

United States, Alaska Road Commission

TWENTY-EIGHTH ANNUAL REPORT

OF THE

ALASKA ROAD COMMISSION,

FISCAL YEAR 1932

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

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REPORT OF THE BOARD OF ROAD COMMISSIONERS FOR ALASKA

MALCOLM ELLIOTT, *President*

L. E. ATKINS, *Engineer officer*

W. W. HODGE, *Secretary and disbursing officer*

STATUTORY AUTHORITY

An act to provide for the construction and maintenance of roads * * * in the District of Alaska, and for other purposes

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That all moneys derived from and collected for liquor licenses, occupation or trade licenses, outside of the incorporated towns in the Territory of Alaska, shall be deposited in the Treasury Department of the United States, there to remain as a separate and distinct fund, to be known as the "Alaska Fund" and to be wholly devoted to the purposes hereinafter stated in the Territory of Alaska * * * and all the residue (65 per cent of total fund) of said fund shall be devoted to the construction and maintenance of wagon roads, bridges, and trails in said Territory * * *.

Sec. 2. That there shall be a board of road commissioners in said district, to be composed of an engineer officer of the United States Army to be detailed and appointed by the Secretary of War, and two other officers of that part of the Army stationed in said district and to be designated by the Secretary of War. The said engineer officer shall, during the term of his said detail and appointment, abide in said district. The said board shall have the power, and it shall be their duty, upon their own motion or upon petition, to locate, lay out, construct, and maintain wagon roads and pack trails from any point on the navigable waters of said district to any town, mining or other industrial camp or settlement, or between any such towns, camps, or settlements therein if in their judgment such roads or trails are needed and will be of permanent value for the development of the district; but no such road or trail shall be constructed to any town, camp, or settlement which is wholly transitory or of no substantial value or importance for mining, trade, agricultural, or manufacturing purposes. * * * In case no responsible and reasonable bid can be secured, then the work may be carried on with material and men procured and hired by the board. The engineer officer of the board shall in all cases supervise the work of construction and see that the same is properly performed. * * * It shall be the duty of said board, as far as practicable, to keep in proper repair all roads and trails constructed under their supervision, and the same rules as to the manner in which the work of repair shall be done, whether by contract or otherwise, shall govern as in the case of the original construction of the road or trail. The cost and expense of laying out, constructing, and repairing such roads and trails shall be paid by the Secretary of the Treasury, through the authorized disbursing officer of the board, designated by the Secretary of War, out of the road and trail portion, of said "Alaska Fund" upon vouchers approved and certified by said board. * * * (Act of January 27, 1905, as amended by acts of May 14, 1906, and March 3, 1913.) * * *

Provided, That hereafter, so long as the construction and maintenance of "military and post" roads in Alaska, and of other roads, bridges, and trails in that Territory shall remain under the direction of the Secretary of War, he be authorized to submit such estimates for the consideration of Congress as are in his judgment necessary for a proper prosecution of the work. (Act of July 9, 1918.) Hereafter when an appropriation for this purpose for any fiscal year shall not have been made prior to the 1st day of March preceding the beginning of such fiscal year, the Secretary of War may authorize the board of road commissioners to incur obligations for this purpose of not to exceed 75 per cent of the appropriation for this purpose for the fiscal year then current, payment of these obligations to be made from the appropriation for the new fiscal year when it becomes available. (Act of February 12, 1925.)

Provided, That the Secretary of War is hereby authorized to receive from the Territory of Alaska, or other source, such funds as may be contributed by them to be expended in connection with funds appropriated by the United States for any authorized work of construction, repair, and maintenance of roads, bridges, ferries, trails, and related works in the Territory of Alaska, and to cause such funds to be deposited to the credit of the Treasurer of the United States, and to expend the same in accordance with the purpose for which they were contributed. (Act of June 30, 1921.)

CURRENT APPROPRIATION

Construction and maintenance of roads, bridges, and trails, Alaska: For the construction, repair, and maintenance of roads, tramways, ferries, bridges, and trails, Territory of Alaska, to be expended under the direction of the board of road commissioners described in section 2 of an act entitled "An act to provide for the construction and maintenance of roads, the establishment and maintenance of schools, and the care and support of insane persons in the District of Alaska, and for other purposes," approved January 27, 1905, as amended by the act approved May 14, 1906, and to be expended conformably to the provisions of said act as amended, \$494,310 to be immediately available. (Act of July 14, 1932.)

OPERATIONS DURING THE FISCAL YEAR

The work during the fiscal year ending June 30, 1932, was executed under appropriations for "Construction and maintenance of roads, bridges, and trails, Alaska, 1931-1932" approved February 23, 1931, and from receipts from the Alaska fund, act of Congress approved January 27, 1905, as amended by act approved May 14, 1906. Work was also done which was covered by funds contributed by the Territory of Alaska, the National Park Service and others, act of Congress approved June 30, 1921.

The work in the last fiscal year was largely directed to maintaining the existing system and the improvement of the more important routes for the use of motor vehicles. New construction was confined to a few major projects upon which work has been in progress for several years.

The work accomplished during the fiscal year may be summarized as follows:

New construction: 40.15 miles road, 20 miles sled road, 130 miles trail, 520 linear feet of bridges over 60-foot span, 3,158 linear feet of trestle span bridge, 1 airplane landing field, and 4 shelter cabins.

Improvement: 75.6 miles road reconstructed, 107.37 miles road surfaced, and numerous culverts replaced.

Maintenance: 1,304.13 miles road, 74 miles tramway, 813.5 miles sled road, 4,732.25 miles permanent trail, 329 miles temporary flagged trail, 26 airplane landing fields, and 36 shelter cabins.

Total for all classes of work: 7,626 miles consisting of 1,527.25 miles road, 74 miles tramway, 833.5 miles sled road, 4,862.25 miles of permanent trail, and 329 miles of temporary flagged trail.

The more important roads upon which new construction was performed were the McCarthy-Nizina, Mount McKinley National Park, Gulkana-Chisana, Long-Poorman, Iliamna, Olmes-Livengood, Dillingham-Snag Point, Nome-Sunset Creek, and Lucky Shot Mine-Willow Station. The bridge renewal program was continued.

The important Richardson Highway was maintained open during the entire season. Improvement to new standard was continued and except for a few short sections this road is now in excellent condition for auto traffic. During the 1932 season tourist travel began in June.

Surfacing of the Steese Highway was continued. As a result of the improvement traffic over this route continued to increase. During the 1932 season travel began over this route in June.

Construction of the road from Gulkana on the Richardson Highway to Chisana, through the mineralized belt north of the Wrangell Mountains was continued. This is now the major new project under construction.

Work was started early in 1931 and except for destructive floods in a few localities weather conditions were favorable and the work progressed satisfactorily.

The roads constructed by the commission, originally intended for wagon traffic, are now generally of higher standard suitable for automobiles and light trucks. The demand for roads of this type is increasing and effort is made in each case to provide a gravel surface for the road.

ORGANIZATION

The headquarters of the commission are located at Juneau; a suboffice is maintained at Washington, D. C., as required. The Territory is divided into seven district and one subdistrict with boundaries as shown on the maps accompanying the district reports herein.

Each district is in charge of a superintendent who supervises the work of the local foremen. The members of the organization are experienced men who in nearly all cases have been with the commission many years.

MACHINERY AND EQUIPMENT

The following additional equipment was purchased during the fiscal year:

3 graders, motor.	3 scrapers, automatic, tractor drawn.
1 shovel, three-eighths-cubic-yard, gas-line.	1 hoist, for attachment to "30" tractor.

The high cost of labor has made necessary the prosecution of as large a part of the work as possible with mechanical equipment.

The commission is now well equipped to handle engineering construction anywhere in the Territory. Its major items of equipment include the following:

2 auto trucks, Dodge.	4 compressors, air, portable.
145 auto trucks, Ford.	2 crushers, stone.
27 auto trucks, G. M. C.	1 drum, hoisting.
1 auto truck, Pierce Arrow.	21 drags, road.
1 auto truck, White.	2 ditchers, road.
9 boilers, steam.	1 engine, donkey.
1 boiler, pile driver.	6 engines, hoisting.
2 cars, gasoline section.	37 graders, road, tractor drawn.
11 cars, roller bearing push.	12 graders, road, horse drawn.

10 graders, motor.	1 scarifier.
1 hoist, Allison, for attachment to Fordson tractor.	51 scrapers, slip.
1 hoist, double drum for attachment to "30" tractor.	5 scrapers, wheel.
10 jack hammers.	1 scraper, self-loading, tractor drawn.
7 levels, surveying.	11 scrapers, Fresno.
1 loader, belt conveyor, portable.	28 scrapers, automatic, tractor drawn.
2 locomotives, gasoline.	11 shovels, three-eighths-cubic-yard, gasoline.
2 machines, mowing, horse drawn.	47 sleds, bob.
6 machines, mowing, tractor drawn.	30 tractors, caterpillar "30."
12 maintainers, tractor drawn.	4 tractors, caterpillar "60."
5 pile drivers, complete.	2 tractors, Monarch "35."
50 plows.	1 tractor, Holt.
3 plows, reversible back-filler attachment for "30" tractor.	1 tractor, Case.
1 plow, reversible back-filler attachment for "60" tractor.	3 tractors, Fordson.
1 plow, snow, lateral rotary type.	28 trailers, highway.
8 rollers, road.	2 trailers, crawler type.
7 saws, power driven.	9 transits, surveying.
1 sawmill, portable.	63 wagons.
	5 welding outfits.
	13 winches, hand.

PROGRESS OF THE WORK

The high scale of wages and supplies in the Territory is a large element in the cost of this work. The rate paid for labor varies from \$3.50 to \$6 per day, with board for common labor. The cost of subsistence and forage is also correspondingly high. Besides these high costs, the nature of the work in Alaska adds to the cost in a way to make comparisons with road work in the United States difficult. In the roads built here the cruising, clearing, grubbing, and construction of the road includes all work done upon roads in the settled parts of the United States from pioneer days. Even with this, the mileage cost of our roads can be looked upon with a great deal of gratification.

In the classification of the commission, roads are any roads cleared, grubbed, ditched, graded, and drained sufficiently to accommodate wagon traffic. Motor vehicles are now using these roads in increasing numbers. This requires a gravel surface at an increased first cost, but with an eventual saving in annual maintenance charges.

Sled roads are cleared and grubbed like wagon roads, but not graded. They are drained only sufficiently to prevent their destruction by the summer rains. Their wearing surface is of snow. Double bobsleds, drawn by two, four, or more horses, haul heavy loads over these roads as well as over the wagon roads in winter time. During the past few seasons caterpillar tractors have been successfully used during the winter time, and such traffic is expected to increase.

Trails include any construction less than the above, suitable for dog sleds or single horse-drawn double-ender in winter and pack trains in summer. Except where frozen river surfaces are used, some work is always necessary to permit the use of dog teams.

Flagged trails represent cut-offs across frozen lakes, arms of the sea, etc. The marks are necessary to prevent travelers from getting lost in bad weather.

Status	Road	Sled road	Trail	Total	Flagged	Grand total
1920 report.....	Miles 1,031	Miles 630	Miles 3,223	Miles 4,890	Miles 712	Miles 5,602
Additions:						
New mileage.....	813¾	837	5,425	7,075¾		7,075¾
Reclassified.....	122	255½	73	450½		450½
Grand total.....	1,966¾	1,728½	8,721	12,416¾	712	13,128¾
Deductions:						
Transferred to other bureaus.....	121¼	9	45½	175¾		175¾
Reclassified.....	29½	98½	322½	450½		450½
Abandoned or dropped account duplication of routes.....	114½	125½	1,031	1,271		1,271
Net total.....	1,701½	1,495½	7,322	10,519	712	11,231
No work 1932.....	100%	662	2,459¾	3,222	383	3,605
Work 1932.....	1,601¾	833½	4,862¼	7,297	329	7,626

¹ Includes 74 miles tramroad.

From the above table it will be noted that the present system aggregates 11,231 miles, consisting of 1,627½ miles of road, 74 miles of tramroad, 1,495½ miles of sled road, 7,322 miles of trail, and 712 miles of temporary flagged trail. The net gain in mileage for the 12-year period has been 5,629 miles, including 596½ miles of road, 74 miles of tramroad, 859½ miles of sled road, and 4,099 miles of trail.

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

District	Road	Sled road	Trail	Flagged trail	Total
Southeastern Alaska.....	Miles 60½	Miles 120	Miles 8	Miles 68½	Miles 68½
Eagle.....	24	127			271
Valdez.....	100				100
Chitina.....	262¼		207		469¼
Fairbanks.....	544¾	532½	758		1,835¼
Southwestern Alaska.....	258	104½	2,03¼		565¾
Kuskokwim.....	67	43	1,201		1,401
Nome.....	284½	33½	2,268	329	2,915
Total.....	1,601¾	833½	4,862¼	329	7,626

SUMMARY OF ALL EXPENDITURES TO JUNE 30, 1932

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

Fiscal year	War Department acts	Alaska fund	Other funds	Total
1905.....		\$28,000.00		1 \$28,000.00
1906.....	\$118,172.09	57,420.77		175,592.86
1907.....	197,980.91	148,814.70		346,795.61
1908.....	244,857.18	120,772.72		365,629.90
1909.....	236,674.97	146,971.92		383,646.89
1910.....	102,898.50	237,498.50		340,397.00
1911.....	100,000.00	166,777.95		266,777.95
1912.....	167,302.49	150,103.58		317,406.07
1912.....		17,052.23		17,052.23
1913.....	125,010.91	228,117.56		353,128.47
1914.....	153,174.43	170,688.37		323,862.80
1915.....	126,852.28	157,915.84		284,768.12
1916.....	165,011.73	135,708.89		300,720.62
1917.....	500,031.75	76,716.15		576,747.90
1918.....	325,000.00	272,020.18	\$145.20	597,165.38

¹ To Oct. 31.

² To Sept. 30.

³ U. S. Treasury adjustment.

Fiscal year	War Department acts	Alaska fund	Other funds	Total
1919				
1920	\$246,651.95	\$52,372.31		\$299,024.26
1921	132,426.73	124,992.96	\$101,184.56	358,604.25
1922	350,000.00	218,247.21	98,551.98	666,799.19
1923	420,807.34	173,029.19	88,411.15	683,247.68
1924	555,613.67	34,398.23	150,070.59	740,082.49
1925	730,423.17	67,683.67	138,000.81	936,107.65
1926	775,665.02	108,518.01	194,164.61	1,138,347.64
1927	1,013,577.52	115,035.11	182,705.05	1,311,317.69
1928	889,443.65	207,909.20	119,814.04	1,217,166.89
1929	860,192.90	134,593.11	258,882.17	1,253,668.18
1930	997,297.64	134,371.15	315,494.61	1,447,163.91
1931	775,406.36	138,542.03	342,401.26	1,256,349.65
1932	751,366.08	202,547.78	334,359.60	1,288,273.46
1932	710,738.05	68,270.32	200,022.41	1,039,030.78
Total	11,895,928.42	3,837,688.94	2,579,208.04	18,312,825.40

"Other funds" in the above table includes the following expenditures from other appropriations:

Fiscal year	Increase of compensation	Quartermaster General	Funds contributed	National Park Service
1918				
1920	\$145.20		\$101,184.56	
1921	940.00		97,611.98	
1922	4,322.09		79,089.06	
1923	28,857.72		121,212.87	
1924	45,675.36		92,325.45	
1925	15,136.08	\$300.00	98,708.53	\$80,020.00
1926		290.17	132,414.88	50,000.00
1927		812.00	103,001.70	16,000.04
1928		792.83	198,089.34	60,000.00
1929		1,000.00	249,494.61	65,000.00
1930		1,499.80	180,080.15	160,821.81
1931		937.47	165,604.86	167,817.27
1932		2,324.83	161,459.79	96,237.79
Total	¹ 95,076.45	7,957.10	² 1,730,277.18	³ 695,897.31

¹ Includes refunds of \$16.95. ² Includes refunds of \$10,571.43. ³ Includes refunds of \$20.94.

Total War Department appropriations	\$11,873,100.00
Balance unexpended July 1, 1932	417.21
Amount expended	\$11,872,682.79
Add Navy Department reimbursement	3,976.19
Add repayments and voucher corrections, 1920	420.82
Add repayments and voucher corrections, 1921-1929	18,848.62
	23,245.63
Total expenditures	11,895,928.42
Total Alaska fund	3,828,612.52
Balance unexpended July 1, 1932	121,105.87
Amount expended	3,707,506.65
Add receipts from sales, 1905-1920	49,448.09
Add voucher corrections, 1905-1920	1,462.68
Add sales, refunds, etc., 1921-1929	79,271.52
	130,182.29
Total expenditures	3,837,688.94

These expenditures are summarized as follows:

FEDERAL APPROPRIATIONS	
Alaska fund, 1905-1920	\$2,157,491.19
War Department acts, 1905-1920	3,059,397.01
Increase of compensation, 1918-1920	145.20
U. S. Treasury adjustment, 1912	17,052.23
Alaska fund, 1921-1932	1,663,145.52
War Department acts, 1921-1932	8,736,948.62
Increase of compensation, 1921-1925	94,931.25
Quartermaster General, 1925-1932	7,957.10
National Park Service, 1925-1932	695,897.31
Lowell Creek	99,582.79
Total	16,532,548.22

CONTRIBUTED FUNDS	
Territory of Alaska, 1920	101,184.56
Territory of Alaska, 1921-1932	1,533,282.51
Miscellaneous, 1922-1932	145,810.11
Total	1,780,277.18
Grand total	18,312,825.40

In addition to the above funds, disbursed through the United States Treasury, the commission 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, 1901-02	¹ 100,000.00
Chief of Engineers, 1904-05	¹ 34,631.78
Territorial funds and forest revenues prior to 1921	² 684,239.64
Territorial divisional commissioners, 1921-1929	194,939.60
Territorial divisional commissioners, 1930	1,000.00
Seward Peninsula tramway, 1923	24,014.00
Tolovana tramway, 1924	6,425.00
Kaltag portage survey, 1925	312.72
Miscellaneous, 1926-1930	22,349.50
Total	1,470,614.91

COST OF MAINTENANCE

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 commission 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	1,701½	\$300.00	\$510,450.00
Sled roads	1,495½	25.00	37,387.00
Trails	7,322	10.00	73,220.00
Flagged trails	712	3.00	2,136.00
Total	11,231	55.49	623,193.00

¹ Expended prior to organization of the Alaska Road Commission.

² Expended prior to supervision by the Alaska Road Commission.

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.

INSPECTION

The magnitude of the task and extent of territory covered by the wide-flung activities of this commission may be realized from the fact that it would take two years of continuous traveling on the ground with the best facilities available for a single individual to make a complete inspection of the entire mileage for which the commission is responsible. In view of the growing use of airplanes in Alaska more comprehensive and frequent inspections can now be made by the members of the commission than was formerly the case. The president or engineer officer spends the greater part of each working season inspecting the field work and ascertaining the needs of all sections for transportation routes.

