenditure

FAIRBANKS-SUMMIT.....(6 MILES WAGON ROAD)

This road also forms a part of the proposed extension of the Fairbanks Highway. It extends from the town of Gilmore to the summit on the divide where the road branches, one going to Fairbanks Creek and the other, Route 1, going to Fairbanks.



7A, to Chatanika. Considerable automobile and truck traffic passes over this route, bound for Fairbanks Creek and Chatanika.

One-half mile of road was surfaced with tailings, two miles of the old portion of side hill grade was regraded and widened out, eight new plank culverts were placed, and the new grade built last season was smoothed over with grader.

Expenditure: \$2,326.20.

ROUTE 7J—FAIRBANKS-CHENA HOT SPRINGS.....(64 MILES SLED ROAD)

This is a cooperative project, partly supported by Territorial funds. The road leaves the Fairbanks-Gilmore road, Route 7G, 2½ miles from Fairbanks, and extends up the Chena River Valley to the Chena Hot Springs, tapping a large area of low grade placer ground.

There are several homesteads along the first ten miles of this route and it has been proposed to build a wagon road to serve these, this road later to be extended to serve the mines above. A good location was selected for the route over first ten miles and this portion was cleared and grubbed forty feet wide, the work being done with funds subscribed by the citizens of Fairbanks and farmers and miners served by this route.

Due to the change in location of this proposed wagon road, the 2½ miles of wagon road formerly shown on this route is now carried as Route 7GA, described below.

Three small bridges were replaced on the winter road, wind-falls cleared out, two shelter cabins repaired, stoves installed, and 3 miles of new sled road cut north of the junction of the north fork. This new portion of road eliminates a steep side hill section and one bad crossing at the Chena River.

Federal Expenditure: \$3,014.22.

ROUTE 7R—GOLDSTREAM-O'CONNOR CREEK....(6 MILES SLED ROAD)

This road connects the Railroad with prospective placer ground on O'Connor Creek, a tributary of Goldstream, which the road crosses eight hundred feet from the Railroad.

Present condition of this route is good, and no further work need be done on it until placer discoveries on the creek warrant it.

Expenditure: None.

ROUTE 7V—WIRELESS ROAD.....(¼ MILE WAGON ROAD)

This short road connects the Wireless station of the U. S. Signal Corps with the city streets of Fairbanks. This road has

been all but impassable for heavy loads in wet weather and it has been necessary for the Signal Corps to move supplies and heavy machinery over this route.

225 cubic yards gravel surfacing was placed and the road is now in fair condition.

Expenditure: \$342.00.

ROUTE 15—CIRCLE-MILLER HOUSE....(49 MILES WAGON ROAD)

This road connects Circle City on the upper Yukon River with the Circle placer district. This road will be the final link in the proposed extension of the Richardson Highway from Fairbanks to the Yukon River.

Early spring damage from freshets was repaired, ten new culverts built, old culverts repaired and brush cut from sides of road. Repairs were made to the ferry across Birch Creek.

Expenditure: \$3,482.90.

ROUTE 16—CHATANIKA-MILLER HOUSE....(14½ MILES WAGON ROAD, 66½ MILES SLED ROAD)

This route connects the town of Chatanika, at the end of the branch line of the Government Railroad, with Miller House at the end of Route 15, being a part of the through route to Circle City and a section of the proposed extension of the Richardson Highway from the Coast at Valdez to the Yukon River.

The portion of this road constructed during 1922 was damaged by extremely high water in the Chatanika River Valley. This damage was repaired during the 1923 season necessitating the construction of one mile of new road. The road was extended five and one-half miles. Four and one-half miles of this was finished and is in good condition. The last mile worked over in 1923 was completed in the spring of 1924. The right of way was cleared and grubbed one mile ahead of the graded section.

The following are the main items of work during the 1923 season:

Clearing, 60 ft. wide	5 miles
Grubbing, 32 ft. wide	5 miles
Ditches, side	2.1 miles
Corduroy, 12 ft. wide	2.1 miles
Grading	3.9 miles
Graveling, surfacing and fills, 6,675 cu. yds.....	3.2 miles
Culverts, corrugated iron pipe, 14 placed	244 lin. ft.
Culverts, timber box, 12 placed	192 lin. ft.
Bridges, 3 built, log stringer type	66 lin. ft.

The sled road portion of this route was maintained. Four small bridges were rebuilt and six hundred feet of side hill grade completed on Eagle Summit.

The survey for the wagon road was extended to the first summit, 53 miles from Chatanika. A suitable location was obtained, the maximum grade used being 10 per cent.

During the late winter all supplies for the season were purchased and freighted in over the snow. Early spring permitted work to be resumed in a large deal of construction was accomplished by the end of the year. Expenditures indicated below include those for the early spring and early spring work. Detailed report of work completed is included in report for next year.

Expenditure: \$68,509.81.