DEPARTMENT OF AGRICULTURE

The National Forests, administered by the United States Forest Service, are provided with a road system, the work on which is done by the United States Bureau of Public Roads. The territory served by this organization, comprising about 5 per cent of the area of the Territory, lies mostly in southeastern Alaska and could not be tied in with the rest of the Territory by a road system. The work of the two road building agencies is thus entirely distinct and no overlapping of work or effort exists or is possible.

TERRITORIAL ROAD LEGISLATION

The present road law in the Territory, known as the cooperative road act, was passed on April 21, 1919 (ch. 11, sess. L. 1919). It was made necessary by the Federal appropriation for the national forests, which could be expended only provided cooperative funds were appropriated by the Territory, the Department of Agriculture funds becoming available in the ratio of about \$3 of Federal funds to \$1 of Territorial funds. Under this law and subsequent amendments the Territorial board of road commissioners, consisting of the governor, the Territorial highway engineer and the treasurer of the Territory, are authorized to enter into cooperative agreements with the Department of Agriculture, the Alaska Road Commission, or other Federal bureaus, and to turn over to the disbursing officers of such bureaus Territorial funds to be expended by them upon the cooperative projects.

The following Territorial funds have been appropriated and expended to March 31, 1932:

APPROPRIATIONS

Forest revenues to June 30, 1931.....	\$329, 834. 94
Apr. 30, 1927, shelter cabins.....	20, 000. 00
May 3, 1917, roads, bridges, trails, and ferries.....	400, 000. 00
May 3, 1917, Nizina Bridge.....	25, 000. 00
May 1, 1919, shelter cabins.....	5, 000. 00
May 1, 1919, roads, etc.....	375, 000. 00
May 5, 1921, Nizina River bridge.....	25, 000. 00
May 5, 1921, Seward Peninsula Ry.....	24, 014. 00
May 7, 1921, shelter cabins.....	10, 000. 00

May 7, 1921, roads, etc.....	\$240, 000. 00
May 3, 1923, Tolovana Tram.....	6, 425. 00
May 4, 1923, roads, etc.....	240, 000. 00
May 4, 1923, shelter cabins.....	15, 000. 00
May 5, 1923, Kaltag Portage survey.....	312. 72
Apr. 30, 1925, roads, etc.....	260, 000. 00
Apr. 30, 1925, shelter cabins.....	20, 000. 00
Apr. 30, 1925, telephone lines, Seward Peninsula.....	3, 999. 20
Apr. 30, 1925, Pioneer Cemetery Road.....	3, 341. 02
May 2, 1927, telephone lines, Seward Peninsula.....	4, 000. 00
May 5, 1927, roads, etc.....	460, 000. 00
May 5, 1927, shelter cabins.....	32, 266. 63
Apr. 16, 1929, flood protection, Hyder.....	7, 499. 51
Apr. 27, 1929, telephone lines, Seward Peninsula.....	5, 000. 00
May 1, 1929, telephone lines.....	74. 00
May 2, 1929, Yukon-Kuskokwim portage.....	7, 500. 00
May 2, 1929, roads, etc.....	320, 000. 00
May 2, 1929, shelter cabins.....	18, 628. 99
Apr. 6, 1931, Valdez Dyke, reconstruction.....	10, 000. 00
Apr. 27, 1931, telephone lines, Seward Peninsula.....	5, 000. 00
Apr. 30, 1931, radio telephones, second division.....	7, 000. 00
Apr. 30, 1931, improvement Iditarod River.....	5, 000. 00
Apr. 30, 1931, shelter cabins.....	10, 000. 00
Apr. 30, 1931, roads, etc.....	300, 000. 00
Deposits from sales and refunds.....	428. 75
Total appropriated to Mar. 31, 1932.....	3, 195, 324. 76

EXPENDITURES

Expended by Territory prior to Apr. 1, 1921.....	684, 239. 64
Expended by Territory, Apr. 1, 1921, to Mar. 31, 1932.....	95, 987. 47
Supervised by Alaska Road Commission 1921-1931.....	226, 691. 32
Cooperative with Alaska Road Commission 1920-1932.....	1, 624, 310. 64
Cooperative with Forest Service 1920-1932.....	343, 199. 50
Total expended to Mar. 31, 1932.....	2, 974, 428. 57
Balance Apr. 1, 1932.....	220, 896. 19
	3, 195, 324. 76

TERRITORIAL BOARD

The Territorial board of road commissioners, as now constituted, is composed of the following: George A. Parks, governor of the Territory, chairman; Walstein G. Smith, Territorial treasurer, member; William A. Hesse, Territorial highway engineer and secretary.

LOCAL COOPERATION

Under the authority of the Territorial cooperative road act, approved April 21, 1919, and the act of Congress approved June 30, 1921, the commission made additional cooperative agreements for the prosecution of work supported in part by Federal funds and in part by funds appropriated by the Territorial legislature.

The president of the commission continued to supervise certain public works for the Territory supported by appropriations of the Territorial legislature. No Territorial road building organization has been maintained since March 1, 1921.

The following general road funds were expended on Territorial projects during the fiscal year:

COOPERATIVE ROAD PROJECTS	
Alaska Road Commission funds.....	\$174, 917. 55
Territorial funds.....	71, 693. 51
Miscellaneous contributions.....	7, 149. 11
Total.....	253, 760. 17
TERRITORIAL ROAD PROJECTS	
Territorial funds.....	16, 199. 35
Miscellaneous contributions.....	32. 00
Total.....	16, 231. 35
SPECIAL PROJECTS	
Shelter cabins, Territory:	
Second division.....	1, 424. 03
Third division.....	21. 55
Fourth division.....	1, 254. 30
Aviation fields, Territory:	
First division.....	263. 34
Second division.....	7, 086. 87
Third division.....	950. 06
Fourth division.....	3, 498. 87
Aviation fields, miscellaneous contributions.....	97. 98
Nome Harbor, Territory.....	2, 500. 00
Valdez Dyke, Territory.....	15, 000. 00
Gastineau Bar, Territory.....	240. 00
Seward Peninsula tramway, Alaska Road Commission funds.....	12, 200. 94
Nizina Bridge, Alaska Road Commission funds.....	774. 63
Radio telephone, Territory.....	6, 477. 34
Total.....	51, 789. 91
Grand total.....	321, 781. 43

The cooperative road act has worked satisfactorily under the conditions imposed. Certainly, the amount of road work accomplished for the money expended has been far in excess of what would have been possible under separate organizations. Had the Territory attempted to expend its funds under an independent organization, nearly one-fourth of the available funds would have gone into overhead, salary and expenses of a divisional chairman and clerk, rent, light, etc. All of this service was furnished free by the Alaska Road Commission and at no additional cost to itself. In addition, the extensive plant and mechanical equipment of the Alaska Road Commission, representing a capital investment of over \$500,000, were furnished where available in the Territorial work without charge except for fuel and ordinary running expenses. Due to the extensive organization of the Alaska Road Commission, it has also been possible to apply Territorial money to outlying projects where the maintenance of an independent organization would have been impossible or prohibitive in cost. Finally, all available money is lumped together and expended upon a comprehensive system with a continuity in plans and a consistency in operations over an extended period of years.

The Alaska Road Commission also is a gainer under the cooperative road act. By having greater funds available, it is able to consolidate purchases and supplies and thus secure better prices. Conflicts in plans and complications in operation are avoided. By having funds becoming available all the year round, the difficulties resulting from fiscal year appropriations beginning or terminating about the middle of the open working season are minimized and the entire organization and conduct of operations are rendered more flexible.

AVIATION FIELDS

Aviation has had a very rapid development in recent years due to the large area of Alaska and scarcity of other means of transportation. While in the United States the use of airplanes may save hours or days, in Alaska, weeks may be saved on a single trip.

To keep pace with the development of aviation the Territorial legislature has authorized since 1925, the expenditure of a part of Territorial road funds for the construction of aviation fields. The work is performed by the commission under the existing cooperative arrangement. To date 70 fields have been constructed and there are five natural sites used at times for landing planes, on which no work has been done. (See map in back.) Total costs to date including supervised funds are \$173,242.47.

During the past year 12 commercial companies operating in Alaska handled the following business:

Planes in service.....	31
Plane miles.....	742, 854
Passengers carried.....	6, 637
Passenger miles.....	942, 176
Mail and express carried.....	496, 680

CONSOLIDATION OF WORK UNDER THE COMMISSION

The following additional duties have been imposed upon the members of the commission by appropriate authority:

(a) Effective April 1, 1921, the Juneau, Alaska, engineer district was created by General Order No. 1, War Department, office of the Chief of Engineers, Washington, February 21, 1921. The president of the commission, in addition to his other duties, was appointed district engineer; the other two members of the commission were placed under the immediate orders of the district engineer and the secretary and disbursing officer of the commission, was, in addition, designated as disbursing officer for the district. The Alaska district is a part of the North Pacific division. Detailed report of the operations of the Alaska district will be found in the annual report, Chief of Engineers.

(b) By paragraph 3, S. O. No. 50-0, War Department, Washington, D. C., March 9, 1921, and under the provisions of acts of Congress approved June 17, 1910, and June 15, 1917, the district engineer who is also president of the commission, in addition to his other duties, has been detailed for consultation or to superintend the construction or repair of any aid to navigation authorized by Congress in the sixteenth lighthouse district (includes the Territory of Alaska).

(c) At the request of the Territorial government the president of the commission supervises various Territorial public works such as roads, aviation fields, shelter cabins, telephone lines, flood protection, terminal construction, etc.

(d) By informal arrangement, effective April 1, 1922, the president of the commission agreed to act for the National Park Service, Department of the Interior, on certain matters relating to the improvement of the Sitka National Monument and the development of Mount McKinley National Park.

(e) At the request of the Secretary of the Interior, the commission made a survey and submitted a special report upon the control of Lowell Creek, Seward, Alaska, to protect Government property in the vicinity from damage due to floods. By the act approved February 9, 1927, this flood-control work was assigned to the Secretary of War, who designated the Alaska Road Commission as the agency to carry out the work. The War Department appropriation act of March 23, 1928, included funds for the work, which has been completed.

(f) At the request of the Quartermaster General of the Army, the commission disburses funds and generally supervises the administration of the Sitka National Cemetery created by Executive order of June 12, 1924.

(g) At the request of the commanding general, Ninth Corps Area, the Alaska Road Commission constructed a water supply system for Chilkoot Barracks, the only Army post in Alaska.

(h) Supervision and inspection on behalf of the Federal Power Commission of hydroelectric developments.

(i) Pursuant to act of Congress approved May 15, 1930, the president of the commission was appointed a member of the commission for a study regarding the construction of a highway to connect the northwestern part of the United States with British Columbia, Yukon Territory, and Alaska.

CONSOLIDATED ENGINEERING ORGANIZATION

The practical result of the foregoing orders has been the development, with out legislation, but through executive order or interdepartmental or interbureau agreement, of a practical working arrangement through which the facilities of all the services involved are used interchangeably, but a careful account is kept so that each appropriation is eventually expended for the purpose intended by Congress and no appropriation is either increased or diminished by such interchange of working funds or facilities. Separate accounts and reports are rendered to the departments under the direction of which the work is performed. As a result of this coordination numerous public works have been conducted in an economical manner and without the large overhead that would have been necessary if they had been performed by several different bureaus.

The following are the current activities under consolidated engineering direction:

The construction, repair, and maintenance of Federal roads, tramways, ferries, bridges, trails, and related works, now aggregating over 11,000 miles, and extending from open-all-the-year-round south coast ports to all inhabited parts of the Territory; Territorial roads, bridges, ferries, aviation fields, telephone lines, and trails throughout the Territory, covered by cooperative agreements; shelter cabins; Nome-Shelton tramway (74 miles operated by cars drawn by motors or by dogs); Valdez Dyke; Yukon-Kuskokwim portage; Government float at Juneau.

Improvements of Nome Harbor, Wrangell Narrows, Ketchikan Harbor, Port Alexander, and Harbor of Refuge, Seward; preliminary examination or survey of Sitka Harbor, Dry Pass, Nome Harbor, Egegik River, Kake Harbor, Stikine River, Petersburg Harbor, Keku Straits, Kodiak Harbor, Wrangell Harbor, and Craig Harbor; flood control Salmon River; the investigation of port facilities; the issuance of permits for fish traps and other structures in the navigable waters along the Territory's 26,000-mile coast line; miscellaneous inspections, public hearings, and contingencies of Rivers and Harbors; improvement of Sitka National Monument; development of Mount McKinley National Park; improvement Chilkoot Barracks Water Supply; administration of Sitka National Cemetery; control of Lowell Creek; and maintenance of aids to navigation in Nome Harbor, Safety Harbor, and Gastineau Channel Bar.

PACIFIC-YUKON HIGHWAY

The Pacific-Yukon Highway is the name given to a road project which when completed will connect the northwestern part of the United States with British Columbia, Yukon Territory, and Alaska. The general route of this highway will probably be as shown on the map accompanying this report. The proponents of the Pacific-Yukon Highway project desire a serviceable automobile road throughout western Canadian Provinces to Alaska which can now be reached only by ship or by airplane. The northern terminal of this road would probably be Fairbanks.

It is urged in behalf of the project that it would open up vast areas in British Columbia, Yukon Territory, and Alaska which are now so inaccessible that development is impracticable.

The total distance from Seattle to Fairbanks over the general route of this highway is about 2,220 miles of which there are now sections of usable road aggregating about 1,250 miles leaving about 970 miles of new road to be built for the completion of the project. This new mileage is distributed about as follows:

British Columbia.....	Miles 450
Yukon Territory.....	290
Alaska.....	230
Total.....	970

The country through which this proposed road would run is generally suitable for road building operations and from the information at hand it is not believed that any insuperable obstacles will be found.

In 1929 the Alaska Legislature adopted a memorial to the United States Congress indorsing the project and petitioning that steps be taken toward arranging for conferences on the subject between representatives of the United States and Canada. The same body also passed acts in 1929 and 1931 providing for the advertisement of the advantages of the project and appropriating funds to be used for that purpose.

May 15, 1930, the President of the United States approved the following act:

“[Public No. 223, Seventy-first Congress, H. R. 8368]

“AN ACT Providing for a study regarding the construction of a highway to connect the northwestern part of the United States with British Columbia, Yukon Territory, and Alaska in cooperation with the Dominion of Canada

“Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the President of the United States is hereby authorized to designate three special commissioners to cooperate with representatives of the Dominion of Canada in a study regarding the construction of a highway to connect the northwestern part of the United States with British Columbia, Yukon Territory, and Alaska, with a view to ascertaining whether such a highway is feasible and economically practicable. Upon completion of such study the results shall be reported to Congress.

“Sec. 2. The sum of \$10,000 is hereby authorized to be appropriated, out of any money in the Treasury not otherwise appropriated, for the purposes of carrying out the provisions of this Act.

“Approved, May 15, 1930.”

Pursuant to the foregoing act, the President of the United States appointed as commissioners Mr. Herbert H. Rice, of Detroit, Mich., chairman; Mr. Ernest Walker Sawyer, assistant to the Secretary of the Interior; Maj. Malcolm Elliott, Corps of Engineers, United States Army, president, Alaska Road Commission, disbursing officer.

ALASKA TRANSPORTATION PROBLEMS

The road-building policies and methods of work in Alaska are influenced by the very large area to be served and the climatic, physical, and economic conditions prevailing in the Territory.

Alaska's area is about 590,000 square miles, roughly one-fifth that of the United States. It consists of a main central portion with two extensions or panhandles, one extending southeasterly along the western border of Canada and the other southwesterly toward Asia. Along this entire line the Coast Range, rugged and heavily timbered, rises abruptly from the sea forming a barrier which is pierced at only a few places by the rivers which break through to discharge into the Pacific Ocean. These valleys form the avenues of approach to the large interior area of the Territory.

North of these valleys the Alaska Range, composed of lofty ice-covered peaks, extends roughly east and west and divides the southern part of the Territory from the wide Kuskokwim and Yukon Valleys, whose rivers flow westerly to Bering Sea. The northern boundary of the Yukon Valley is formed by the Brooks Range, another east and west chain of mountains, which separates the Yukon Valley from the northern margin of the Territory drained by a number of short rivers discharging into the Arctic Ocean.

Along the southern coast the winter climate is tempered by the Japan current. The precipitation is quite heavy, consisting of rain in summer and either rain or snow in winter.

North of the Coast Range the precipitation diminishes rapidly and the winter climate becomes more severe. Freezing occurs in the fall and the temperatures generally remain below freezing until spring. Winter temperatures from zero to 30° below zero are normal, with occasional periods of 60° to 70° below zero. Snowfall is quite heavy in the mountains but not excessively so in the valleys. The summer climate in the interior valleys is quite agreeable, with prevailing temperatures around 65° and occasional periods as warm as 90°. The rainfall is about normal in frequency and intensity.

The southern coast is very mountainous and heavily timbered. The many islands and indentations along the coast form protected waterways and good harbors for facilitating general and local commerce. The various ports along the coast are connected with their adjacent areas by short road systems but a general road system connecting the ports with each other is unnecessary at this time and would be very costly because of the rugged character of the country.

The valleys north of the Coast Range are either flat or rolling and not so heavily timbered as along the coast. At from 2,500 to 3,000 feet above sea level the tree growth disappears. In the hills and valleys there are vast areas of tundra—black, mucky soil, with permanently frozen subsoil—supporting dense growths of grass, moss, lichens, and dwarf shrubs. There are also large areas of gravel and sand, of either glacial or alluvial origin, covered by similar growths. The frozen condition of the subsoil prevents the drainage of the surface by seepage while the accumulated moss and dead vegetation greatly retard surface drainage. The result is that in proceeding across country in Alaska in its normal condition in summer one wades through a peat-like muck, water-soaked, and ankle to knee deep. The going is made rough by the profusion of bunches of grass root growth known locally as "niggerheads."

The chief products of Alaska are fish, minerals, timber, furs, and farm products. Fish production does not depend on land transportation routes but the production of minerals, timber, and farm crops is largely dependent on either railroads or highways. The parts of Alaska that have been most accessible to

the main transportation arteries—coast, rivers, railroads, and highways—have produced over a billion dollars' worth of commodities but no significant development has occurred in the areas at a distance from these arteries despite the fact that it is known that there are many resources worthy of such development. Additional roads are needed to bring under development these now inaccessible sections of the Territory. Much of the high-grade mineral land has been exploited by crude hand methods but the low-grade deposits can not be worked profitably except by machinery. The delivery of this machinery and the supplies for its operation are dependent on economical transportation usually demanding the use of autotrucks from the railhead or head of navigation.

The population of Alaska was greatly increased by the gold rushes which occurred during the latter part of the nineteenth and early years of the present century. These people were drawn by the discoveries of gold in large quantities and rich concentrations easily worked by crude methods. Upon the exhaustion of these bonanzas and especially during the World War there was an abrupt decline in Alaska's white population. The bonanza period has been followed by a more systematic and intensive development during which transportation routes were improved and the mining concerns operated with more capital and better equipment. The larger companies are now on a production basis and their operations have brought a slow but consistent growth in population. The increase in the Territory's population in the decade 1920-1930 was about 7 per cent. A greater increase depends only on further extension of the road system so that additional mineral resources can be brought under development.

The construction of roads in a new and underdeveloped country such as Alaska involves a number of conditions and problems which do not apply, or apply only in a limited way, to ordinary road construction.

These special conditions are as follows:

The population is small and unable to finance a road system that will provide for all of its needs. Assistance from the Federal Government is essential in order to stimulate growth and development so as to bring the Territory to a self-supporting basis.

Communities are generally separated from their bases of supply and from each other by long distances, and their development is retarded by the consequent high cost of importing supplies. New roads are needed to relieve this situation.

Railroads reach only a small proportion of the area of the country. Hence, greater reliance must be placed on roads for long-distance transportation than is the case in settled countries.

Traffic to be immediately expected over the roads is much smaller than in settled countries. Less durable types of construction are therefore permissible than in regions where a large traffic must be provided for immediately.

The demands for roads are very large in proportion to the amount of funds available. Hence, if the entire country is to be benefited, the adoption of high standards of construction throughout is impracticable.

It is desirable that construction and improvement of any project shall be programmed so that the entire route will benefit by each year's expenditures instead of bringing the road up to final standard section by section. For example, it is often better to improve a pack trail to wagon or low-standard automobile construction and then improve the road to final standard as the next step, rather than improve each section in turn to final standard.

Traffic over roads during construction must generally be provided for because there are not sufficient side roads to serve as detours. The assistance of road-building crews and their equipment is often needed in order to keep traffic moving over rough or soft places.

Particular attention must be given in Alaska to coordination of the road system with other means of transportation. While in well-developed countries practically all railroads and waterways may be paralleled by automobile roads, in Alaska first attention must be given to localities not served by railroads or waterways.

Roads connect outlying areas with the railroads and waterways, and thus act as feeders. Duplication of facilities by connecting two or more places already on the main axis of transportation is deferred until the less-favored localities have been served.

CONSTRUCTION METHODS

Although standard construction and maintenance methods are employed in Alaska so far as practicable, it is necessary to vary therefrom in some instances because of special physical and climatic conditions.

The frozen condition of the subsoil and the constant thawing during summer require special precautions for drainage. Intercepting ditches on the up-hill side of the road are frequently necessary and after the vegetation has been stripped from the roadway the ground must be allowed to thaw, settle, and consolidate for several months before completing the grading and applying the surfacing. Frequently one or more seasons are required for such drainage and consolidation and in order to maintain traffic during this period corduroy must be used. Sloughing banks, due to thawing of the subsurface ice, frequently cause slides which cover and block the roads.

Special methods of revetment and stream control must be used to withstand the destructive effects of sudden and frequent freshets and washouts that result from heavy rains in the mountains or the release of impounded waters by breaks in glaciers. The most suitable type of revetment for this purpose is built of brush weighted down with stone in bundles wrapped in wire mesh to prevent its washing away.

Gravel for road surfacing is generally available within reasonable hauling distance. Graveling is necessary for practically all roads which are used by automobiles. Concrete or other forms of hard-surfaced roads are nowhere warranted in the present stage of development of the Territory.

Bridges are built of native or imported timber or steel, depending on their importance. Fir has been found to be the most suitable material for timber bridges but improvements in methods of local timber production now in progress will, if successful, make possible some use of Alaska hemlock for structural purposes. Metal culverts are being introduced to replace the culverts of native timber heretofore used.

Modern road building machinery is used. The commission is well equipped with graders, maintainers, power shovels, tractors, etc.

TRAFFIC STATISTICS

A 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.

The data thus collected indicates a considerable annual saving in cost of transportation of freight due to the construction of roads by the commission. It is doubtful, however, if a large portion of the freight would have been transported without the roads and trails and the indirect loss that would have been occasioned by the restriction on output and development if the roads did not exist can not be estimated.

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.

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

	Per ton-mile
Winter:	
Bobsled, tractor (sled road)	\$0. 75
Double-ender (trail)	1. 30
Dog team (trail)	6. 30
Summer:	
Truck (road) 30
Wagon (road)	1. 50
Pack train (trail)	4. 80
Man (no trail)	* 26. 67

The table shows the actual cost, and the figures are based on the costs of hauling large quantities.

The available records of traffic show a slight increase for the calendar year 1931 as compared with 1930. Travel over the Richardson Highway increased about 35 per cent. The comparison between 1930 and 1931 shown in the table below, is necessarily limited to passenger and freight traffic over automobile roads.

Comparative statement of traffic over typical routes

Route	Persons		Motor vehicles		Tonnage	
	1930	1931	1930	1931	1930	1931
Richardson Highway:						
Valdez	13, 988	17, 093	4, 448	6, 042	805	880
Grundler	2, 506	3, 512	1, 053	1, 491	211	448
Anchorage Loop	47, 805	41, 360	17, 100	15, 330	498	588
Wasilla-Fishhook	3, 802	5, 809	2, 010	2, 737	1, 187	1, 023
Wasilla-Knik	3, 898	4, 909	1, 581	2, 111	237	262
Wasilla-Matanuska	5, 654	7, 042	2, 099	3, 350	400	620
McKinley Park Road	7, 059	6, 079	3, 664	3, 415	824	702
Nome-Council	519	359	168	112	33	18
Nome-Bessie	33, 100	34, 750	14, 600	15, 330	3, 338	3, 505
Total	118, 331	122, 473	46, 723	49, 918	7, 533	8, 046

* Average from very widely varying figures. At Lisianski Inlet, in southeastern Alaska, lumber, pipe, tar paper, groceries, etc., 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 cost 4 cents per pound or \$80 per ton—over 1 cent per ton-foot.

1931 traffic census

District	Route No.	Station	Period	Number of persons	Motor vehicles	Wagons	Sleds	Pack horses	Tonnage
VALDEZ									
Valdez-Chitina-Fairbanks	4BA	Valdez	May to October	17,993	6,042				880
Do	4BA	Canyon	do	8,771	2,958				820
Do	4BB	Tiekel	June to October	3,379	1,527				740
Do	4C	Tonsina	May to October	4,404	1,731				725
CHITINA									
Chitina-Valdez-Fairbanks	6B	Chitina	January to December	5,595	3,122	8	67		1,078
McCarthy-Dan Creek	57	McCarthy	April to September	2,373	1,274	39	71		197
FAIRBANKS									
Fairbanks-Chitina-Valdez	4I	Grundler	May to October	3,512	1,491				448
Fairbanks-Circle	7G	Fox	January to December	51,663	30,971	1	39		12,292
Ruby-Poorman	38A and E	Long	January to May	651	13	3	330		119
Tanana-Kaltag	17	Tanana	January to April	287			190		25
Tanana-Kettles	29	do	do	157			104		7
Nenana-Knights	46C	Knights	do	153			145		25
Ferry-Eva Creek	88	Ferry	January to November	709	186	117	47		351
Fairbanks-Chena Hot Springs	7J	Colorado roadhouse	January to December	273	8		75		47
SOUTHWESTERN									
Nancy-Susitna	20H	Nancy	do	130			57		6
Archangel extension	35A	Fishhook	do	505	150		19		285
Willow Creek extension	35D	do	do	1,515	620				972
Gold Chord Branch	35D A	Gold Chord	May to December	555	355				317
Lucky Shot mine-Willow Station	35D B	Lucky Shot	January to December	1,750	470		50		903
Wasilla-Fishhook	35E	Wasilla	do	5,809	2,737	6	15		1,023
Wasilla-Knik	35F	do	do	4,969	2,111	80	67		262
Wasilla-Palmer-Matanuska	35J and H	do	do	7,642	3,350	310	126		620
Houston-Willow Creek	35N	Lucky Shot	January to April	650	235		30		468
Fishhook-Goldmint	35O	Fishhook	May to October	225	95	22			65
Bogard Road	35R	Wasilla	January to December	555	257	62	58		191
McKinley Park Road	46D	Park headquarters	do	6,079	3,415	95	229	550	702
Iliamna-Iliamna Bay	48	Iliamna	do	270		59	54	202	9
Talkeetna-Cache Creek	51	Talkeetna	do	1,053	121	62	440	328	320
Anchorage Loop	75	Anchorage	do	41,360	17,520	60	410		588
Anchorage-Lake Spenard	75A	do	do	33,660	15,415	10	1,150		490
Kodiak-Abberts	94	Kodiak	do	1,665	409	146	54	49	83
Homer Spit Road	98	Homer	do	8,915	185	260	255		330

NOME									
Nome-Council	8	Safety	June to October	359	112	16		15	18
Nome-Bessie	13A	Nome	May to November	34,750	15,330				3,505
Bessie-Snake River	13B	Bessie	do	3,135	1,650				314
Candle-Candle Creek	26	Candle	May to October	5,450	950				510
Nome-Teller	67	Cripple	June to October	64					
Seward Peninsula R. R.	89A	Nome	May to November	497	310				767
KUSKOKWIM									
Iditarod-Flat	32B	Flat	January to October	871	250	120	78		546
Willow Creek-Chicken Creek	33E	do	April to September	241	40	54	13		16
Flat-Otter Discovery	33F	do	May to October	249	49	33	2		160
Flat-Holy Cross-Anvik	34A	Holy Cross	January to December	859			751		82
Cripple-Cripple Mountain	64A	Wilsons	June to September	136				38	4
McGrath-Telida	80B	Nicolai	January to December	47			38		
Medfra-Nixon mine	80F	Medfra	April to September	209	4	14	44		19
Bethel-Tuluksak	92B	Akiak	January to December	1,929			1,471		68
Quinhagak-Goodnews Bay	92F	Quinhagak	January to April	131			101		14
Togiak-Nushagak	92H	Kulukuk	January to March	82			43		4
Crooked Creek-Aniak	92L	Aniak	January to December	378			280		41

TWENTY-EIGHT YEARS' SERVICE

With the period covered by this report the Alaska Road Commission concludes its twenty-eighth year of service. The work accomplished consists of the construction and maintenance of 1,701½ miles of wagon and tram road, most of which is suitable for automobiles, 1,495½ miles of winter sled road, 7,322 miles of trail and 712 miles of flagged trail. The total costs to the end of the fiscal year are \$18,015,848.57, of which \$9,393,369.68 was for new work and \$8,622,478.89 was for maintenance and improvement. The total expenditures to date are \$18,312,825.40 of which \$12,694,859.28 were derived from Federal appropriation acts. The balance, \$5,617,966.12, or over 30 per cent of the total expenditures, was obtained from Alaskan sources.

The pioneer period of the Alaska Road Commission is largely over. All existing mileage has been opened and improved, so far as funds have permitted. The present system of roads serves as the basis for future development of overland routes throughout the Territory. This development calls only for additional funds for construction.

EXISTING PROJECT

The commission prepared a 10-year program in 1920, calling for an expenditure of \$10,000,000 during the succeeding 10 years. Appropriations, exclusive of the Alaska fund and Territorial contributions, for the first five years aggregated \$3,220,000. The program as then revised, in order to speed up the completion of the work, called for the expenditure of \$9,000,000, during the second five years of the 10-year period. Appropriations for the second 5-year period aggregated \$4,325,000. Progress has been accordingly somewhat curtailed.

Work is now being conducted, so far as is practicable, under the 6-year program submitted to the Federal Employment Stabilization Board in accordance with the employment stabilization act of 1931. This program contemplates the following expenditures in the 6-year period:

Fiscal year	Maintenance and improvement	New construction	Total	Fiscal year	Maintenance and improvement	New construction	Total
1933.....	\$740,000	\$290,000	\$1,030,000	1936.....	\$750,000	\$480,000	\$1,230,000
1934.....	750,000	480,000	1,230,000	1937.....	750,000	480,000	1,230,000
1935.....	750,000	480,000	1,230,000	1938.....	750,000	480,000	1,230,000

PROPOSED OPERATIONS

This report covers operations up to June 30, 1932, or practically the working season of 1931. Current operations (working season of 1932) will be covered in the annual report for 1933. About \$710,000 is available from all sources for the year. These funds will be expended on the rehabilitation and maintenance of the existing road and trail system, for the construction and maintenance of aviation fields, and for other special work performed with Territorial funds. Little can be done to meet the pressing need for improvements and extensions of the system, without much greater annual appropriations than have been made up to the present. In addition to contributed and tax funds, an estimate of \$800,000 has been submitted for the fiscal year ending June 30, 1934, and has been approved by the department. This sum if made available will permit a continuation of the improvement of the principal highways, ordinary maintenance and some improvement of the shorter systems and a continuation of construction work on the important Gulkana-Chisana route, and on a few smaller projects.

JUNEAU HEADQUARTERS

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

The field activities of the commission 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 liaison is maintained with all other Federal or Territorial bureaus or officials.

The president of the commission has general charge of the operations of the commission, conducts hearings, investigates new projects, allots available funds, and approves and certifies, on behalf of the commission, 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 commission. A bonded disbursing agent is stationed in each district for local disbursements.

By means of the cable, telegraph, and radio, the general office is in constant touch with each district office.

SEATTLE, WASH., ENGINEER OFFICE

By informal arrangement, the district engineer, United States Engineer Department, Seattle, Wash., acts as a purchasing agent of the commission. Upon request he advertises and canvasses bids, inspects and ships supplies, answers inquiries, secures information, and, in general, represents the commission in Seattle. For this service he charges the commission only for the actual time of such of his subordinates as may be actually engaged in this work. This accommodation results in a considerable saving to the United States, as otherwise the commission would be compelled, during the busy season, to maintain a qualified representative in Seattle and to provide for office space, fuel, and light, clerical help, etc.

The services rendered to this commission through such purchases and shipments are invaluable. The low prices obtained and the prompt shipments made have been an important factor in extending its work.

The supplies purchased include practically everything from bridge iron, metal culverts, forage, subsistence and heavy road machinery, to small tools, office equipment, and stationery. Cost of supplies purchased and the cost for the entire transaction, including advertising, acceptance, inspection and shipments, and all expenses incidental thereto, were as indicated in the following table:

Fiscal year	Cost of supplies purchased	Seattle office charge	Per cent	Fiscal year	Cost of supplies purchased	Seattle office charge	Per cent
1924.....	\$183,247.50	\$3,048.17	1.67	1930.....	\$213,123.37	\$3,413.10	1.60
1925.....	192,082.70	3,933.91	2.05	1931.....	190,532.98	3,527.29	1.85
1926.....	249,945.08	3,647.97	1.46	1932.....	92,267.95	2,671.87	2.90
1927.....	154,846.85	3,343.28	2.16				
1928.....	165,192.35	3,390.34	2.05	Total.....	1,629,470.07	30,522.19	1.96
1929.....	185,231.31	3,546.26	1.88				

SOUTHEASTERN DISTRICT

(Supervised from Juneau office: Lieut. L. B. Kuhre, July 1 to August 31, 1931; Lieut. A. H. Burton, September 1, 1931, to April 30, 1932; Lieut. W. W. Hodge, May 1 to June 30, 1932)

This district embraces all the territory east of the one hundred and forty-first meridian, the so-called Panhandle.

Due to the rugged topography and the excellent system of sheltered waterways through transportation will always be by water, short road systems serving areas developed along the coast.

All road expenditures in this district were upon cooperative projects supported by the Territory and the Alaska Road Commission, with the exception of the Haines-Chilkoot, Gastineau Bar, and Sitka-Pioneer Cemetery Road, which are exclusively Territorial projects. The Sitka National Monument is a cooperative project with the National Park Service, and the Sitka National Cemetery is largely supported by funds from the Quartermaster General.

Summary of subprojects

Sub-project No.	Name of subproject	Road	Trail	Total
		<i>Miles</i>	<i>Miles</i>	<i>Miles</i>
2E	Gastineau Channel bar ¹			
2H	Juneau Wharf.....			
2J	Juneau Float.....			
3A	Haines-Wells ²	24½		24½
3B	Pleasant Camp extension ²	17½		17½
3C	Porcupine extension ²	5	15	20
3D	Haines-Mud Bay ²	10		10
3E	Haines-Chilkoot ¹	3		3
3F	Haines-Jones Point ²	1½		1½
3G	Chilkoot Barracks water supply.....			
3H	Chilkoot Barracks roads.....			
14	Sitka-Indian River ²	¾		¾
14A	Sitka National Monument.....		2	2
14B	Sitka National Cemetery.....			
14C	Sitka-Pioneer Cemetery Road ¹	½		½
14D	National Cemetery Road ²	½		½
44A	Skagway trails ²		6	6
44B	Skagway Aviation Field ¹			
81	Good Creek-Salmon River ²	1½		1½
81A	Rink River ¹	¾		¾
	Total.....	65½	23	88½

¹ Supported entirely by Territorial funds.

² Cooperative with Territory of Alaska.

DESCRIPTION

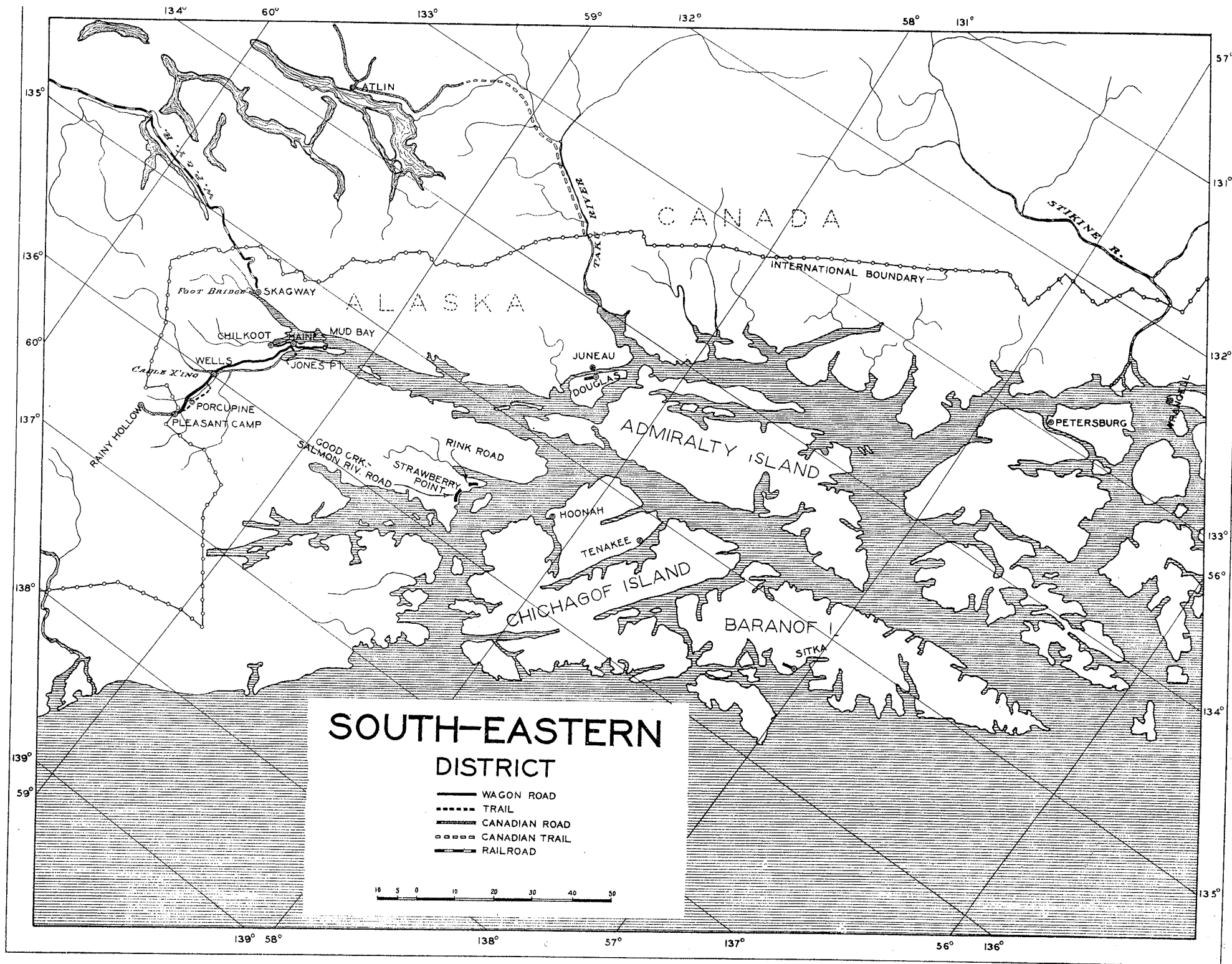
For detailed description see part 2, annual report for 1929. The following changes and additions should be noted:

2J: This project includes a landing float for use by Government boats, with an approach road located along the north side of the rock dump in Gastineau Channel. The road is 500 feet in length and the float 156 feet in length.