ROUTE 23A—OLNES-BEAVER.....(115 MILES)

This route, formerly called the Chatanika-Beaver trail, was changed with the southern terminus at Olnes on the Yukon side of the Alaska Railroad. The route follows the old Yukon-Chatanika road, Route 7K, for a distance of 14 miles to the Chatanika-Beaver trail at Mile 40 from Olnes. The terminus is at the town of Beaver on the Yukon River. At this point a road extends into the Chandalar mining district.

This entire trail was brushed out eight feet wide. New bridges built, and old cabins repaired for shelter. Supplies were placed. All open stretches of the trail were graded. This is a cooperative project partly supported by the Government.

Federal Expenditure: \$3,749.64.

ROUTE 23B—BEAVER-CARO.....(75 MILES)

This route connects the town of Beaver on the Yukon River with the town of Caro on the Chandalar River. The route is hauled all supplies and equipment for the placer workings of Caro.

This road was formerly a sled road but the Government has brought it up to a fair wagon road standard.

Work this season consisted in repairs to bridges, grubbing and ditching mud holes, and the location and grading of new road from Mile 69 to Caro. It is hauled all supplies and equipment for the placer workings of Caro with one team from Beaver.

Expenditure: \$5,482.64.

ROUTE 23C—BIG CREEK TRAIL.....(75 MILES)

This route leaves the Caro-Coldfoot trail, at the junction with Big Creek, Mile 25, and follows up the side of the placer workings at the head of the creek. It is used for dog team or double ender travel.

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able for heavy loads in wet weather and it for the Signal Corps to move supplies and er this route.

gravel surfacing was placed and the road is n.

342.00.

CHATANIKA-MILLER HOUSE....(49 MILES WAGON ROAD)

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3,482.90.

CHATANIKA-MILLER HOUSE....(14½ MILES WAGON 66½ MILES SLED ROAD)

nects the town of Chatanika, at the end of the Government Railroad, with Miller House at the eing a part of the through route to Circle City he proposed extension of the Richardson High- st at Valdez to the Yukon River.

this road constructed during 1922 was damaged water in the Chatanika River Valley. This dam- during the 1923 season necessitating the con- nile of new road. The road was extended five . Four and one-half miles of this was finished addition. The last mile worked over in 1923 was spring of 1924. The right of way was cleared mile ahead of the graded section.

are the main items of work during the 1923:

wide	5 miles
t. wide	5 miles
.....	2.1 miles
t. wide	2.1 miles
.....	3.9 miles
acing and fills, 6,675 cu. yds.....	3.2 miles
gated iron pipe, 14 placed	244 lin. ft.
r box, 12 placed	192 lin. ft.
it, log stringer type	66 lin. ft.

portion of this route was maintained. Four rebuilt and six hundred feet of side hill grade e Summit.

The survey for the wagon road was extended during the sea- son to the first summit, 53 miles from Chatanika. A very good location was obtained, the maximum grade used being seven per cent.

During the late winter all supplies for the 1924 working sea- son were purchased and freighted in over the snow. An unusually early spring permitted work to be resumed in May, and a great deal of construction was accomplished by the end of the fiscal year. Expenditures indicated below include these winter purchases and early spring work. Detailed report of work done will be in- cluded in report for next year.

Expenditure: \$68,509.81.

ROUTE 23A—OLNES-BEAVER.....(115 MILES TRAIL)

This route, formerly called the Chatanika-Beaver trail, has been changed with the southern terminus at Olnes on the branch line of the Alaska Railroad. The route follows the Olnes Livengood sled road, Route 7K, for a distance of 14 miles and joins the old Chatanika-Beaver trail at Mile 40 from Olnes. The northern ter- minus is at the town of Beaver on the Yukon River. From this point a road extends into the Chandalar mining district.

This entire trail was brushed out eight feet wide, necessary bridges built, and old cabins repaired for shelter in which stoves were placed. All open stretches of the trail were tripoded. This is a cooperative project partly supported by Territorial funds.

Federal Expenditure: \$3,749.64.

ROUTE 23B—BEAVER-CARO.....(75 MILES WAGON ROAD)

This route connects the town of Beaver on the Yukon River with the town of Caro on the Chandalar River. Over this road is hauled all supplies and equipment for the placer mines north of Caro.

This road was formerly a sled road but continued improve- ment has brought it up to a fair wagon road standard.

Work this season consisted in repairs to bridges, corduroying and ditching mud holes, and the location and construction of six miles of new road from Mile 69 to Caro. It is now possible to haul loads of 3,000 pounds with one team from Beaver to Caro.

Expenditure: \$5,482.64.

ROUTE 23C—BIG CREEK TRAIL.....(20 MILES TRAIL)

This route leaves the Caro-Coldfoot trail, Route 23E, at its junction with Big Creek, Mile 25, and follows up Big Creek to the placer workings at the head of the creek. The trail is suitable for dog team or double ender travel.

This route was formerly shown as Caro-Big Creek, 45 miles trail, but as the Caro-Coldfoot trail is identical with the first 25 miles, the name is changed and the length properly shown as 20 miles.