3E: This road was relocated. The route now follows the shore line, well above high tide, around the peninsula north of Haines. It is suitable for light motor traffic.

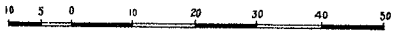
3G: This project provides for the construction of a pipe line and appurtenant works to supply the Army post of Chilkoot Barracks at Haines with an adequate water supply. The work was undertaken at the request of and funds were provided by the commanding general Ninth Corps Area.

3H: This project comprises the roads in the Army post of Chilkoot Barracks.



SOUTH-EASTERN DISTRICT

- WAGON ROAD
- - - TRAIL
- CANADIAN ROAD
- - - CANADIAN TRAIL
- RAILROAD



40: This road was included in the forest road system on February 7, 1930, and has accordingly been dropped from the summary of subprojects.

44B: This aviation field is located in the north end of the Skagway town site. It is 310 by 1,960 feet.

OPERATIONS DURING THE YEAR

Important operations other than routine maintenance are summarized by subprojects as follows:

3G: Intake works and 14,500 linear feet of pipe line varying from 3½ to 5 inches were constructed leading from Lily Lake to an existing water-supply tank on the post. A sand filter was installed. Wherever possible the line was covered with 30 inches of earth. Where no cover was possible insulation was provided.

3H: All the roads in the post were regraded and additional surfacing placed.

14B: The cable in the fence surrounding the cemetery was replaced with chain. Additional roads were constructed within the boundaries.

EAGLE SUBDISTRICT

(Supervised from the Juneau Office: D. F. Millard, general foreman in charge, Eagle, July 1 to October 31, 1931, June 1 to June 30, 1932)

This subdistrict includes that part of the Territory north of 63° 30' north latitude and east of the one hundred and forty-fourth meridian. It includes a region of early development in the history of Alaska. During the past few years no extensive development has occurred. The system of winter sled roads and summer trails giving access from Eagle to the Fortymile and Seventymile districts includes the most important projects within the subdistrict.

All projects in this subdistrict are supported by the Alaska Road Commission exclusively, with the exception of shelter cabins and aviation fields, which are supported by the Territory exclusively.

Summary of subprojects

Subproject No.	Name of subproject	Road	Sled road	Trail	Total
		Miles	Miles	Miles	Miles
11A	Eagle-Liberty	15		12	27
11B	American Summit-Fortymile		35		35
11C	Steel Creek-Mount of Walkers Fork		27		27
11D	Steel Creek-Walkers Fork		27		27
11E	Eagle-Seventymile	4	16	40	60
11F	Liberty-Chicken			57	57
11G	Steel Creek-Canyon Creek			5	5
11J	Fortymile-Chicken		50		50
11K	Fortymile-Steel Creek		8		8
11L	Franklin-Chicken		10		10
11M	Jack Wade-Walkers Fork-Boundary			18	18
11N	Lillywig Creek		1¼		1¼
11P	Chicken Aviation Field ¹				
11Q	Eagle Aviation Field ¹				
53	Eagle-Circle			160	160
65D	Kechumstuk-Tanana crossing			60	60
65E	Chicken-Kechumstuk			28	28
88	Fourth of July Creek	5	5		10
87	Woodchopper Creek			8	8
90D	Shelter cabins, fourth division ¹				
Total		24	179¼	388	591¼

¹ Entirely supported by Territorial funds.

DESCRIPTION

For detailed description see part 2, annual report for 1929. The following additions and changes should be noted:

11A: This route extends up American Creek from Eagle to the summit. From the summit it follows the route of the former pack trail, 11AA, along the high ridge to the east, dropping into O'Brien Creek at the mouth of Liberty Creek. The route is a good wagon road for the first 15 miles. The last 12 miles are good pack trail and passable for light wagons.

11B: This route extends from the junction at American Summit with route 11A, down O'Brien Creek to the Fortymile River. It is suitable for bobsled traffic in winter.

11C: This winter sled road extends up Steel Creek from the Fortymile River at end of route 11K. Crossing over the summit of the ridge it drops down Jack Wade Creek to Walkers Fork and down the latter creek to the Fortymile, again joining route 11J. It includes former route 11MM.

11F: This trail extends from the end of route 11A at Liberty by way of Dome Creek, Steel Creek, Jack Wade, and Franklin to Chicken. It includes former routes 11CC, 11H, and 11I. The Fortymile River is crossed at the mouth of Steel Creek by ferry and is again crossed at Franklin by fording. The route is suitable for pack horses.

11J: This winter sled road follows up the ice of the Fortymile River from the end of route 11B, at the mouth of O'Brien Creek, to the mouth of Chicken Creek, thence up Chicken Creek to the post office. It includes former route 11LL.

11P: The area was enlarged to total length of 1,200 feet, width varying from 187 to 320 feet.

11Q: The area was enlarged to length, 1,650 feet, width varying from 350 to 720 feet.

OPERATIONS DURING THE YEAR

The operations other than routine maintenance are summarized by subprojects as follows:

11A: One and seventy-five-hundredths miles were surfaced; 8 miles of the original pack trail were widened and graded sufficiently to allow wagons to get through to Liberty.

11F: A new switchback grade was built on the north side of the Fortymile River at Franklin; 2 miles of new trail (relocation) were constructed leading into Chicken.

11Q: Additional buildings were dismantled improving approaches to this field. The area was leveled with tractor and grader.

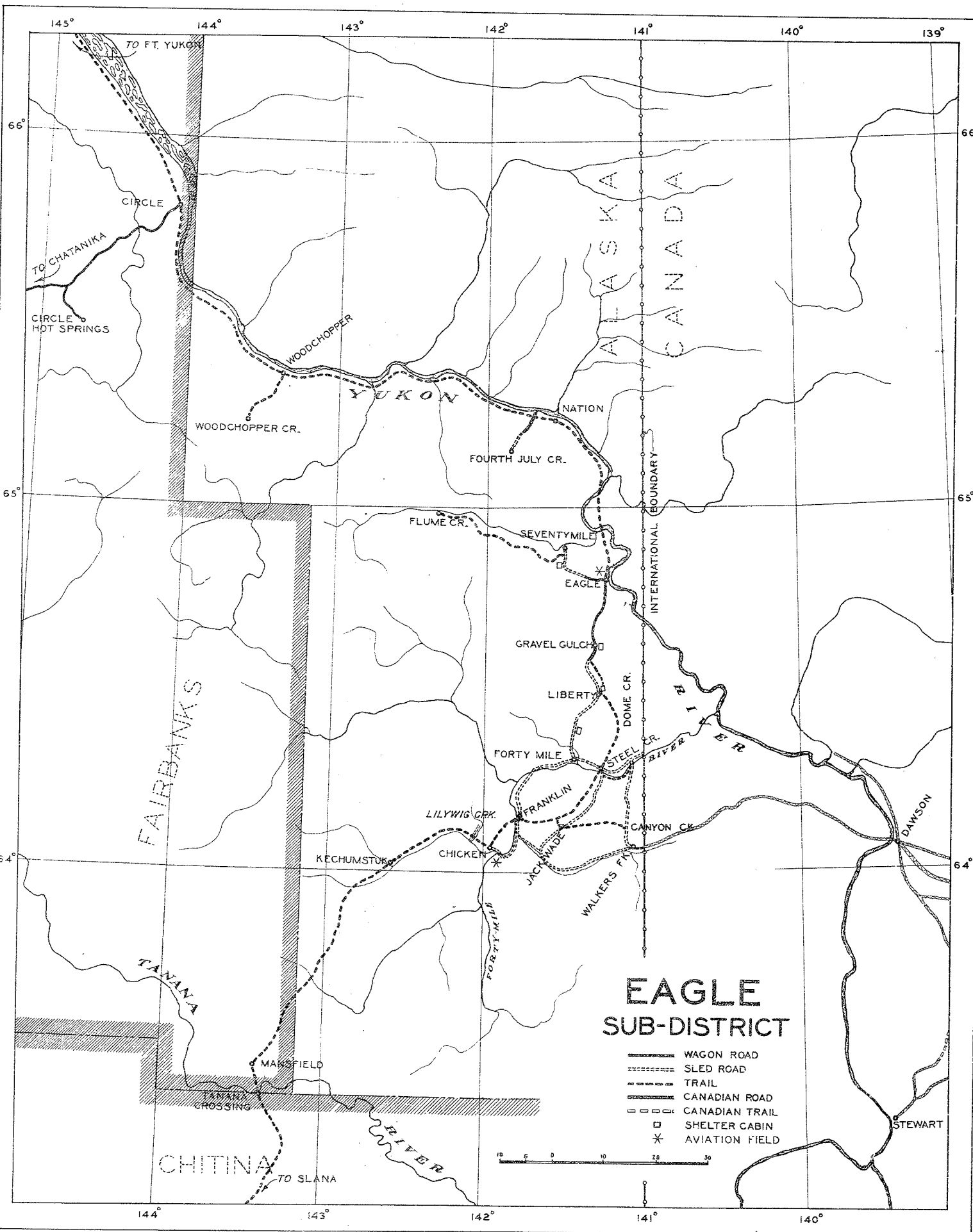
VALDEZ DISTRICT

(T. H. Huddleston, superintendent, Valdez)

This district embraces that portion of Alaska lying between 145° 10' and 147° west longitude and extending south from 60° 49' north latitude.

The principal work within this district is the maintenance and improvement of the Richardson Highway from Valdez, which is the northernmost open all-year-round port in Alaska, to Willow Creek, a distance of 92 miles. This section of the Richardson Highway passing through Keystone Canyon and across the summit of the Coast Range is probably the most scenic route in Alaska and has required the most expensive construction.

The Richardson Highway is supported by the Alaska Road Commission exclusively. Other expenditures in this district were either upon cooperative projects or exclusively Territorial projects.



Summary of subprojects

Sub-project No.	Name of subproject	Road
4BA	Valdez-Ptarmigan drop.....	Miles 33
4BB	Ptarmigan Drop-Ernestine.....	30
4C	Ernestine-Willow Creek.....	29
36	Valdez-Mineral Creek ¹	8
36A	Granby Road ²	5
36B	South Second Street, Cordova ²	1/4
60A	Valdez Aviation Field ²	
60B	Upper Tonsina Aviation Field ²	
78	Valdez Depot.....	
	Total.....	105 1/4

¹ Cooperative with Territory of Alaska.² Entirely supported by Territorial funds.**DESCRIPTION**

For detailed description see part 2 annual report for 1929. The following changes and additions should be noted:

60B: This landing field, 250 by 1,000 feet, is located along the Richardson Highway west of the Upper Tonsina Roadhouse, mile 80 from Valdez.

OPERATIONS DURING THE YEAR

The important operations other than routine maintenance are summarized by subprojects as follows:

4BA: A relocation 1,800 feet in length was constructed in mile 27 to avoid drifting snow, and 7,248 cubic yards of surfacing material were placed between miles 14.5 and 18.8. Narrow sections of road aggregating 2.3 miles were widened, 0.5 mile being solid rock, and 27 metal culverts were installed.

The dike protecting the Valdez terminus of the highway from the glacier stream received extensive repairs. The embankment was raised where necessary and faced with stone. The stone was inclosed in heavy galvanized wire mesh, placed in rolls transversely to the dike and the rolls wired together. This work was 75 per cent completed during the season; 8,657 tons of stone were placed and 76,400 linear feet of 6-foot wire mesh used.

4BB: A relocation 1,000 feet in length, was constructed to reach the new location of the Tsaina River Bridge. This work required 2,688 cubic yards of earth and 1,159 cubic yards of rock excavation. A 45-foot span was moved, without dismantling, from the old bridge site to the new site and a 22-foot approach span constructed.

4C: A 16-foot trestle span was added to the Willow Creek Bridge in mile 92, and nine metal culverts were installed.

CHITINA DISTRICT

(R. J. Shepard, superintendent, Chitina; Frank Shipp, assistant superintendent, Chitina; William J. Niemi, assistant engineer, Chitina)

This district includes that part of Alaska lying between the one hundred and forty-first and one hundred and forty-seventh meridians, west longitude, and south 63° 30' north latitude, with the exception of the area west of 145° 10' west longitude and south of 61° 49' north latitude which comprises the Valdez district.

The most important projects within the district are the Richardson Highway extending from Chitina on the Copper River and Northwestern Railway up the Copper and Gulkana River Valleys and then across the Alaska Range through

Isabelle Pass to Rapids on the Delta River, and the Gulkana-Chisana route now under construction.

The Richardson Highway and all other projects in this district are supported by the Alaska Road Commission exclusively with the exception of the McCarthy-Dan Creek Road, the Kotsina and Nizina-Chitina River trails which are supported by the Alaska Road Commission and the Territory jointly, and the Strelna-Kuskulana Road, the Chitina native school road, aviation fields, and shelter cabins which are supported by the Territory exclusively.

Summary of subprojects

Sub-project No.	Name of subprojects	Road	Trail	Total
		<i>Miles</i>	<i>Miles</i>	<i>Miles</i>
6D	Chitina Depot.....			
6E	Chitina-Native School ¹	1		1
6F	Lower Tonsina Aviation Field ¹			
6G	Copper Center Aviation Field ¹			
6H	Chitina Aviation Field ¹			
6B	Chitina-Tonsina.....			
6A	Tonsina-Willow Creek.....	15		15
4D	Willow Creek-Gulkana.....	24		24
4E	Gulkana-Sourdough.....	36		36
4F	Sourdough-Mile 168.....	21½		21½
4G	Mile 168-Delta River.....	18		18
4H1	Delta River-Rapids.....	38		38
36CA	Cordova Aviation Field ¹	25½		25½
54	Nizina-Chisana.....		78	78
54A	Chisana Aviation Field ¹			
54B	Nabesna Aviation Field ¹			
56A	Katalla-Yakataga.....			
57	McCarthy-Dan Creek ²		60	60
57A	Nizina River Bridge.....	20		20
57B	Nizina-Chitina River ²		33	33
57C	McCarthy-Kennecott River.....			
57D	Chititu Branch ²	½		½
57E	Green Butte Road.....	6		6
57F	McCarthy Aviation Field ¹	15		15
57G	Copper Creek Trail.....		3	3
57H	Upper Chitina Aviation Field ¹			
61	Strelna-Kuskulana ¹			
61A	Kotsina Trail ²	12½		12½
61B	Nugget Creek extension ¹		30	30
61E	Farnan Trail.....	6		6
61F	Bremner Trail ²		10	10
61G	Bremer Aviation Field ¹		30	30
65A	Gulkana-Chistochina.....			
65B	Chistochina-Slate Creek.....	37		37
65C	Chistochina-Slana.....		40	40
65G	Slana-Chisana.....	20	7	27
65K	Chistochina Aviation Field ¹		97	97
90C	Shelter Cabins, third division ¹			
	Total.....	296	388	684

¹ Entirely supported by Territorial funds.

² Cooperative with Territory of Alaska.

DESCRIPTION

For detailed description see part 2 annual report for 1929. The following changes and additions should be noted:

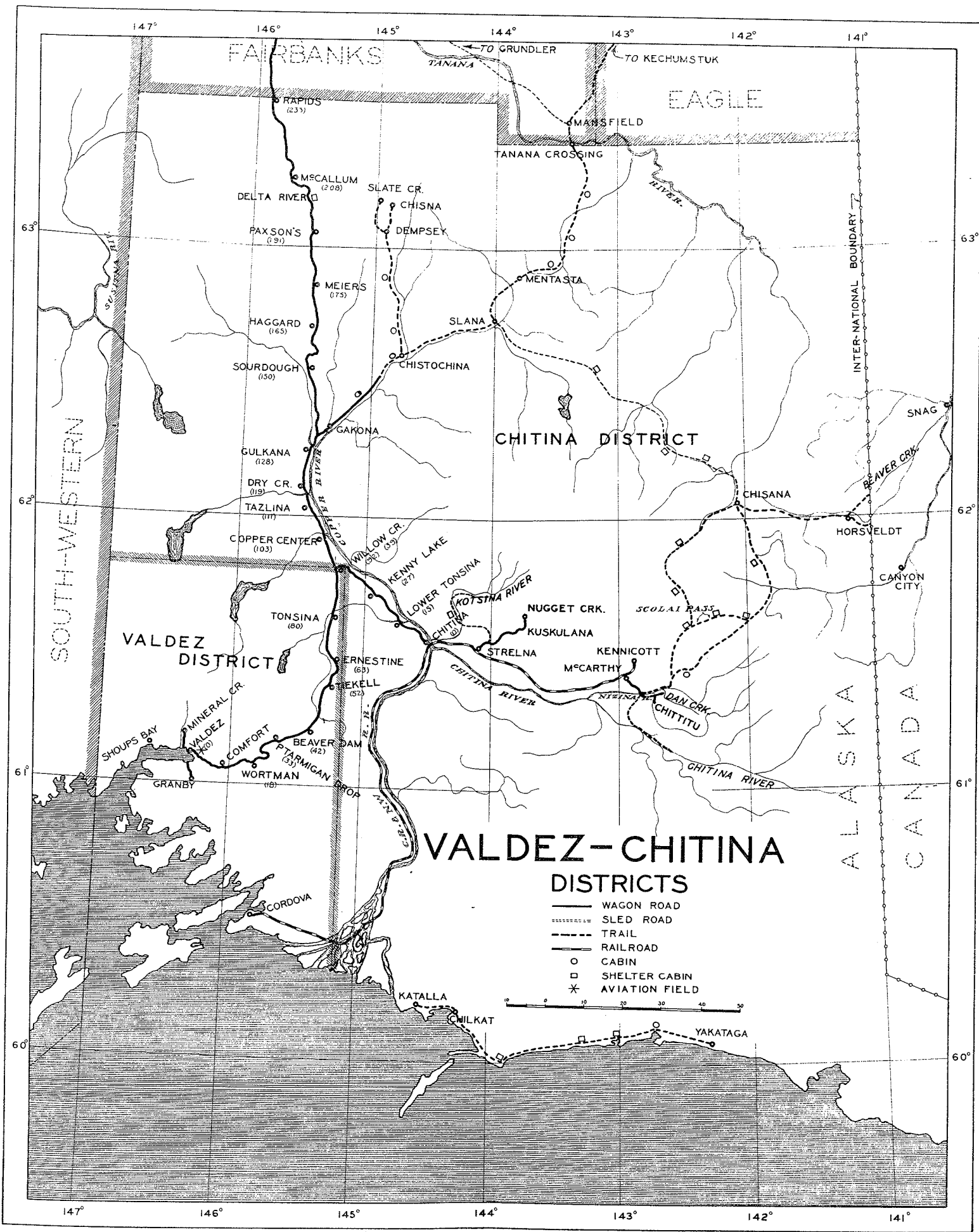
54A: This landing field, 150 by 1,000 feet, is located just north of the village of Chisana.

54B: This landing field, 200 by 900 feet, is located on the west side of the Nabesna River opposite the mouth of Jack River.

57B: This trail extended. The total length 33 miles.

57D: Length of this road extended to 6 miles.

57F: This landing field, located on the high bench 0.5 mile east of McCarthy, has one main runway 400 by 1,200 feet and a cross runway 200 by 800 feet.



147° 146° 145° 144° 143° 142° 141°

FAIRBANKS EAGLE

63° 63°

62° 62°

61° 61°

60° 60°

SOUTH-WESTERN

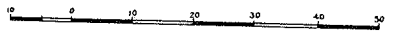
INTERNATIONAL BOUNDARY ALASKA CANADA

VALDEZ DISTRICT

CHITINA DISTRICT

VALDEZ-CHITINA DISTRICTS

- WAGON ROAD
- - - SLED ROAD
- TRAIL
- RAILROAD
- CABIN
- SHELTER CABIN
- * AVIATION FIELD



147° 146° 145° 144° 143° 142° 141°

TO GRUNDLER

TO KECHUMSTUK

RAPIDS (231)

MANSFIELD

TANANA CROSSING

DELTA RIVER

SLATE CR.

CHISNA

DEMPSEY

PAXSON'S (191)

MENTASTA

MEIERS (175)

SLANA

HAGGARD (163)

CHISTOCHINA

SOURDOUGH (150)

GAKONA

GULKANA (128)

DRY CR. (119)

TAZLINA (111)

COPPER CENTER (103)

WILLOW CR. (93)

KENNY LAKE

LOWER TONSINA

TONSINA (80)

CHITINA RIVER

NUGGET CRK.

SCOLAI PASS

KUSKULANA

STRELNA

KENNICOTT

M'CARTHY

ERNESTINE (68)

BEKELL (52)

CHITTITU

CHITINA RIVER

SHOUPS BAY

VALDEZ (40)

COMFORT

WORTMAN (10)

GRANBY

BEAVER DAM (42)

PTARMIGAN DROP (33)

CORDOVA

KATALLA

CHILKAT

YAKATAGA

SNAG

HORSVELDT

CANYON CITY

BEAVER CRK.

57G: This summer trail extends from Dan Creek over a ridge to mining operations on Copper Creek.

57H: This landing field, 180 by 1,000 feet, is located on a bar in the upper Chitina River opposite the mouth of Marble Creek.

61F: This trail extended. Total length 30 miles.

61G: This landing field, 100 by 700 feet, is located near the head of Monahan Creek, a tributary of the Bremner River.

65A: This road is under construction. Length of usable road is 37 miles.

65C: This route extends from the Chistochina Crossing to the Slana River along the foothills north of the Copper River. There are 20 miles passable for motor traffic and 7 miles of partially constructed road. The section of trail originally included in this route, extending from the Slana River through Mentasta Pass to the Tanana River, has been abandoned as it is no longer used.

65K: This landing field is located adjacent to the Gulkana-Chistochina road at mile 34. It is an irregular shaped area 1,325 feet on west side, 1,150 feet on east side, 375 feet on north end, and 200 feet on south end.

OPERATIONS DURING THE YEAR

The important operations other than routine maintenance are summarized by subprojects as follows:

6B: The road from mile 0.2 to 2.4 was regraded and widened. Four thousand two hundred and one cubic yards of material were hauled for surfacing and raising fills. A 30-foot frame bent trestle (renewal) was erected in mile 12.

4D: Three thousand eight hundred and fifty-seven cubic yards of gravel were placed as resurfacing on 4.43 miles; nine metal culverts were installed.

4E: Four miles were regraded and widened and 5,411 cubic yards of gravel were placed as surfacing on 4.5 miles between miles 145.5 and 150. Two 16-foot frame bent bridges were constructed and 26 metal culverts installed.

4F: The road was regraded and widened and 6,271 cubic yards of gravel placed between miles 150 and 155; 24 metal culverts were installed.

4G: Ten thousand one hundred and fifty-three cubic yards of gravel surfacing were placed between miles 193 and 202.8. Three frame bent trestles, totaling 52 linear feet, were constructed and six metal culverts installed.

4H1: Two and six-tenths miles were regraded and widened; two 38-foot A truss spans and one 20-foot span frame bent trestle were erected; 2,863 linear feet of rock and timber dike and 4,183 linear feet of bank protection were constructed; three metal culverts were installed. Extraordinary repairs were necessary over the section from mile 220 to 233 due to damage caused by a cloud-burst.

54: One-half mile of new trail was constructed as approaches to a cable tram over the Chitistone River.

57: The road was regraded from mile 3 to mile 4.5. One mile of new road (relocation) was constructed in miles 12 and 13. This relocation was made necessary by the encroachment of the Nizina River.

The latter work included placing 3,670 linear feet of corduroy covered by 982 cubic yards of gravel, and 12 metal and 2 timber culverts were installed.

57B: This trail was extended 8 miles.

61F: Three hundred linear feet of trail were constructed in solid rock around a bluff on the Klu River.

61G: An area 100 by 700 feet was stripped and leveled suitable for landing small planes.

65A: The road was regraded and widened between miles 23.9 and 28.6; 19,143 cubic yards of material were handled by scrapers; 15,861 cubic yards of gravel were placed as surfacing over the first 10.5 miles of this route; 34 metal culverts were installed.

65B: The work of relocating and constructing this route off the river bars was continued to mile 14.1. Additional grubbing and leveling was done on the section constructed last year; 110 linear feet of native timber bridges were constructed.

65C: Clearing, grubbing, stripping, and preliminary grading were extended to the Slana River. The grading was practically completed over 17 miles to mile 54 and 75 per cent complete to mile 57; 21,000 cubic yards of material were end hauled by scrapers; 1,170 linear feet of corduroy were placed; 53 metal culverts and 63 temporary timber culverts were installed. Bridges consisting of one 100-foot span and 105 linear feet of pile trestle approach over the Slana River, 165 linear feet of pile trestle over Ahtell Creek and frame bent trestles totaling 142 linear feet over several small streams were constructed.

65G: The right of way was cleared 9 miles to mile 73 and grubbed 2 miles to mile 66.

90C: The following work was accomplished: Route No. 54, Solo Mountain, 83 miles from McCarthy, new stove and pipe placed, \$21.55.

FAIRBANKS DISTRICT

(Frank Nash, superintendent, Fairbanks; C. E. Burglin, assistant engineer, Fairbanks)

This district embraces that portion of the Territory between the one hundred and forty-fourth and one hundred and fifty-second meridian north of the Alaska Range and between the one hundred and fifty-second and one hundred and fifty-eighth meridian north of the sixty-fourth parallel.

The most important projects within this district are the Richardson Highway from Rapids to Fairbanks and the Steese Highway from Fairbanks to Circle. The maintenance and improvement of the local road system around Fairbanks serving the mines and farms is also of extreme importance. A number of minor projects serve isolated mining communities.

The area is also well served so far as summer transportation is concerned by a number of navigable rivers, the most important of which are the Yukon, Tanana, Koyukuk, Tolovana, and Kantishna. These rivers and the Alaska Railroad are the main lines of communication from which a number of short roads have been built to important mining centers.

The district has an extensive system of winter sled roads and trails, the most important of which are the route from Nenana through Fort Gibbon to Kaltag which carries the winter traffic to the Seward Peninsula, and the route from Kobi through Roosevelt to Telida and McGrath which carries the winter traffic to the Kuskokwim district.

The through routes are supported exclusively by the Alaska Road Commission, less important projects by the Alaska Road Commission and the Territory jointly, and purely local projects by the Territory exclusively. Shelter cabins and aviation fields are also supported by the Territory exclusively.

Summary of subprojects

Sub-project No.	Name of subproject	Road	Sled road	Trail	Total
		Miles	Miles	Miles	Miles
4A A	Richardson-Democrat Creek ¹	1	3		4
4A B	Donnelly Aviation Field ¹				
4H 2	Rapids-Grundler.....	48			48
4I	Grundler-Richardson.....	20½			20½
4J	Richardson-Salchaket.....	30			30
4J A	Lake Harding Road.....	1¾			1¾
4K	Salchaket-Fairbanks.....	40			40
4K A	Salcha Bridge.....				
5A	Dunbar-Tanana.....	2	111		113
5B	Nenana-Campbells.....		30¼		30¼
5C	Fish Lake-American Creek ¹	4¾			4¾
5D	American Creek Aviation Field ¹				
5E	Tanana Aviation Field ¹				
5F	Illinois Creek-Moran Creek.....			24	24
7A	Summit-Chatanika.....	9¼			9¼
7A A	Cleary Creek ¹	2¾			2¾
7B	Fox-Olnes ¹	10½			10½
7B A	Dome-Spaulding Mine ¹	1¾			1¾
7C	Summit-Fairbanks Creek ¹	13			13
7C A	Summit-Fish Creek ¹	8¼			8¼
7D	Ester Creek ²	9½			9½
7D A	College Spur ¹	½			½
7D B	Ester Dome ¹	2¼			2¼
7D C	St. Patricks-Happy ¹	3¾			3¾
7D D	Ester-Beegler ¹	½			½
7G	Fairbanks-Gilmore.....	13			13
7G A	Lazelle Road ¹	2¼			2¼
7H	Little Eldorado ¹	6			6
7I	Gilmore-Summit.....	7			7
7J	Fairbanks-Chena Hot Springs ²		64		64
7J A	Chena River Branch ²		35		35
7J B	Palmer Aviation Field ¹				
7J C	Colorado Creek-South Fork ¹		1½		1½
7K	Olnes-Livengood ²	4		50	54
7N	Farmers-Birch Hill ¹	8¾			8¾
7N A	Isabelle Creek ¹	1¾			1¾
7N B	Ballaine-Rickert ¹	1			1
7R	Goldstream-O'Connor Creek.....		6		6
7S	Graehl Bridge ¹				
7T	Farmers-Chena Slough ¹	9			9
7V	Wireless Road.....	¼			¼
7X	Chena Hot Springs Aviation Field ¹				
7Y	Fairbanks Aviation Field.....				
7Z	Fairbanks Aviation Field Road.....	1½			1½
9	Rampart-Eureka ²	4½	23		27½
15	Circle-Miller House.....	47			47
15A	Central House-Circle Hot Springs ²	8½			8½
15B	Deadwood Creek.....	9½			9½
15C	Circle Hot Springs Aviation Field ¹				
15D	Leech cut-off.....		10		10
15E	Miller House spur ¹	¼			¼
16	Chatanika-Miller House.....	87			87
16A	U. S. Creek Branch ¹	7			7
16B	Eagle Creek spur ¹	1			1
16C	Chatanika-Miller House.....		87		87
16D	Sourdough Creek Branch ¹	4¾			4¾
17	Tanana-Kaltag.....			257	257
17C	Nulato Aviation Field ¹				
17D	Tanana-Kaltag telephone line ¹				
22	Hot Springs-Sullivan Creek ²	10			10
23A	Snowshoe-Beaver ²			117	117
23B	Beaver-Caro.....		75		75
23C	Big Creek.....		24		24
23D	Caro-Flat Creek.....		45		45
23E	Caro-Coldfoot.....		23		23
23F	Chandalar Aviation Field ¹				
29	Tanana-Bettles.....			156	156
29A	Bettles-Coldfoot.....		52½		52½
29C	Mile 70-Hughes.....			60	60
29D	Wild River Trail.....			57	57
29E	Bettles River Aviation Field ¹				
30	Hot Springs Landing-Eureka ²	24			24
30A	Hot Springs-Tofty.....		16		16
30B	Manley Hot Springs Aviation Field ¹				
31	Caribou Creek.....		50		50
38A	Ruby-Long.....	28½			28½
38E	Long-Poorman (summer).....	28			28
38E E	Long-Poorman (winter).....		20		20

¹ Entirely supported by Territorial funds.

² Cooperative with Territory of Alaska.

Summary of subprojects—Continued

Sub-project No.	Name of subproject	Road	Sled road	Trail	Total
		Miles	Miles	Miles	Miles
38K	Ruby Aviation Field ¹				
38L	Ruby Aviation Field Road ¹	1¼			1¼
46	Kobi-Eureka.....		95		95
46A	Roosevelt-Kantishna.....	6	28		34
46B	Lignite-Kantishna.....			85	85
46C	Nenana-Knight's Roadhouse.....			41	41
46E	Diamond-Telida.....			93	93
46F	Nenana Cemetery Road ²	2½			2½
46G	Kobi-Bonnifield.....		45		45
46H	Lake Minchumina Aviation Field ¹				
46J	Kantishna Aviation Field ¹				
46K	Telida Aviation Field ¹				
46M	Nenana Aviation Field ¹				
47	Coldfoot-Wiseman.....		11		11
47A	Wiseman Aviation Field ¹				
47B	Nolan Branch.....	5½			5½
47C	Wiseman-Hammond.....	6			6
53A	Circle-Fort Yukon.....			67	67
53B	Fort Yukon Aviation Field ¹				
59	Fairbanks Bridge.....				
59A	Fairbanks Depot.....				
63	Dunbar-Brooks ²		60		60
63B	Brooks-Livengood Creek ¹	6½			6½
63BA	Amy Creek Branch ¹	1			1
63D	Brooks Aviation Field Road ¹	1¼			1¼
63E	Livengood Aviation Field ¹				
65F	Grundler-Tanana Crossing.....		30	94	124
65H	Tanana Crossing Aviation Field ¹				
88	Perry-Eva Creek.....	11½			11½
97A	Healy Aviation Field ¹				
90D	Shelter cabins ¹				
	Total.....	565	954¼	1,156	2,675¼

¹ Entirely supported by Territorial funds.² Cooperative with Territory of Alaska.

DESCRIPTION

For detailed description see part 2 annual report for 1929, under Fairbanks district and Nenana subdistrict. The following changes and additions should be noted:

4AB: This landing field is adjacent to the Richardson Highway, 3 miles south of Donnelly, 126 miles from Fairbanks.

5E: This field has been enlarged to approximately 300 by 1,100 feet.

7B: Corrected mileage 10.5 miles.

7K: The first 4 miles of this route were improved to road standard.

7T: The length of this route is now 9 miles of road. It extends up the left limit of Chena Slough, serving several farms.

7Y: This landing field has been enlarged by the addition of an area 1,500 feet square for use by lighter-than-air craft.

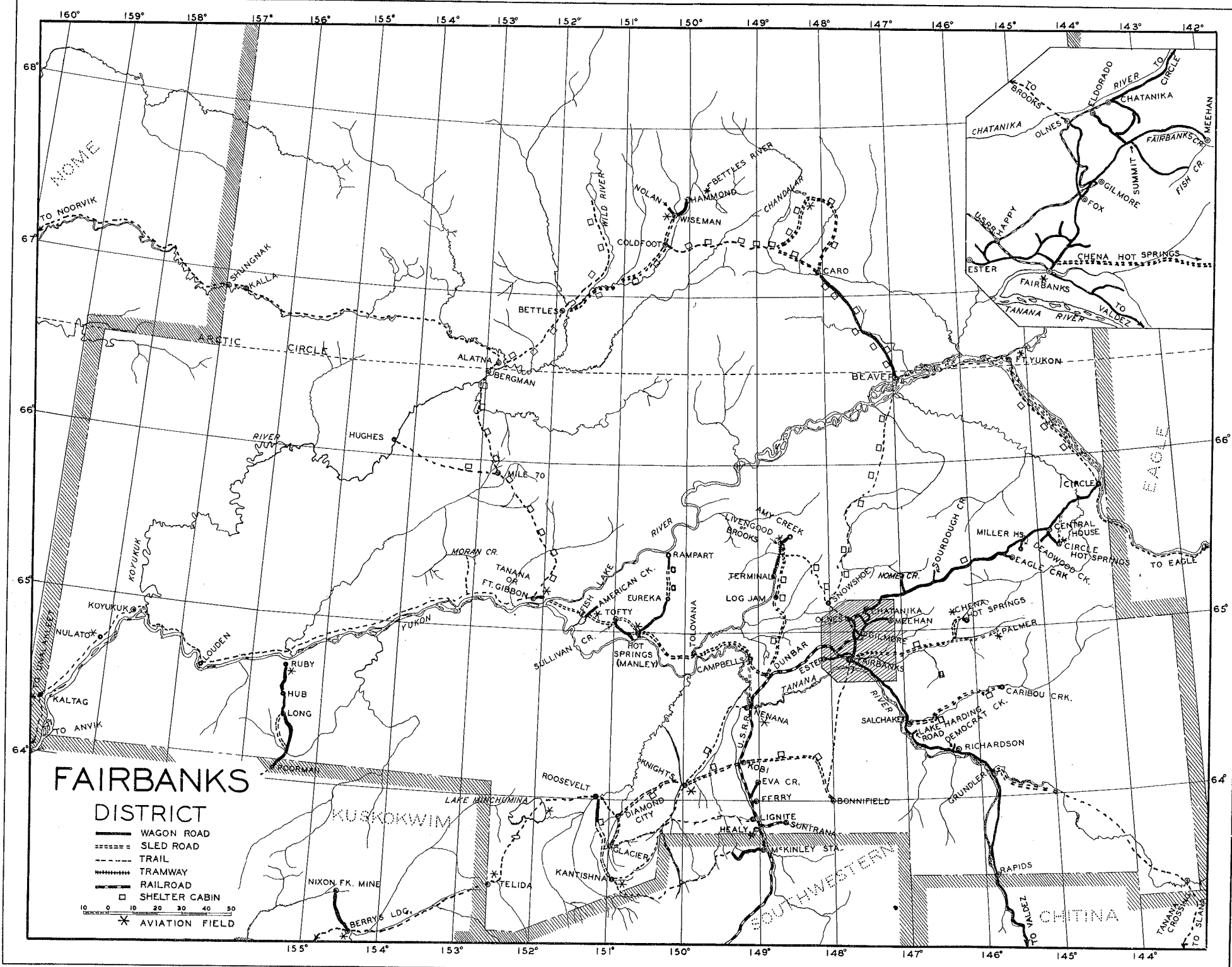
7Z: This road, 0.5 mile in length, leads from the city limits of Fairbanks along the east side of the enlarged airport.