Work this season consisted in cutting down nigger-heads and brush for four miles and installing a stove in the Mile 69 cabin.

Expenditure: \$277.64.

ROUTE 23D—CARO-FLAT CREEK.....(45 MILES SLED ROAD)

This sled road was built by the miners of this district, and is the route by which all freight is moved from Caro to the rich placer and quartz properties on Little and Big Squaw Creeks.

Minor improvements were made on this road during the past season, niggerheads were cut down in a few places, and a short section of the route relocated. This road is in fair condition for bob sled freighting.

Expenditure: \$1,928.26.

ROUTE 23E—CARO-COLDFOOT.....(85 MILES TRAIL)

This trail extends from Caro, on the Chandalar River, by way of Big Creek, the South Fork of the Koyukuk River, and Slate Creek to Coldfoot, on the Middle Fork of the Koyukuk River. This trail connecting with Route 23B at Caro, which latter route in turn connects with Route 23A at Beaver, gives an outlet from the Upper Koyukuk District to the Railroad at Fairbanks.

As the result of a reconnaissance made in the winter of 1922, this trail was rehabilitated. It was brushed out where it passed through timber, all open stretches tripoded and shelter cabins erected. Cable tramways for the accommodation of foot travelers in summer were erected over the Chandalar and over the South Fork of the Yoyukuk River. This trail is now easily passable for dog team travel in winter and foot travel in summer.

Expenditure: \$6,969.15.

ROUTE 31—CARIBOU CREEK.....(46 MILES SLED ROAD)

This is an old winter sled road cut in 1908. It leaves the Richardson Highway 40 miles south of Fairbanks on the south side of the Salchaket River and follows up the Salchaket to Caribou Creek, serving placer mines in that vicinity.

Due to renewed activity on Caribou Creek, this trail was rehabilitated in the spring of 1923. Last winter ¼ mile of new road near McCoy Creek was cut out and four permanent bridges, aggregating 160 lineal feet, 12 feet wide, were erected.

Expenditure:

Alaska Road Commission	\$738.64
Contributed by Stewart and Denhart	540.00
Total	\$1,278.64

ROUTE 59—FAIRBANKS BRIDGE

This is a three hundred foot steel Pettibone bridge over the Chena Slough, connecting the town of Fairbanks with the Railroad terminal and all the mining and farming interests of the town.

In connection with the improvement of the Railroad, a new approach, 146 feet long, was built on the north end of this bridge. The deck is supported on creosoted fir pile foundations. A new metal span was built on the steel span. This bridge is now in excellent condition. The City of Fairbanks rebuilt the approach to the bridge.

Expenditure: \$5,227.59.

ROUTE 65F—GRUNDLER-TANANA CROSSING (TRAIL)

This winter trail extends from Grundler (Mile 65) south of Fairbanks on the Richardson Highway to Tanana Crossing. It crosses the river three times, at Healy River, Sam Creek and at Tanana. A number of prospectors are served by this trail. Dog teams are operated at Healy River and at Tanana.

Over a part of the distance the route follows an old trail. This was widened out, windfalls removed, and approaches to stream crossings graded down. New trails were cut and two bridges constructed over water and George Creeks, capable of carrying heavy loads. The total length of bridges constructed was 1,000 feet.

During the past winter twenty-five tons of supplies were hauled over this trail by dog team and double ender.

Expenditure: \$1,000.00.

ACCOUNT 90D—SHELTER CABINS

Trail	Work Done
7J Fairbanks-Chena	
Hot springs	2 cabins repaired and stove
23A Olmes-Beaver	3 cabins repaired and stove
	3 old cabins
23E Caro Coldfoot	5 cabins repaired; 1 cabin installed in 7 cabins

Total Expenditure: Territory of Alaska

DISTRIBUTION OF EXPENDITURE

Type	Miles*	Expenditure
Wagon Road	333¼	\$185,921.50
Sled Road	221½	8,221.10
Trail	333	11,996.40
Totals	887¾	\$206,139.00

(*—Includes only routes maintained during fiscal year.)

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formerly shown as Caro-Big Creek, 45 miles
o-Coldfoot trail is identical with the first 25
changed and the length properly shown as 20

consisted in cutting down nigger-heads and
and installing a stove in the Mile 69 cabin.
77.64.

FLAT CREEK.....(45 MILES SLED ROAD)
was built by the miners of this district, and
in all freight is moved from Caro to the rich
properties on Little and Big Squaw Creeks.
improvements were made on this road during the past
years. Several bridges were cut down in a few places, and a short
trail was relocated. This road is in fair condition for

1,923.26.

o-COLDFOOT.....(85 MILES TRAIL)

leads from Caro, on the Chandalar River, by way
of the South Fork of the Koyukuk River, and Slate
on the Middle Fork of the Koyukuk River. This
is the same as Route 23B at Caro, which latter route in turn
is the same as Route 23A at Beaver, gives an outlet from the
district to the Railroad at Fairbanks.