15B: This route branches from route 15A at mile 2.5 and extends up the left limit of Deadwood Creek, 8 miles, serving mining operations. It includes a branch road 1.5 miles in length leaving the main road at mile 7 and extending up Switch Creek.

16A: This road branches from the Steese Highway at mile 57.4 from Fairbanks, follows up the left limit of U. S. Creek, over the divide and down to Nome Creek, serving the Nome Creek Dredging Co. The road is 7 miles in length.

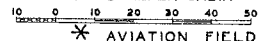
16D: This road branches from the Steese Highway at mile 66.8 from Fairbanks and extends up the left limit of Sourdough Creek.

17C: This field has been enlarged to 325 by 1,100 feet.



FAIRBANKS DISTRICT

- WAGON ROAD
- - - SLED ROAD
- · · TRAIL
- +—+—+ TRAMWAY
- +—+—+ RAILROAD
- SHELTER CABIN
- X AVIATION FIELD



23B: This route formerly classified as a road has been reclassified as a sled road. The route had never been improved to road standard, but had been erroneously classified as such for the reason that in dry seasons it was passable for wagons with light loads.

30B: This field has been enlarged to 350 by 1,150 feet.

38E: Twenty-eight miles of this route are now improved to road standard.

47B: The entire length of this route, 5.5 miles, is sufficiently improved for use by wagons at all times and the route is passable for light motor traffic in dry weather.

53B: An additional runway, 150 by 600 feet, on the south side of the original runway was provided.

63C: Maintenance and operation of this tramroad were discontinued in the fall of 1930. The route has been abandoned. The district formerly served by the tram will be served by a road now under construction.

65H: This landing field is located on the left limit of the Tanana River opposite the village of Tanana Crossing. It is 300 by 800 feet, with a cross runway 300 by 600 feet.

OPERATIONS DURING THE YEAR

The important operations other than routine maintenance are summarized by subprojects as follows:

4H2: Mile 259 was regraded and widened. To avoid overflow from the Delta River, 1.75 miles of new road (relocation) were graded and surfaced in miles 278 and 279, 700 cubic yards of gravel surfacing were placed, and 84 linear feet of metal culverts installed. Two standard 100-foot spans and 115 feet of pile trestle approach were constructed (renewal) over Jarvis Creek.

4K: One-half mile of new road (relocation) was constructed in mile 352 to avoid encroachment of the Tanana River.

7C: One hundred linear feet of metal culverts were installed.

7G: Seven thousand four hundred and seventeen cubic yards of material were placed as resurfacing over 7.5 miles; 246 linear feet of metal culverts were installed.

7H: This route was improved sufficiently to provide a single track road suitable for light motor traffic. Four miles were regraded and 6,117 cubic yards of surfacing material placed over 3.75 miles; one 16-foot span frame bent bridge was constructed and 254 linear feet of metal culverts were installed.

7I: Two thousand one hundred and thirty-seven cubic yards of material were placed as resurfacing on 0.5 mile; 118 linear feet of metal culverts were installed.

7K: A location survey for a road was completed from Olnes to Livengood; 1.75 miles from Olnes were standard graded and surfaced. The next 2.25 miles were narrow graded and passable for teams and tractors. The right of way was cleared 60 feet wide to mile 18 from Olnes. One 16-foot span bridge was constructed and the bridge over the Chatanika River at mile 2 was erected. This bridge consists of one standard 100-foot span, one 60-foot span, and 140 linear feet of pile trestle approach.

7T: The road was extended 1.5 miles, grading being 24 feet wide; 76 linear feet of metal culverts were installed.

9: One 48-foot span bridge and 74 linear feet of approaches were constructed of native timber over Minook Creek.

15: Two and one-half miles were regraded and 9,427 cubic yards of gravel placed as surfacing on 7.5 miles; 422 linear feet of metal culverts were installed.

15A: Two 8-foot span bridges were constructed replacing culverts.

15B: Seven miles were graded to narrow standard, flat sections having 24 feet width between ditches and sidehill sections graded to 8 feet minimum width;

160 linear feet of metal culverts and 60 linear feet of timber culverts were installed; 1.5 miles were graded up Switch Creek. All handwork on the latter section was performed by local miners.

16: Forty-five and one-half miles were regarded preparatory to surfacing; 43,295 cubic yards of surfacing material were placed over 33.74 miles; 316 linear feet of metal culverts were installed.

30: The 1.75 miles from the landing to Hot Springs were side ditched and surfaced; 2,365 linear feet of corduroy and 1,765 cubic yards of surfacing material were placed; three timber culverts were installed.

38A: The entire route was gone over with a grader; 1,045 cubic yards of material were hauled into soft sections covering 2.5 miles of road; 700 linear feet of metal culverts were installed; and one 48-foot trestle bridge constructed (renewal).

38E: The entire route was shaped with a grader; 1,400 cubic yards of material were placed as filling in soft places over 0.75 mile; 76 linear feet of metal culverts were installed.

47B: The entire route was shaped with a grader and the grading extended 0.75 mile; 21 timber culverts were installed.

59A: A new blacksmith shop, 28 by 44 feet, was constructed.

88: The entire route was gone over with a grader; 1,360 cubic yards of surfacing material were placed over 2 miles; 31 timber culverts were installed.

90D: The following work was accomplished:

Route No.	Location	Work done	Cost
7J	North Fork, 54 miles from Fairbanks.....	Roof repaired.....	\$20
29	106 miles from Tanana.....	New cabin built.....	250
29A	Hackett Creek, 13 miles from Bettles.....	14 by 16 foot cabin built.....	300
53A	45 miles from Circle.....	do.....	250
53A	34 miles from Circle.....	Repairs.....	50
	Total.....		870

SURVEYS

A reconnaissance survey was made over the area lying north and east of the Tanana River with a view to determining a practicable route for a road from the Richardson Highway at Grundler to some point on the Canadian border; 1,224 miles were covered on foot, by horse, and motor boat. A map was prepared and report submitted.

SOUTHWESTERN DISTRICT

(M. C. Edmunds, superintendent, Anchorage, Alaska; Anton Eide, assistant superintendent, Seward, Alaska; Fred J. Spach, assistant engineer, Anchorage, Alaska)

This district includes the Kenai Peninsula, the northern part of the Alaska Peninsula, Kodiak Island, and all of the territory tributary to the Alaska Railroad as far north as the northern boundary of Mount McKinley National Park.

The Alaska Railroad, the Yentna River, Cook Inlet, and other arms of the Gulf of Alaska provide through transportation for this region so that only short roads are required. A very excellent system of roads serving the farms and mines of that vicinity is centered about Wasilla, while a good, though less extensive system, centers about Anchorage.

An especial effort has been made within this district to furnish adequate roads, sled roads, or trails to all points of development in order that traffic may be developed for the Alaska Railroad.

The most important road within the district is that now being constructed in cooperation with the National Park Service in Mount McKinley National Park.

Shelter cabins and aviation fields are supported exclusively by the Territory. Of the remaining projects in this district, the through routes are supported by the Alaska Road Commission, less important projects by the Alaska Road Commission and the Territory jointly, and the purely local projects by the Territory exclusively.

Summary of subprojects

Sub-project No.	Name of subproject	Road	Sled road	Trail	Total
		Miles	Miles	Miles	Miles
10G	Lowell Creek flood control ¹				
10D	Seward Aviation Field ²				
20B	Susitna-Rainy Pass.....			127	127
20H	Nancy-Susitna.....			22	22
20J	Susitna-Tyonek.....			46	46
20K	Susitna Aviation Field ²				
35A	Archangel extension.....	5½			5½
35AA	Sherry Branch.....			1	1
35B	Palmer-Fishhook ¹	9¼			9¼
35C	Palmer-Matanuska River ¹	1¼			1¼
35D	Willow Creek extension.....	13			13
35DA	Gold Chord Branch ¹	2			2
35BD	Lucky Shot-Willow Station ¹	6	20		26
35E	Wasilla-Fishhook.....	16			16
35F	Wasilla-Knik.....	14½			14½
35G	Palmer-Springer ²	3			3
35H	Wasilla-Finger Lake-Palmer ¹	12			12
35I	Moose-Palmer ²	5½			5½
35J	Wasilla-Matanuska ¹	7¾			7¾
35K	Matanuska Trunk Road ¹	8			8
35L	Palmer-Matanuska ²	6¼			6¼
35N	Houston-Willow Creek.....		30		30
35O	Fishhook-Goldmint ¹	4¼			4¼
35Q	Edlund Road ²	¾			¾
35R	Bogard Road ²	7½			7½
35RA	Engstrom Road ²	¾			¾
35S	Moose Creek Trail.....			12	12
35T	Werner Branch ²	½			½
35U	Moose Creek Aviation Field ²				
35V	Fishhook Aviation Field ²				
35W	Wasilla Aviation Field ²	¾			¾
35X	Wasilla Aviation Field Road ²	54½		32½	87
46D	McKinley Park Road.....	3		9	12
48	Iliamna Bay-Iliamna Lake.....	23½	18		41½
51	Talkeetna-Cache Creek.....			16	16
51A	Cache Creek Trail.....			14¾	14¾
51B	Peters Creek Trail.....			19	19
51C	Yentna-Mills Creek.....		7½		7½
51D	Mille 32-Spruce Creek.....			35	35
51E	Mille Creek-Cache Creek.....				
51F	Cache Creek Aviation Field ²				
55	Kenai-Russian River.....		60		60
55A	Kenai Aviation Field ²				
75	Anchorage Loop ¹	19½			19½
75A	Anchorage-Lake Spenard ²	4			4
75C	Chester Creek Boat Landing ²	1			1
75D	Anchorage Depot.....				
75E	McDonald Branch ¹	1¼			1¼
75H	Spenard Aviation Field ²				
75I	Oilwell Road ²	2¼			2¼
75J	Anchorage Aviation Field ²				
75L	Anchorage Loop-Eklutna ²				
75M	Anchorage Radio Road.....	¾			¾
76	Cantwell-Valdez Creek.....		55		55
76A	Valdez Creek Aviation Field ²				
79	Seward Depot.....				
90C	Shelter cabins, third division ²				
90D	Shelter cabins, fourth division ²				
92K	Egegik-Kanatak.....			85	85
93	Chulitna Trail.....			3	3
93A	Bull River Trail ¹			12	12
93B	Indian River ¹		9		9
93C	Curry Aviation Field ²				
93D	Chulitna Tram.....				
93E	Hidden River Tram.....				
94	Kodiak-Abberts.....	5			5

¹ Cooperative with Territory of Alaska.

² Entirely supported by Territorial funds.

Summary of subprojects—Continued

Sub-project No.	Name of subproject	Road	Sled road	Trail	Total
		Miles	Miles	Miles	Miles
95	Kanatak-Becharof Lake.....	8¾			8¾
95B	Larsen Bay-Kariuk River.....		3		3
96	Chickaloon-King River.....		6½		6½
96A	Chickaloon Cable.....				
96B	Chickaloon-Nelchina.....			63	63
98	Homer Spit 1.....	13½			13½
98A	Nuka Bay Trail 1.....			1¼	1¼
98B	Ninilchik Aviation Field 2.....				
98C	Kasilof Aviation Field 2.....				
98D	Kasilof Road 2.....	7			7
	Total.....	268	209	498½	975½

¹ Cooperative with Territory of Alaska.

² Entirely supported by Territorial funds.

DESCRIPTION

For detailed description see part 2 annual report for 1929. The following changes and additions should be noted:

10B: This subproject was included in the forest road system on February 7, 1930, and has accordingly been dropped from the summary of subprojects.

10D: This landing field is located north of the Radio Station Road and 1 mile from Seward. The field consists of two runways, the north-south runway being 200 by 1,400 feet and the east-west runway 200 by 1,200 feet.

35B: This road extends from Palmer to mile 11.5 from Wasilla on the Wasilla-Fishhook road. Its length is 9.25 miles. This subproject includes 5 miles originally carried under 35B, 1.75 miles originally carried as 35T and 2.5 miles of 35L.

35D: Length changed to 13 miles; 0.5 mile formerly part of this route now included in 35DB.

35DA: This road branches from the Willow Creek extension, route 35D, at mile 3.4. It follows the left limit of Gold Chord Creek for 0.5 mile, thence crossing to the right limit it follows to the head of the creek. It serves three mines, only one of which is now producing.

35DB: This route extends down Willow Creek from the Lucky Shot mine to Willow Station, mile 187, Alaska Railroad. It is suitable for teams or tractors for the first 6 miles from the mine. The remainder is suitable for tractor and bob-sled traffic in winter.

35I: Length of this road 5.5 miles. First 2.5 miles from Palmer now included in subproject 35B.

35RA: This road branches from the Bogard Road 0.5 mile from the junction of the Bogard and Matanuska trunks roads. It extends to the Engstrom farm distant 1.75 miles.

35T: This road branches from the Fishhook-Palmer road 3.5 miles from Palmer and extends 0.5 mile to cultivated farms.

46D: This road extended to a total length of 54.5 miles.

48: The first 3 miles of this route from Iliamna Bay over the summit have been widened sufficiently to permit wagon traffic. The remaining portion of the route has not yet been improved but it is passable for lightly loaded wagons.

51E: Correct length is 35 miles.

75J: This landing field is located south of the Oilwell Road, 0.5 mile east of the Anchorage town site. It consists of two runways, the north-south leg being 400 by 2,260 feet and the east-west leg 400 by 1,600 feet.

75L: This proposed road branches from the Anchorage Loop road 7 miles from Anchorage and extends along the foothills above the railroad to Eklutna.

75M: This road leads from the railroad reserve to the Anchorage radio station.

76A: This landing field is located on the bench on the right limit of Valdez Creek opposite discovery claim. The field consists of one 200 by 1,000 foot runway.

93D: This cable passenger train is located over the Chulitna River 25 miles below the suspension bridge on route 93.

93E: This cable tram is located over Hidden River, 26 miles above its confluence with the Chulitna River.

96B: Trail extended to 63 miles in length.

98D: This road extends from the cannery at the mouth of the Kasilof River, up the right limit of the river for a distance of 7 miles, serving a group of fur farmers. It is passable for wagon traffic.

OPERATIONS DURING THE YEAR

The important operations, other than routine maintenance, are summarized by subprojects as follows:

10D: Work on this field was completed; 275 cubic yards were moved by rotary scraper in leveling east end of the east-west runway. Timber was slashed for 1,000 feet north of the north-south runway to improve the approach from this direction.

35D: Three hundred and twenty cubic yards of surfacing were placed and four metal culverts were installed.

35DB: Twenty miles of this route from Willow Station were cleared and grubbed 20 feet wide; 1.75 miles of sidehill location were graded 8 to 10 feet wide; 29 timber culverts were constructed, and 306 linear feet of native timber bridges built.

35E: Eight hundred and twenty-eight cubic yards of surfacing material were placed over sections of the route not previously surfaced.

35H: Clearing and grubbing on this route were widened 10 feet, 12 metal culverts were installed and sidehill grades widened between miles 2 and 5.

35K: Grading on one mile—mile 6—was widened 11 feet to full 32 feet wide. The hill in mile 3 was widened and grades reduced; 2,417 cubic yards of surfacing were placed, and 4 metal culverts installed.

35O: The last mile of this route near the mine was widened to 16 feet; 449 cubic yards of surfacing were placed and 11 metal culverts were installed.

46D: This project is cooperative with the National Park Service, that service providing the larger part of the funds for its construction. During the past season grading was completed to mile 54.5 and 60 per cent complete from mile 54.5 to mile 65.8. The grading included heavy sidehill work between miles 46.6 and 47.25. A total of 17,027 cubic yards of earth, 9,502 cubic yards loose rock, and 17,732 cubic yards solid rock was excavated; 15,309 cubic yards of surfacing material were placed over 9 miles of road; 8 frame trestle bridges were constructed, totaling 164 linear feet. A standard pile trestle bridge of 1,176 linear feet was constructed over the Toklat River. This bridge is built in two sections joined by a fill 5 feet above bar level, requiring 4,100 cubic yards of material. Ninety-nine metal culverts were installed. Maintenance was performed over 43.25 miles of road.

Necessary maintenance of the coach road and trails was performed.

Expenditures to date are classified as follows:

Office building	\$1,777.66
Warehouse and garage, headquarters	6,916.62
Cabins and caches	7,204.66
Trail tents	732.50
Trail construction	10,099.53
Trail maintenance	2,242.61
Reconnaissance	500.00
Road construction	607,031.63
Road maintenance	85,664.67
Total	722,169.88
Fiscal year:	
1922	500.00
1923	2,528.90
1924	4,961.74
1925	86,788.17
1926	52,539.40
1927	17,033.02
1928	61,590.89
1929	71,351.39
1930	160,821.31
1931	167,817.27
1932	96,237.79
Total	722,169.88
National Park Service	695,897.31
Territory of Alaska	732.50
Alaska Road Commission	24,839.82
Contributed	700.25
Total	722,169.88

For the current season (fiscal year 1933) \$80,000 of park road funds have been allotted.

48: One mile of road was constructed from mile 1 to the summit at mile 2. The work included 5,120 cubic yards of loose rock and 4,300 cubic yards of solid rock excavation. Eleven metal culverts were installed.

51: Two and one-half miles of road were regraded to 24-foot width, 1,134 cubic yards of surfacing material were placed on 2 miles, one 60-foot span bridge was erected (renewal), and six timber culverts were installed.

51B: The first 11 miles of this trail were sufficiently widened and improved so that tractors were able to travel over it under favorable weather conditions. A part of the funds for the work was contributed by local interests.

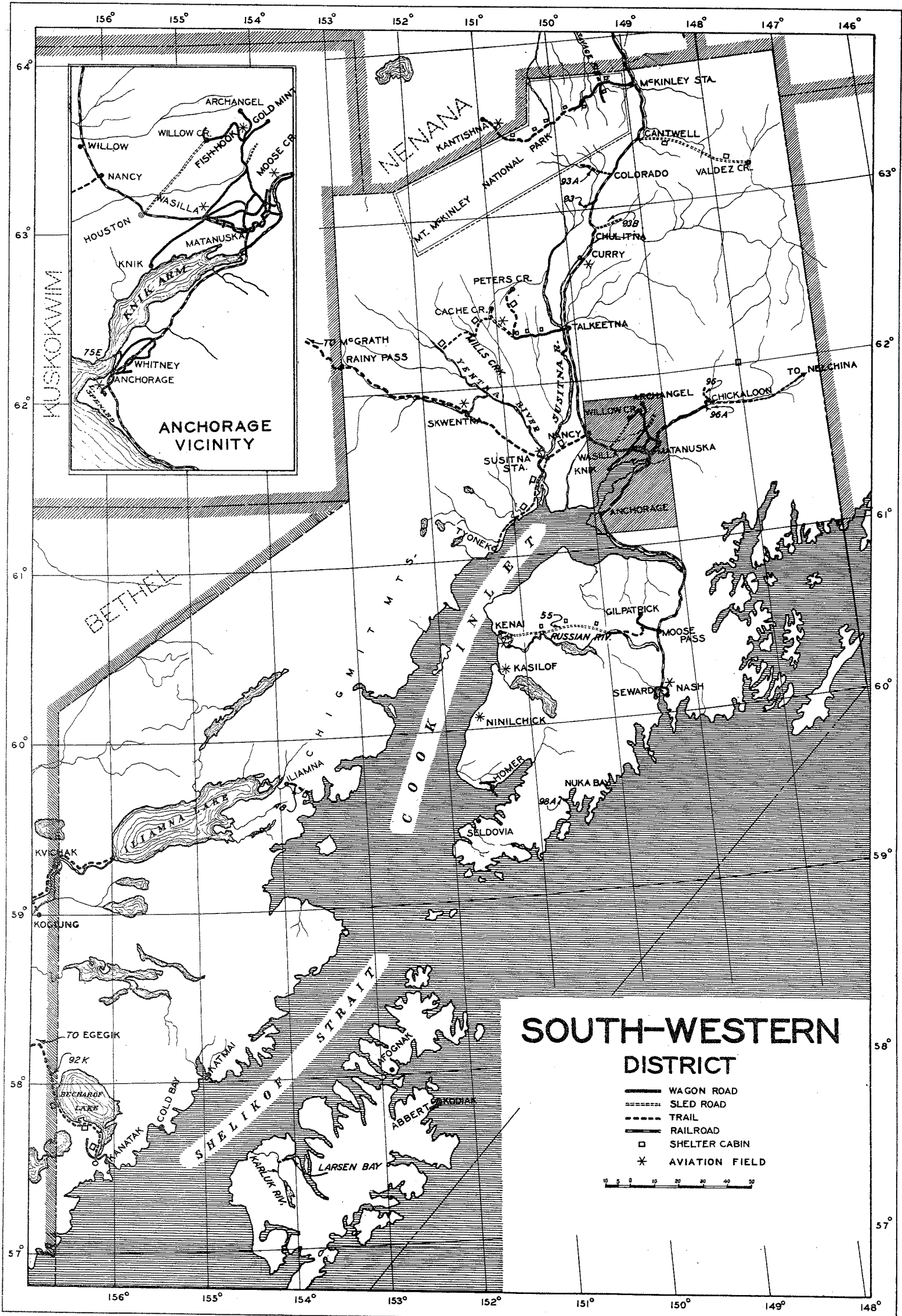
75I: Four hundred and nine cubic yards of surfacing were placed.

75J: Culverts were placed in the side ditches for a distance of 100 feet in the center of the north-south runway and surfaced with gravel.

93E: A cable tram 300 feet in length for transporting travelers across Hidden River was erected.

SURVEYS

A reconnaissance was made to determine a feasible route into the Red Mountain mining section east of Seldovia. A route leaving tidewater at Tutka Bay was found to be the most practicable. Mine owners in the district contributed part of the funds for the survey.



KUSKOKWIM DISTRICT

(Hawley W. Sterling, assistant superintendent, Takotna)

This district embraces the valley of the Kuskokwim River, extending eastward along the coast to Bristol Bay and west as far as the Yukon River, thus including the valleys of the Iditarod and Innoko Rivers. The chief mining operations are centered about Iditarod, Takotna, and Ophir.

This district comprises one of the most inaccessible parts of Alaska. Freight for Takotna and vicinity is sent by ship from Seattle to Bethel and thence by river boat up the Kuskokwim River. Freight for Iditarod and vicinity is sent by ship from Seattle to Seward, thence by rail to Nenana and by river boats, owned and operated by the Alaska Railroad, to Holy Cross. There it is transferred to smaller boats and sent up the Innoko and Iditarod Rivers. Summer mail is sent by this route. During the summer people go in by the water route, or leave the Government boat at Ruby and walk overland via Long and Poorman. During the winter mail and people enter and leave this district over the winter trail via McGrath, Telida, Diamond, Knights, and Kobi or Nenana. The limited activities within the district together with its remoteness and the great expense of road construction have prevented the construction of any through wagon or automobile routes. An important winter trail route extends from McGrath in the upper Kuskokwim Valley via Aniak, Bethel, Goodnews Bay, Togiak, Dillingham, and Naknek to Kanatak.

Shelter cabins, aviation fields, the Ganes Creek and Little Creek Roads are supported exclusively by the Territory, the Iditarod-Flat and Ophir-Takotna Roads and the Yukon-Kuskokwim portage by the Territory and Alaska Road Commission jointly, and the remaining projects exclusively by the Alaska Road Commission.

Summary of subprojects

Sub-project No.	Name of subproject	Road	Sled road	Trail	Total
		<i>Miles</i>	<i>Miles</i>	<i>Miles</i>	<i>Miles</i>
20C	Rainy Pass-Big River			110	110
20DA	Takotna-Ophir		20		20
20DB	Ophir-Dishkaket			55	55
32A	Takotna-Flat			95	95
32AA	Takotna-Flat (via Moore Creek)			93	93
32AB	Moore Creek			7	7
32AC	Candle Creek-Takotna			12	12
32B	Iditarod-Flat ¹	8			8
32BA	Iditarod River reconnaissance ²				
32C	Ophir-Iditarod			76	76
32D	Flat-Crooked Creek (winter)			54	54
32DD	Flat-Georgetown (summer)			65	65
32E	Takotna Aviation Field ²				
32F	Takotna Depot				
33C	Flat City-Flat Creek	5			5
33D	Head Flat Creek-Willow Creek	4½			4½
33E	Willow Creek-Chicken Creek	3			3
33F	Flat City-Otter Discovery	3			3
33G	Candle Landing-Candle Creek	9			9
33H	Flat Aviation Field ²				
34A	Flat-Holy Cross-Anvik			103	103
34B	Iditarod-Shageluk-Anvik			85	85
35B	Poorman-Cripple			47	47
35C	Ophir-Cripple (winter)			47	47
35D	Ophir-Takotna ¹	22			22
35DA	Little Creek Road ²	3			3
35F	Poorman-Ophir			125	125
35G	Takotna-Takotna Aviation Field ²	¾			¾
35H	Ganes Creek Road ²	15¾			15¾
35M	Ophir Aviation Field ²				
64A	Cripple-Cripple Mountain (summer)			12	12
64AA	Cripple-Cripple Mountain (winter)		20		20
80A	McGrath-Takotna (summer)			5	5

¹ Cooperation with Territory of Alaska.² Entirely supported by Territorial funds.

Summary of subprojects—Continued

Sub-project No.	Name of subproject	Road	Sled road	Trail	Total
		Miles	Miles	Miles	Miles
80AA	McGrath-Takotna (winter).....		17		17
80B	McGrath-Telida.....			92	92
80C	McGrath-Candle Creek.....		11		11
80D	Nixon Fork-Nixon Mine.....			37	37
80E	Takotna-Twin Peaks.....			12	12
80F	Medfra-Nixon Mine.....	12			12
80G	Nixon Fork-Takotna (summer).....			15½	15½
80GG	Nixon Fork-Takotna (winter).....		14½		14½
80H	McGrath Aviation Field ²				
80J	Medfra Aviation Field ²				
90C	Shelter cabins, third division ²				
90D	Shelter cabins, fourth division ²				
92A	Bethel-Quinhagak.....			90	90
92B	Bethel-Tuluksak.....			44	44
92C	Akiak-Russian Mission.....			75	75
92D	Bennett's cut-off.....			18	18
92E	Yukon-Kuskokwim portage.....			120	120
92F	Quinhagak-Goodnews Bay.....			60	60
92G	Goodnews Bay-Togiak ¹			53	53
92H	Togiak-Nushagak.....			125	125
92I	Lewis Point-Naknek.....			86	86
92J	Naknek-Egegik.....			50	50
92L	Crooked Creek-Aniak.....			74	74
92M	Aniak-Tuluksak.....			60	60
92N	Akiak-Canyon Creek.....			45	45
92O	Tuluksak-Foothills.....			32	32
92P	Holy Cross-Kaltshak.....			53	53
92Q	Upper Landing-Bear Creek ¹		26		26
92R	Dillingham-Snag Point ¹	2			2
	Total.....	88	108½	2,132½	2,329

¹ Cooperation with Territory of Alaska.² Entirely supported by Territorial funds.

DESCRIPTION

For detailed description see part 2 annual report for 1929 under Kuskokwim district and Bethel subdistrict. The following changes and additions should be noted:

32E: This landing field is now 400 by 1,400 feet.

38G: This road formerly extended to a point on the Takotna River 1.5 miles below the town of Takotna. The lower end of the road has been abandoned and a branch was built to the Takotna aviation field. The length is now 0.75 mile.

38H: This road was extended up Ganes Creek to total length of 15.75 miles.

38M: A new location was selected for this landing field southwest of the village of Ophir.

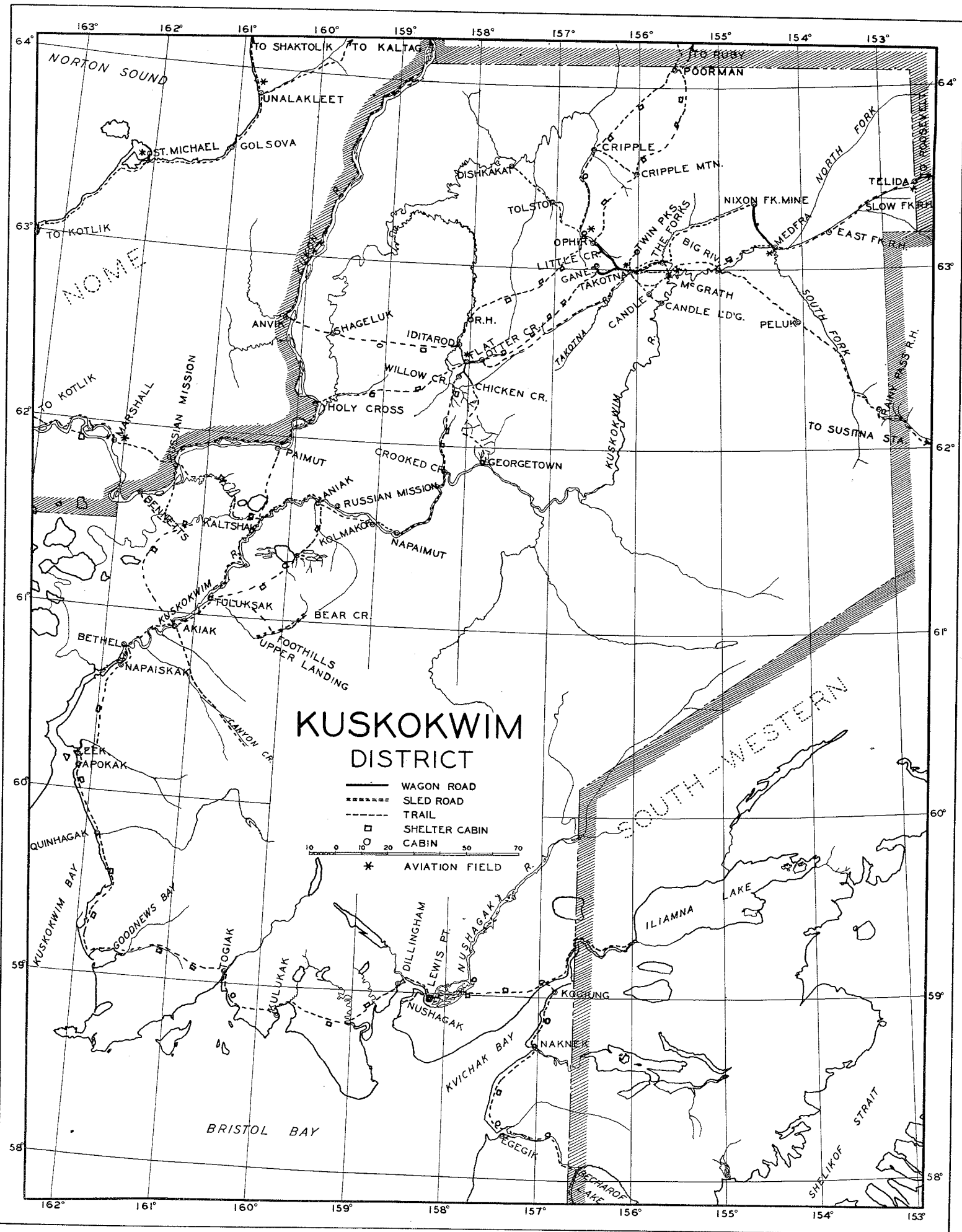
92E: This summer portage is passable for poling boats and small power boats between the Yukon and Kuskokwim Rivers. Two portages are crossed by steel rail trams aggregating 5,934 feet. Derricks and winches are provided for handling boats on and off cars and over dams.

92R: This route was formerly included as a part of route 92H and is that part of the latter route between Dillingham and the cannery at Snag Point, a distance of 5 miles. Over this section a road is being constructed. Two miles were improved to a low standard road during the past season.

OPERATIONS DURING THE YEAR

The important operations other than routine maintenance are summarized as follows:

32B: A bridge of 34-foot span with 28 linear feet of approaches was built over the new channel of Otter Creek. Five hundred and fifty-two cubic yards of gravel were placed as surfacing on 0.5-mile of road.



32D: Six miles of new trail (relocation) were constructed. Ten miles of trail through open country were marked with tripods.

32E: The field was lengthened 100 feet.

33E: Seven hundred and twenty-three cubic yards of material were placed as surfacing on 0.8 mile of road.

33F: One and seventy-five one hundredths miles of road (relocation) were constructed. The work included grading 1.4 miles, corduroy 1,036 linear feet, placing 1,814 cubic yards of surfacing material on 1.75 miles, 24 linear feet of bridge and installation of four culverts.

38D: One thousand nine hundred and thirty-five cubic yards of gravel were placed as surfacing over 1.9 miles of road; 2.25 miles were regraded.

38G: A new road, 0.5 mile in length, was constructed to the Takotna aviation field.

38H: Nine hundred and twenty-one cubic yards of gravel were placed as surfacing on 0.9 mile of road.

80B: A bridge 60 feet in length was erected over East Fork Creek.

90D: The following work was accomplished:

Route No.	Location	Work done	Cost
32C	Fritz's, 33 miles from Ophir.....	Additional bills for new cabin.....	\$167.30
32D	Bonanza, 14 miles from Flat.....	Windows.....	4.00
32D	Crevasse, 66 miles from Flat.....	Repairs.....	150.00
33F	Shelter tent, 13 miles from Footman.....	New stove pipe.....	3.00
92A	Blackfish Lake, 28 miles from Bethel.....	Repairs.....	30.00
92A	Dahls, 69 miles from Bethel.....	do.....	30.00
	Total.....		384.30

92I: Fifteen miles of this route through open tundra were permanently marked by placing tripods built of 2 by 2-inch by 10-foot lumber.

92J: Eight miles were permanently staked with lumber tripods.

92Q: Three bridges of pile-driven trestle totaling 315 linear feet and 1 frame-bent trestle, 36 feet long, were constructed. Local interests cooperated on this work.

92R: Two miles of road were constructed. Sidehill sections were made 12 feet wide and flat sections 24 feet wide between ditches; 6,050 linear feet of brush corduroy, 12 feet wide, were placed; 3 bridges, totaling 64 linear feet, constructed; and 23 timber culverts intalled. This work was supervised by the southwestern district from the Anchorage office.

NOME DISTRICT

(Ross J. Kinney, superintendent, E. F. Bauer, assistant superintendent)

This district embraces that portion of Alaska lying west of the 158th Meridian and north of the Yukon River.

On account of the length and severity of the winter, the isolated location, and the lack of timber for protection and fuel, a considerable portion of the personnel of this vicinity spend the winter outside, leaving on the last boat sailing from Nome the latter part of October and returning on the first boat in the spring, which arrives at Nome from the middle to the latter part of June. The bulk of the freight is landed at the nearest port during the open saeson of navigation and moved to its destination either over available wagon roads in summer or over sled roads in winter.

The most important projects are the system of local roads serving the extensive mining activities about Nome, the Nome-Shelton Tram and the connecting

trail extending on through Dahl to Deering and Candle, the road from Nome to Council and Casa de Paga, and the system of winter trails extending throughout the entire district.

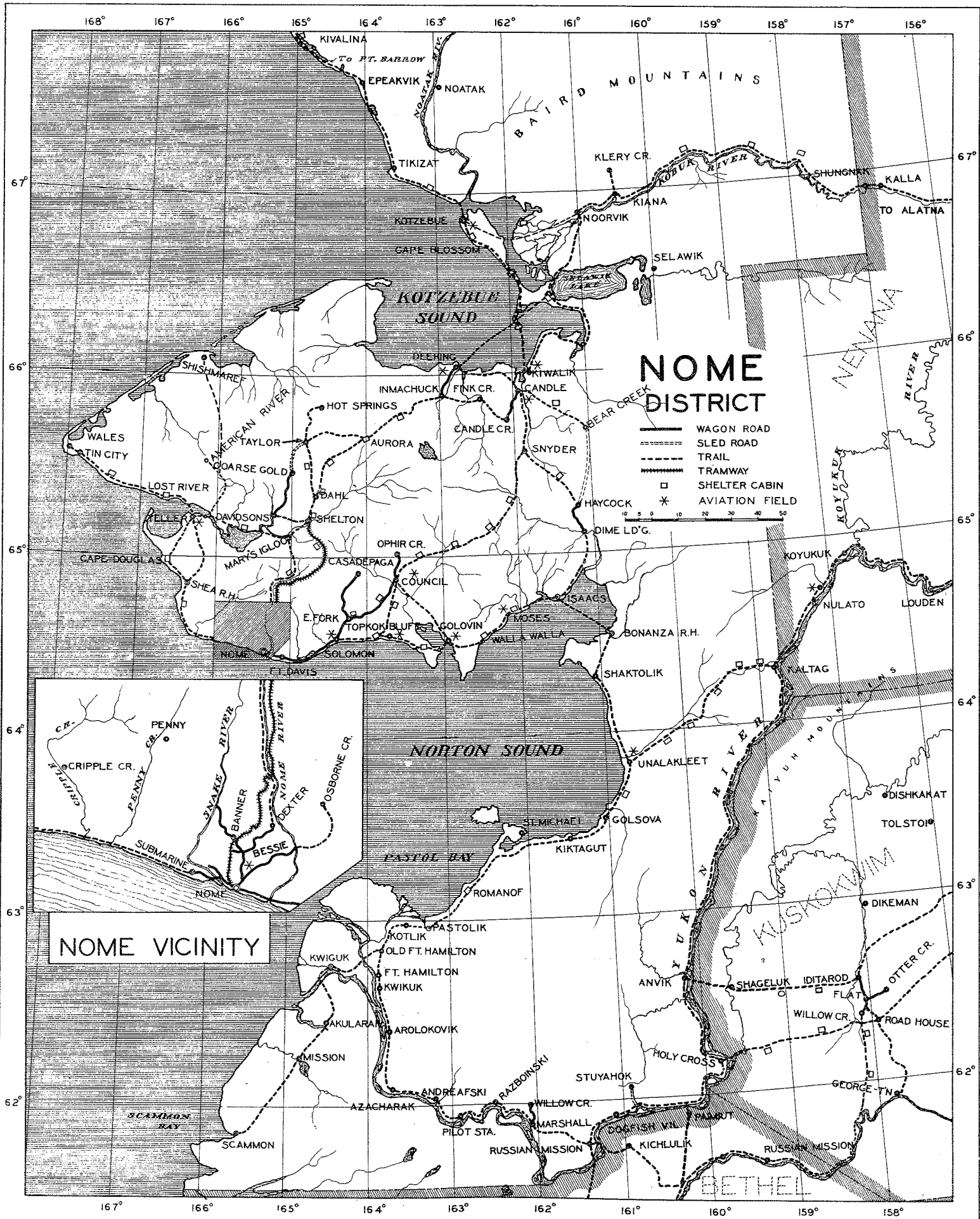
Shelter cabins, aviation fields and telephone lines are supported exclusively by the Territory—the Seward Peninsula Railroad exclusively by the Alaska Road Commission. All other projects in this district are supported jointly by the Territory and the Alaska Road Commission.