As a result of a reconnaissance made in the winter of 1922,
the trail was rehabilitated. It was brushed out where it passed
over the open stretches tripoded and shelter cabins
were constructed for the accommodation of foot travelers
along the Chandalar and over the South
Fork of the Koyukuk River. This trail is now easily passable for
winter and foot travel in summer.

\$6,969.15.

Caribou CREEK.....(46 MILES SLED ROAD)

A winter sled road cut in 1908. It leaves the
main road about 40 miles south of Fairbanks on the south
Fork of the Koyukuk River and follows up the Salchaket to Caribou
Creek placer mines in that vicinity.
As a result of placer activity on Caribou Creek, this trail was re-
located in the spring of 1923. Last winter 3/4 mile of new road
was cut out and four permanent bridges, ag-
ricultural feet, 12 feet wide, were erected.

Road Commission\$738.64
maintained by Stewart and Denhart 540.00
.....\$1,278.64

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ROUTE 59—FAIRBANKS BRIDGE

This is a three hundred foot steel Petit Truss bridge across
the Chena Slough, connecting the town of Fairbanks with the
Railroad terminal and all the mining and farming country north of
the town.

In connection with the improvement of the Terminal ground
of the Railroad, a new approach, 146 feet long, was constructed
on the north end of this bridge. The decking is of Douglas fir
on creosoted fir pile foundations. A new main floor was placed
on the steel span. This bridge is now in excellent condition.
The City of Fairbanks rebuilt the approach to the south end of
the bridge.

Expenditure: \$5,227.59.

ROUTE 65F—GRUNDLER-TANANA CROSSING.....(113 MILES
TRAIL)

This winter trail extends from Grundler (McCarty) ninety miles
south of Fairbanks on the Richardson Highway, up the Tanana
River Valley to Tanana Crossing. It crosses the Tanana River
three times, at Healy River, Sam Creek and at Paul's Cabin. A
number of prospectors are served by this trail and trading posts
are operated at Healy River and at Tanana Crossing.

Over a part of the distance the route follows an old prospector's
trail. This was widened out, windfalls removed and banks at ap-
proaches to stream crossings graded down. Twenty-six miles of
new trail were cut and two bridges constructed over Little Clear-
water and George Creeks, capable of carrying a horse and double
ender. The total length of bridges constructed was 145 lin. ft.

During the past winter twenty-five tons of freight were hauled
over this trail by dog team and double ender.

Expenditure: \$1,000.00.

ACCOUNT 90D—SHELTER CABINS

Trail	Work Done	Cost
7J Fairbanks-Chena		
Hot springs	2 cabins repaired and stoves installed	\$ 300.00
23A Olnes-Beaver	3 cabins repaired and stoves installed in 3 old cabins	600.00
23E Caro Coldfoot	5 cabins repaired; 1 cabin built; Stoves installed in 7 cabins	1000.00

Total Expenditure: Territory of Alaska\$1900.00

DISTRIBUTION OF EXPENDITURES.

Type	Miles*	Expenditure	Unit Cost Dollars per Mile
Wagon Road	333 3/4	\$185,921.50	\$557.90
Sled Road	221 1/2	8,221.12	37.12
Trail	333	11,996.43	36.03
Totals	887 3/4	\$206,139.05	\$232.20

(*)—Includes only routes maintained during fiscal year.

TERRITORIAL PROJECTS.

TERRITORIAL ROAD COMMISSION—FOURTH DIVISION.

Abe McKinnon, Chairman and Secretary to Aug. 5, 1923.

M. C. Edmunds, since Aug. 6, 1923.

Mel. R. Sabin, Member. John Soll, Member.

Sub-Project No.	Name of Route	Wagon Road	Sled Road	Trail	Total Miles
7A*	Summit-Chatanika	11			11
7B	Fox-Olnes	13			13
7C*	Summit-Fairbanks Creek	13			13
7D*	Ester Creek	13			13
7DA	College Spur	1/2			1/2
7GA	Lazelle Road	2 1/2			2 1/2
7H	Little Eldorado Creek	6			6
7J*	Fairbanks-Chena Hot Spring		64		64
7K	Olnes-Livengood		54		54
7N	Farmers-Birch Hill	9			9
7NA	Isabelle Creek	2			2
7S	Graehl Bridge				
7T	Farmers-Chena Slough	4 1/2			4 1/2
15A	Central House-Circle Hot Spring	9			9
23A*	Olnes-Beaver			115	115
	Totals	83 1/2	118	115	316 1/2
	Totals**	46 1/2	54		100 1/2

*—Cooperative projects with Alaska Road Commission.
**—Exclusive of Cooperative projects.

ROUTE 7A—SUMMIT-CHATANIKA.....(11 MILES WAGON ROAD)

This is an old road extending from the Summit at end of Route 71, down Cleary Creek to the town of Chatanika, at the end of the Happy-Chatanika branch of the Alaska Railroad. It is a portion of the proposed extension of the Richardson Highway to Circle.

Work of rehabilitating this old road was begun this season. Two relocations were made to eliminate steep grades and get road on better ground. The first four miles from Chatanika to old Cleary City was regraded and soft places surfaced with tailing from the nearby dumps. Three and one-half miles of new road were built. The principal items of work accomplished are:

Clearing, 50 feet wide	3.5 miles
Grubbing, 32 feet wide	3.5 miles
Grading	3.4 miles
Surfacing (broken rock and tailings).....	2.4 miles
Culverts, timber, 19 placed	266 lin. ft.
Culverts, corrugated iron pipe, 12 placed	168 lin. ft.
Bridges, 2 built	40 lin. ft.

Expenditures: Territory of Alaska (Divisional) \$500.00

ROUTE 7B—FOX-OLNES..... (13 MILES WAGON ROAD)

This road connects the towns of Fox and Olnes, situated at Miles 11 and 26 respectively, on the Happy-Chatanika Branch of

the Alaska Railroad. The road was constructed and has been little used until recently when r Dome Creek has increased travel over this ro

Work this season consisted in surfacing s side ditches and repairing culverts.

Expenditure: Territory of Alaska (Division

ROUTE 7C—SUMMIT-FAIRBANKS CREEK....(13 ROAD)

This is the road from the Summit at the e Fairbanks Creek where two dredges are in ope small placer and quartz mining outfits are work traffic passes over this road both in summer an

Dut to very quick runoff at the breakup p damage occurred to the roadway as it is largely Seven miles were regraded, ditches cleaned, bru of road and culverts repaired. Five new culverts

Expenditure: Territory of Alaska (Divisio

ROUTE 7D—ESTER CREEK.....(13 MILES)

This road connects the town of Fairbanks w Ester Creek, one of the rich placer creeks in t the camp, and where there is still quite a littl this route is the Agricultural College and School Government Agricultural Experimental Farm

The road was surfaced for 1 1/2 miles near tailings, the grade widened over Gold Hill and bru of road. The gravel surfacing was extended fr the College, eight new culverts placed and one redecked. In all, 4 1/2 miles of road were surfaced

Expenditure: Territory of Alaska (Divisiona

ROUTE 7DA—COLLEGE SPUR.....(1/2 MILE)

This road connects the College siding, Mile road, with the College Buildings, crossing Route from Fairbanks. The portion of this route from College Buildings was graded and graveled in the

This season, eight hundred feet of new road graveled, connecting the portion already built w

Expenditure: Territory of Alaska (Divisional

ROUTE 7GA—LAZELLE ROAD.....(2 1/2 MILES)

This road branches off Route 7G, Fairbanks miles from Fairbanks, extending to the Lazelle f three other farms along the route. This wagon

TERRITORIAL PROJECTS.

ALASKA ROAD COMMISSION—FOURTH DIVISION

Chairman and Secretary to Aug. 5, 1923.

C. Edmunds, since Aug. 6, 1923.

Sabin, Member. John Soll, Member.

Name of Route	Wagon Road	Sled Road	Trail	Total Miles
Chatanika	11			11
.....	13			13
Fairbanks Creek	13			13
.....	13			13
Creek	1/2			1/2
Spur	2 1/2			2 1/2
Road	6			6
Idorado Creek		64		64
ts-Chena Hot Spring		54		54
evengood				
-Birch Hill	9			9
Creek	2			2
Bridge				
-Chena Slough	4 1/2			4 1/2
House-Circle Hot Spring	9			9
eeper			115	115
als	83 1/2	118	115	316 1/2
als**	46 1/2	54		100 1/2

projects with Alaska Road Commission.
of Cooperative projects.

SUMMIT-CHATANIKA.....(11 MILES WAGON ROAD)

old road extending from the Summit at end of Cleary Creek to the town of Chatanika, at the Happy-Chatanika branch of the Alaska Railroad. It is the proposed extension of the Richardson Highway

Rehabilitating this old road was begun this season. Work was made to eliminate steep grades and get road straight. The first four miles from Chatanika to old Cleary Creek and soft places surfaced with tailing from the mine. Three and one-half miles of new road were built. Items of work accomplished are:

12 feet wide	3.5 miles
8 feet wide	3.5 miles
.....	3.4 miles
broken rock and tailings).....	2.4 miles
number, 19 placed	266 lin. ft.
corrugated iron pipe, 12 placed	168 lin. ft.
built	40 lin. ft.

Expenditure: Territory of Alaska (Divisional) \$500.00

FOX-OLNES..... (13 MILES WAGON ROAD)

connects the towns of Fox and Olnes, situated at 26 respectively, on the Happy-Chatanika Branch of

the Alaska Railroad. The road was constructed in pre-railroad days and has been little used until recently when renewed activity on Dome Creek has increased travel over this route.

Work this season consisted in surfacing soft spots, cleaning side ditches and repairing culverts.

Expenditure: Territory of Alaska (Divisional) \$2,112.00

ROUTE 7C—SUMMIT-FAIRBANKS CREEK....(13 MILES WAGON ROAD)

This is the road from the Summit at the end of Route 71 to Fairbanks Creek where two dredges are in operation and several small placer and quartz mining outfits are working. Considerable traffic passes over this road both in summer and winter.

Due to very quick runoff at the breakup period, considerable damage occurred to the roadway as it is largely on side hill grade. Seven miles were regraded, ditches cleaned, brush cut from sides of road and culverts repaired. Five new culverts were placed.

Expenditure: Territory of Alaska (Divisional) \$1,500.00

ROUTE 7D—ESTER CREEK.....(13 MILES WAGON ROAD)

This road connects the town of Fairbanks with Ester City on Ester Creek, one of the rich placer creeks in the early days of the camp, and where there is still quite a little activity. Along this route is the Agricultural College and School of Mines and the Government Agricultural Experimental Farm

The road was surfaced for 1 1/2 miles near Ester City with tailings, the grade widened over Gold Hill and brush cut from sides of road. The gravel surfacing was extended from Fairbanks to the College, eight new culverts placed and one thirty-foot bridge redecked. In all, 4 1/2 miles of road were surfaced.

Expenditure: Territory of Alaska (Divisional) \$4,955.00

ROUTE 7DA—COLLEGE SPUR.....(1/2 MILE WAGON ROAD)

This road connects the College siding, Mile 467 Alaska Railroad, with the College Buildings, crossing Route 7D at 4 1/2 miles from Fairbanks. The portion of this route from Route 7D to the College Buildings was graded and graveled in the summer of 1922.

This season, eight hundred feet of new road were graded and graveled, connecting the portion already built with the railroad.

Expenditure: Territory of Alaska (Divisional) \$500.00.

ROUTE 7GA—LAZELLE ROAD.....(2 1/2 MILES WAGON ROAD)

This road branches off Route 7G, Fairbanks-Gilmore road, 3 miles from Fairbanks, extending to the Lazelle farm and serving three other farms along the route. This wagon road was for-

merly carried under Route 7J, Fairbanks-Chena Hot Springs, and considered the beginning of a proposed road to the Chena Hot Springs. This season, however, a new location was made for the Chena Hot Springs road, leaving Route 7G at 2½ miles from Fairbanks.

Work this season consisted in regrading ½ mile, cleaning side ditches, and placing six new culverts.

Expenditure: Territory of Alaska (Divisional) \$186.00.

ROUTE 7H—LITTLE ELDORADO CREEK.....(6 MILES WAGON ROAD)

This road extends from Little Eldorado station, Mile 30 on the Happy Chatanika branch of the Alaska Railroad, up Little Eldorado Creek to its head, making a junction with Route 7A, Summit-Chatanika, 4 miles from the Summit. Placer mines along Little Eldorado Creek are served by this road, and it gives an outlet to the main system of roads connecting with Fairbanks.

Work this season consisted in surfacing soft places, a total of one-half mile being surfaced, cutting brush along sides of road, cleaning side ditches, and repairing culverts.

Expenditure: Territory of Alaska (Divisional)...\$1,500.00.

ROUTE 7J—FAIRBANKS-CHENA HOT SPRINGS....(64 MILES SLED ROAD)

Already described above under Federal projects.

Expenditure: Territory of Alaska (Divisional).....\$314.00.

ROUTE 7K—OLNES-LIVENGOOD.....(54 MILES SLED ROAD)

This route connects Olnes, Mile 26 on the Happy-Chatanika branch of the Alaska Railroad, with the town of Brooks on Livengood Creek in the Tolovana mining district. This road has practically been unused since the construction of the Dunbar-Brooks sled road. It is still used by foot travelers and occasionally by dog teams in winter.

This season a foot bridge was built over Washington Creek replacing a bridge washed out on the old sled road. Repairs were made to the first 1½ miles of road out of Olnes, over which freighting is done to operators along the Chatanika River.

Expenditure: Territory of Alaska (Divisional).....\$288.00.

ROUTE 7N—FARMERS-BIRCH HILL....(9 MILES WAGON ROAD)

This road has been entirely built by Territorial funds through the farming country along Birch Hill. It branches from the Fairbanks-Gilmore road, Route 7G, at Mile 3 and connects with the Ester Creek road, Route 7D, at Mile 4.

This season a new location was made on the Ester road end of this route, placing the road on the property line and shortening

and straightening the old road, which had no in this section. 1½ miles of new road were graded; ½ mile regraded and widened; eight new bridges and two new bridges of 12 and 14 foot spans

This route is now in good condition and additional work other than seasonal maintenance

Expenditure: Territory of Alaska (Divisional)

ROUTE 7NA—ISABELLE CREEK.....(2 MILE ROAD)

This road branches from the Farmers-Birch Hill road where the latter road crosses Isabelle Creek, and serves several farms.

This season, one-half mile of road was graded and sides of road and ditches cleaned.

Expenditure: Territory of Alaska (Divisional)

ROUTE 7S—GRAEHL BRIDGE

This bridge is over a slough on the winter Fairbanks-Gilmore road, Route 7G, into Fairbanks from that route in winter comes into Fairbanks after the main Chena Slough has frozen over.

This bridge was renewed in the fall of 1922 and is in good condition.

Expenditure: None.

ROUTE 7T—FARMERS-CHENA SLOUGH.....(4½ MILES ROAD)

This route leaves the Richardson Highway at Fairbanks and extends to the Chena Slough and serves several homesteads.

Effort was continued this season to bring this wagon road standard. All stumps were grubbed and 4½ miles, rough spots in roadway leveled off and built, one 20 and one 24 foot span.

This road is now passable for wagons with horses. It is planned to extend this road 3 miles farther and to grade it the entire length. This will open up desirable farming country.

Expenditure: Territory of Alaska (Divisional)

ROUTE 15A—CENTRAL HOUSE-CIRCLE HOT SPRINGS.....(36 MILES WAGON ROAD)

This is a branch road from the Circle-Miller Highway, Mile 15, at the Central House, 36 miles from Circle. It serves the Circle Hot Springs, which in the past few

Route 7J, Fairbanks-Chena Hot Springs, and opening of a proposed road to the Chena Hot Springs, however, a new location was made for the road, leaving Route 7G at 2½ miles from Fairbanks.

Work consisted in regrading ½ mile, cleaning sides and six new culverts.

Territory of Alaska (Divisional) \$186.00.

ELDORADO CREEK.....(6 MILES WAGON ROAD)

Work from Little Eldorado station, Mile 30 on the branch of the Alaska Railroad, up Little Eldorado making a junction with Route 7A, Summit-Chatanika the Summit. Placer mines along Little Eldorado by this road, and it gives an outlet to the roads connecting with Fairbanks.

Work consisted in surfacing soft places, a total of 1½ miles surfaced, cutting brush along sides of road, and repairing culverts.

Territory of Alaska (Divisional) \$1,500.00.

FAIRBANKS-CHENA HOT SPRINGS....(64 MILES SLED ROAD)

Work above under Federal projects.

Territory of Alaska (Divisional) \$314.00.

LIVENGOOD.....(54 MILES SLED ROAD)

Work at Olnes, Mile 26 on the Happy-Chatanika Railroad, with the town of Brooks on Livengood mining district. This road has practically since the construction of the Dunbar-Brooks road used by foot travelers and occasionally by sleds.

A trestle bridge was built over Washington Creek crossing out on the old sled road. Repairs were made on 1½ miles of road out of Olnes, over which freight trains along the Chatanika River.

Territory of Alaska (Divisional) \$288.00.

FAIRBANKS-BIRCH HILL....(9 MILES WAGON ROAD)

Work entirely built by Territorial funds through the Fairbanks Birch Hill. It branches from the Fairbanks route 7G, at Mile 3 and connects with the route 7D, at Mile 4.

Work location was made on the Ester road end of the road on the property line and shortening

and straightening the old road, which had never been improved in this section. 1½ miles of new road were cleared, grubbed and graded; ½ mile regraded and widened; eight new culverts placed; and two new bridges of 12 and 14 foot spans were built.

This route is now in good condition and should need little additional work other than seasonal maintenance.

Expenditure: Territory of Alaska (Divisional) \$3,145.00.

ROUTE 7NA—ISABELLE CREEK.....(2 MILES WAGON ROAD)

This road branches from the Farmers-Birch Hill, Route 7N, where the latter road crosses Isabelle Creek, and extends up Isabelle Creek, serving several farms.

This season, one-half mile of road was graded, brush cut from sides of road and ditches cleaned.

Expenditure: Territory of Alaska (Divisional) \$150.00.

ROUTE 7S—GRAEHL BRIDGE

This bridge is over a slough on the winter cut-off from the Fairbanks-Gilmore road, Route 7G, into Fairbanks. All the travel from that route in winter comes into Fairbanks over this bridge, after the main Chena Slough has frozen over.

This bridge was renewed in the fall of 1922, and is now in good condition.

Expenditure: None.

ROUTE 7T—FARMERS-CHENA SLOUGH.....(4½ MILES WAGON ROAD)

This route leaves the Richardson Highway 4 miles south of Fairbanks and extends to the Chena Slough and up the slough, serving several homesteads.

Effort was continued this season to bring this road up to wagon road standard. All stumps were grubbed 12 feet wide for 4½ miles, rough spots in roadway leveled off and two bridges built, one 20 and one 24 foot span.

This road is now passable for wagons with fair sized loads. It is planned to extend this road 3 miles farther up the slough and to grade it the entire length. This will open up some very desirable farming country.

Expenditure: Territory of Alaska (Divisional) \$1,000.00.

ROUTE 15A—CENTRAL HOUSE-CIRCLE HOT SPRINGS.....(9 MILES WAGON ROAD)

This is a branch road from the Circle-Miller House road, Route 15, at the Central House, 36 miles from Circle. It extends to the Circle Hot Springs, which in the past few years has had

quite a large patronage. The road was maintained during the season. Several bad mud holes were corduroyed, culverts repaired, and brush cut out from sides of the road. Five new culverts were built.

Expenditure: Territory of Alaska (Divisional)....\$1,200.50.

ROUTE 23A—OLNES-BEAVER.....(115 MILES TRAIL)

Already described above under Federal projects.

Expenditure: Territory of Alaska (Divisional) \$2,580.00.

DISTRIBUTION OF EXPENDITURES.

Type	Miles*	Expenditure	Unit Cost Dollars per Mile
Wagon Road	83½	\$16,748.50	\$200.58
Sled Road	118	402.00	3.41
Trail	115	2,580.00	22.17
Totals	316½	\$19,730.50	\$ 62.34

(*)—Includes only routes maintained during fiscal year.

NENANA DISTRICT.

Hawley W. Sterling, Supt., July 1 to Ju

Ike P. Taylor, Supt., Aug. 1 to Oct. 3

M. C. Edmunds, Supt., Nov. 1, 1923 to Ma

H. G. Haslem, Supt., May 16 to June

This district embraces that portion of the t of the 148th meridian, from the Yukon River on 360 on the Government Railroad on the south, v ern boundary of Mt. McKinley Park; also that the 150th and 158th meridian north of the Yuk this area are the important mining districts Livengood, Hot Springs and the Bonfield.

There are 20 sub-projects in this district; 7 or trail feeders directly tributary to the Govern the balance are either extensions of these feed mote sections of the territory or connections The system of roads and trails ties into the railr as follows:

Main Line		Route
Mile		
363	Lignite	46B Lignite-Kanti
371	Moose Creek	88 Moose Creel
387	Kobi	46 Kobi-Diamon
		46G Kobi-Bonnie
411	Nenana	46C Nenana-Knig
432	Dunbar	5A Dunbar-Ft. C
		63 Dunbar-Brook

The Nenana District, organized from a porti kon District followed the vigorous carrying out trail work near the Government Railroad and up Tanana Rivers in the last four years. The fir in this district was the repairing of tne damag in the war years. The main arterial trail along Yukon Rivers through Fort Gibbon was revived.

Reconnaissances were carried to the Koyi Chandalar districts in the extreme north. An naissance was made by the Engineer Officer fr Park Station through the Kantishna to McGr Kuskokwim. A road was located and started i National Park. A sled road was constructed f Government Railroad to the Kantishna. A wint

ronage. The road was maintained during the sea-
d mud holes were corduroyed, culverts repaired.
ut from sides of the road. Five new culverts

Territory of Alaska (Divisional)....\$1,200.50.

NES-BEAVER.....(115 MILES TRAIL)

cribed above under Federal projects.

Territory of Alaska (Divisional) \$2,580.00.

DISTRIBUTION OF EXPENDITURES.

Miles*	Expenditure	Unit Cost Dollars per Mile
33½	\$16,748.50	\$200.58
118	402.00	3.41
115	2,580.00	22.17
316½	\$19,730.50	\$ 62.34

only routes maintained during fiscal year.

NENANA DISTRICT.

Hawley W. Sterling, Supt., July 1 to July 31, 1923.

Ike P. Taylor, Supt., Aug. 1 to Oct. 31, 1923.

M. C. Edmunds, Supt., Nov. 1, 1923 to May 15, 1924.

H. G. Haslem, Supt., May 16 to June 30, 1924.

This district embraces that portion of the territory lying west of the 148th meridian, from the Yukon River on the north to Mile 360 on the Government Railroad on the south, which is the northern boundary of Mt. McKinley Park; also that territory between the 150th and 158th meridian north of the Yukon River. Within this area are the important mining districts of the Kantishna, Livengood, Hot Springs and the Bonnifield.

There are 20 sub-projects in this district; 7 of these are road or trail feeders directly tributary to the Government Railroad and the balance are either extensions of these feeders into more remote sections of the territory or connections with river routes. The system of roads and trails ties into the railroad in this district as follows:

Main Line		Route	
Mile			
363	Lignite	46B	Lignite-Kantishna
371	Moose Creek	88	Moose Creek Road
387	Kobi	46	Kobi-Diamond-McGrath
		46G	Kobi-Bonnifield
411	Nenana	46C	Nenana-Knights
432	Dunbar	5A	Dunbar-Ft. Gibbon
		63	Dunbar-Brooks

The Nenana District, organized from a portion of the old Yukon District followed the vigorous carrying out of all road and trail work near the Government Railroad and upon the Yukon and Tanana Rivers in the last four years. The first work taken up in this district was the repairing of the damages due to neglect in the war years. The main arterial trail along the Tanana and Yukon Rivers through Fort Gibbon was revived.

Reconnaissances were carried to the Koyukuk, Kobuk and Chandalar districts in the extreme north. An important reconnaissance was made by the Engineer Officer from Mt. McKinley Park Station through the Kantishna to McGrath on the Upper Kuskokwim. A road was located and started into Mt. McKinley National Park. A sled road was constructed from Kobi on the Government Railroad to the Kantishna. A winter dog trail serv-