Summary of subprojects

Sub-project No.	Name of subproject	Road	Sled road	Trail	Total miles
8	Nome-Council ¹			25	82
8D	Council-Ophir Creek ¹	57			12
8H	Casa de Paga Road ¹	12			20
8J	Shovel Creek ¹	20			5
8K	Council Aviation Field ²	5			
8L	Port Safety aids				
13A	Nome-Bessie ¹				3¼
13B	Bessie-Snake River ¹	3¼			8¾
13BA	Snake River-Monument Creek ¹	8¾			3
13C	Bessie-Sunset Creek ¹		3		4¾
13F	Nome-Osborne ¹	4¾			10¼
13K	Bessie-Buster ¹	10¼			7¼
13L	Nome Bucoys	7¼			
13M	Nome Depot				
18	Kaltag-Nome ¹				280
18A	Bonanza-Kotzebue ¹			280	240
18B	Golovin-Council ¹			35	35
18D	Unalakleet Aviation Field ²				
18E	Solomon Aviation Field ²				
18F	Golovin Aviation Field ²				
18G	Moses Aviation Field ²				
18H	Koyukuk Station-Unalakleet telephone line ²				
18J	Spruce Creek ¹		1½		1½
21	Unalakleet-St. Michael ¹			68	68
21 A	St. Michael Aviation Field ²				
25C	Nome-Wireless ¹				¼
25D	Center Creek Road ¹	¼			2¾
25DA	Little Creek Branch ¹	2¾			2¼
25E	Submarine Paystreak ¹	2¼			3
25K	Nome City Wharf	3			
25L	Nome Aviation Field ²				
25M	Telephone lines Seward Peninsula ²				
25N	Nome city street				
25P	Nome harbor lights				
25R	Radio telephones				
26	Candle-Candle Creek ¹	6			6
26B	Bear Creek Trail ¹			45	45
26C	Candle-Kiwalik ¹			18	18
26D	Kiwalik Aviation Field ²				
26E	Candle Aviation Field ²				
26F	Telephone line reconnaissance ²				
26G	Candle-Radio Station ²				¼
27	Deering-Inmachuk ¹	25			25
27A	Deering Aviation Field ²				
28	Shelton-Candle ¹			152	152
28A	Nome-Serpentine Hot Springs ¹			148	148
37	Topkok-Candle ¹			154	154
37A	Bluff-White Mountain ¹			15	15
37B	Bluff Aviation Field ²				
41	Kiana-Klery Creek ¹			12	12
41A	Kotzebue-Shungnak ¹			200	200
41A A	Kiana-Selawik-Shungnak ¹			130	130
41B	Kotzebue-Point Barrow ¹			517	517
41C	Kiwalik-Noorvik ¹			100	100
41D	Kotzebue Aviation Field ²				
41E	Kobuk Aviation Field ²				
42	St. Michael-Kotlik ¹			63	63
49	Davidson's Landing-Taylor ¹	24	16		40
62	Dime Creek ¹	9			9
62A	Haycock-Bear Creek ¹			22	22
62B	Haycock Aviation Field ²				
62C	Koyuk Aviation Field ¹				
67	Nome-Teller ¹			83	83
67A	Teller-Cape Prince of Wales ¹			67	67
67B	Teller-Bluestone ¹	5	13		18

¹ Cooperative with Territory of Alaska.

² Entirely supported by Territorial funds.



Summary of subprojects—Continued

Sub-project No.	Name of subproject	Road	Sled road	Trail	Total miles
67C	Teller-Pilgrim Hot Springs ¹	-----	-----	48	48
67D	Teller-American River ¹	-----	-----	35	35
67E	Teller Aviation Field ²	-----	-----	-----	-----
67F	Tin City-Goodwin ¹	3	-----	-----	3
67G	Lost River Aviation Field ²	-----	-----	-----	-----
67H	Wales Aviation Field ²	-----	-----	-----	-----
67J	Woolley-Gold Run ¹	-----	-----	30	30
68	Flagging Trails ¹	-----	-----	712	712
73	Marshall Road ¹	7	-----	-----	7
73A	Kotlik-Marshall ¹	-----	-----	148	148
73B	Stuyahok ¹	-----	11	-----	11
73C	Scammon Bay Trail ¹	-----	-----	89	89
73D	Marshall Aviation Field ²	-----	-----	-----	-----
88A	Seward Peninsula R. R.	74	-----	-----	74
88B	Pilgrim Aviation Field ²	-----	-----	-----	-----
89C	Iron Creek-American Creek ¹	-----	-----	12	12
90B	Shelter Cabins ²	-----	-----	-----	-----
	Total.....	289¾	44½	3,448	3,782¾

¹ Cooperative with Territory of Alaska.² Entirely supported by Territorial funds.

DESCRIPTION

For detailed description see part 2 annual report for 1929. The following changes and additions should be noted:

8K: This landing field, 110 by 1,300 feet is located near the village of Council.

13BA: This tractor road extends from the Bessie-Snake River road down Glacier Creek and across Snake River to Monument Creek.

13CA: This route extends westward from the end of the Nome-Bessie Road across Snake River to Sunset Creek; 4.75 miles are improved to road standard.

13M: This subproject includes the district headquarters buildings at Nome.

18D: This field now has two runways, one 250 by 1,500 feet and the other 200 by 1,500 feet.

18F: An additional field to provide for cross winds was constructed, size 200 by 1,700 feet.

18J: This route extends from the beach, at a point 7 miles east of Solomon, 1.5 miles up Spruce Creek.

21A: This is an emergency landing field 50 by 900 feet and is located on the spit near St. Michael.

25D: As relocated this road branches from route 13A at mile 0.75 and connects with the original road at mile 1.25.

25DA: This road branches from route 25D at mile 1.7 and extends to the Little Creek headquarters of the Hammon Co. It parallels the tram for 1 mile.

25R: This project provides for the installation of radio telephones at several points in the second division. The work was undertaken for the Territory of Alaska at the request of the governor.

26G: This short road leads from the main street of the village of Candle to the radio station.

27A: This landing field is now 2,000 feet long and varies in width from 125 to 200 feet.

37B: This landing field, 400 by 900 feet is located on the shore of Norton Sound, 3 miles east of the village of Bluff and 50 miles east of Nome.

41AA: This route is a new mail trail extending from Kiana by way of Selawik to Shungnak Post Office.

41C: This winter trail follows the beach from Kiwalik to Elephants Point, thence along the coast and across Selawik Lake to Noorvik.

41E: This landing field is located on the Kobuk River at Kobuk Post Office, 175 miles by river above the mouth. It is 240 by 1,300 feet.

62B: This landing field is located near the village of Haycock. It is 150 by 1,400 feet.

62C: This landing field, 280 by 1,600 feet, is located across the Koyuk River from Koyuk Village near the outlet of the river into Norton Bay.

67B: Five miles improved to road standard, remaining 13 miles suitable for tractors only.

67C: This trail now extends from Teller to Pilgrim Hot Springs, 48 miles.

67E: A new field to provide a north and south runway, 200 by 1,250 feet, is located on the sand spit at Teller.

67G: This landing field, 250 by 1,250 feet, is located on the beach one-fourth mile west of the mouth of Lost River.

67H: This landing field, 250 by 1,000 feet, is located 0.5 mile north of the village of Wales at Cape Prince of Wales.

67J: This winter trail extends from Cape Woolley on the Nome-Teller trail to Gold Run Creek.

73: This route extends from the landing on the Yukon River, 10 miles above Marshall, to mining operations on Willow Creek. After improvement this route is classed as road and is passable for light motor traffic.

73D: This landing field located near the village of Marshall on the Yukon River is 200 by 1,300 feet.

89B: This landing field, 200 by 1,200 feet, is located 0.5 mile south of the Pilgrim Hot Springs Mission.

OPERATIONS DURING THE YEAR

The important operations, other than routine maintenance, are summarized as follows:

8K: This field was completed to a size of 110 by 1,350 feet. Markers and standard wind cone were placed.

13B: Four thousand six hundred and thirty-two cubic yards of gravel were placed as surfacing on 3 miles of road and 18 metal culverts were installed.

13C: The road was extended 1.9 miles to Snake River. For this entire distance the road consists of a gravel fill placed on brush corduroy. The road is single track provided with turnouts; 11,903 cubic yards of gravel were placed and 1,100 cords of brush corduroy laid. One 26-foot bridge was constructed and 4 timber culverts installed; 16 culverts of hydraulic pipe were also installed. A pile trestle bridge 210 feet in length was constructed over Snake River. This bridge is complete except for decking which will be placed during fiscal year 1933.

13K: Nine hundred and ninety-five cubic yards of gravel were placed as surfacing, one 18-foot bridge was renewed and 1 metal and 2 timber culverts were installed.

18D: The North-South runway was extended 300 feet and a standard wind cone placed.

18F: The landing field on the spit was lengthened to 1,700 feet. Markers and standard wind cone were placed.

25L: Both runways were widened, 940 cubic yards of gravel were placed to fill low wet sections, and a standard wind cone was placed.

25R: Receiving and sending equipment was installed at Marshall and similar equipment was installed in the Signal Corps radio station at St. Michael.

26D: The entire field was leveled and extended to 1,600 feet. Markers and standard wind cone were placed.

27: Two thousand and fifty-one cubic yards of gravel were placed as surfacing.

27A: A standard wind cone was placed.

28A: The section between Shelton and Coarse Gold Creek was improved for use by tractors and wagons in summer.

41AA: The section between Kiana and Selawik, a distance of 30 miles, was brushed out and stakes placed across open stretches.

41C: Stakes distributed last season between Kiwalik and Elephant Point were set.

41D: Markers and a standard wind cone were placed.

41E: The field was enlarged to 240 by 1,300 feet. Markers were placed.

62B: This field was completed to a size of 150 by 1,400 feet. Markers and standard wind cone were placed.

62C: The field was enlarged to 280 by 1,600 feet. New markers and a standard wind cone were placed.

67B: Four hundred and seventy-two cubic yards of gravel surfacing were placed between miles 1 and 5 and nine timber culverts were installed.

67E: The field was leveled with a grader and markers and a standard wind cone were placed.

68: Three hundred and twenty-nine miles of temporary trail were marked.

89B: Markers and a standard wind cone were placed.

90B: The following work was accomplished:

Route No.	Location	Work done	Cost
18	Topkok, 48 miles from Nome	Repairs and wood	\$37.40
18	Cheokuk, 66 miles from Nome	do	37.50
18	Bonanza, 156 miles from Nome	Corrugated iron roof and wood	92.25
18A	Choris Peninsula, 135 miles from Bonanza	New stove and coal	70.65
18A	Riley wreck, 169 miles from Bonanza	do	70.65
21	Golsovia, 32 miles from Unalakleet	Repairs	11.65
28A	Nome River, 15 miles from Nome	New stovepipe	3.75
28A	Iron Creek, 53 miles from Nome	do	3.75
28A	Shelter tent, 104 miles from Nome	New tent	27.75
41A	Riley Channel, 23 miles from Kotzebue	Repairs and wood	145.00
41A	Pitkik, 171 miles from Kotzebue	Corrugated iron roof and wood	38.00
41A A	Singaruk, 10 miles from Kiana	New cabin built	1,200.00
41B	Aniyak, 25 miles from Kotzebue	Wood	25.00
41B	Okoliksook, 59 miles from Kotzebue	do	25.00
41C	Callahans, 37 miles from Kiwalik	Additional bill for repairs	183.33
42	Romanoff, 38 miles from St. Michael	Wood	12.00
67	Woolley, 45 miles from Nome	Repairs and wood	42.40
67	Tissue, 51 miles from Nome	do	37.40
67	Douglas, 60 miles from Nome	do	53.90
67A	Blatchfords, 10 miles from Teller	New stove	26.25
67A	Lost River, 26 miles from Teller	Repairs and wood	40.00
67A	York, 54 miles from Teller	do	40.00
67A	Tin City, 64 miles from Teller	Wood	30.00
67A	Lopp Lagoon, 91 miles from Teller	do	30.00
67A	Sirazat, 123 miles from Teller	do	30.00
67C	Agiapuk, 21 miles from Teller	Coal	40.00
67J	Dome Creek, 10 miles from Woolley	Repairs and wood	47.40
73A	Herndon, 128 miles from Kotlik	Wood	23.00
	Total		1,424.03

¹ Local residents cooperated by furnishing part of labor.

RECEIPTS	
Balance on hand July 1, 1931	\$93, 281. 76
Received from—	
War warrants	1, 222, 261. 01
Transfers from officers	72, 000. 00
Sales and refunds	1, 604. 78
Reimbursements	1, 567. 06
Contributions	144, 977. 79
Total	1, 535, 692. 40
DISBURSEMENTS	
Disbursed as per tabulated statement below	1, 041, 576. 51
Deposited to credit of Treasurer, United States:	
Balance on hand at close of fiscal year 1931	93, 281. 76
Excess Army account of advances	147, 615. 99
Collections	148, 149. 63
Balance on hand June 30, 1932	105, 068. 51
Total	1, 535, 692. 40

¹ Does not include \$1,312.40 charged against available appropriations by direct U. S. Treasury settlements. Reimbursements and other adjustments totaling \$3,866.13 not included in tabulated statement.

Consolidated cost summary

No.	Subproject	Cost, 1932	Total cost to June 30, 1932	Cost maintenance and improvement, 1932	Total cost maintenance and improvement to June 30, 1932	Cost construction, 1932	Total cost construction to June 30, 1932
1	Prince of Wales Island ¹		\$63, 850. 26		\$21, 038. 40		\$42, 811. 86
2A	Auk Bay extension ¹		60, 404. 43		12, 300. 30		48, 104. 13
2B	Mendenhall Glacier extension ¹		15, 150. 21		7, 644. 57		7, 505. 64
2C	Eagle River extension ¹		18, 362. 32		3, 300. 00		15, 062. 32
2D	Juneau-Duck Creek ¹		109, 658. 27		31, 250. 55		78, 407. 72
2E	Gastineau Channel Bar	\$240. 00	30, 007. 83	\$240. 00	1, 386. 00		29, 621. 83
2F	Gold Creek Bridge, Juneau		2, 156. 75				2, 156. 75
2G	Alaska Juneau Mine Trail		831. 66				831. 66
2H	Juneau Wharf	275. 01	30, 967. 53	275. 01	751. 22		30, 216. 31
2J	Juneau Float	45. 38	5, 179. 80	45. 38	45. 38		5, 134. 42
3A	Haines-Wells	6, 044. 27	243, 206. 34	6, 044. 27	119, 576. 35		123, 629. 99
3B	Pleasant Camp extension	5, 685. 68	170, 710. 20	5, 685. 68	28, 516. 00		142, 194. 20
3C	Porcupine extension		47, 634. 63		9, 279. 73		38, 354. 90
3D	Haines-Mud Bay	115. 75	32, 064. 29	115. 75	13, 256. 83		18, 807. 46
3E	Haines-Chilkoot	116. 14	20, 224. 86	116. 14	1, 988. 30		18, 236. 56
3F	Haines-Jones Point	34. 75	2, 353. 20	34. 75	799. 75		1, 553. 45
3G	Chilkoot Barracks water supply	28, 344. 60	28, 344. 60			\$28, 344. 60	28, 344. 60
3H	Chilkoot Barracks Road	1, 252. 50	1, 252. 50	1, 252. 50	1, 252. 50		18, 865. 40
4A	Donnelly-Washburn ²		33, 460. 06		14, 594. 66		2, 320. 59
4A A	Richardson-Democrat Creek		2, 320. 59				183. 31
4A B	Donnelly Aviation Field	14. 11	137. 42	14. 11	14. 11		470, 556. 55
4B A	Valdez-Ptarmigan drop	44, 030. 24	1, 067, 894. 63	44, 030. 24	597, 338. 08		56, 065. 98
4B A	Dyke	27, 123. 68	119, 100. 36	27, 123. 68	63, 034. 38		171, 227. 56
4B B	Ptarmigan Drop-Ernestine	9, 424. 92	451, 562. 55	9, 424. 92	280, 334. 99		177, 499. 55
4C	Ernestine-Willow Creek	4, 491. 07	363, 086. 10	4, 491. 07	135, 536. 25		246, 394. 58
4D	Willow Creek-Gulkana	17, 270. 64	606, 055. 01	17, 270. 64	359, 660. 43		144, 173. 70
4E	Gulkana-Sourdough	17, 436. 24	384, 036. 25	17, 436. 24	239, 862. 55		136, 258. 29
4F	Sourdough-Mile 168	20, 712. 18	324, 881. 94	20, 712. 18	188, 623. 65		158, 615. 89
4G	Mile 168-Delta River	19, 963. 90	538, 024. 51	19, 963. 90	379, 408. 62		259, 965. 60
4H1	Delta River-Rapids	40, 465. 49	723, 227. 62	40, 465. 49	463, 262. 02		120, 386. 12
4H2	Rapids-Grundler	35, 089. 23	403, 186. 04	35, 089. 23	282, 799. 92		121, 294. 00
4I	Grundler-Richardson	949. 01	345, 806. 87	949. 01	224, 512. 87		215, 518. 01
4J	Richardson-Salchaket	2, 919. 89	448, 286. 96	2, 919. 89	232, 768. 95		3, 100. 75
4J A	Lake Harding Road	15. 73	5, 068. 96	15. 73	1, 968. 21		254, 962. 87
4K	Salchaket-Fairbanks	12, 040. 75	548, 781. 48	12, 040. 75	293, 818. 61		50, 370. 67
4K A	Salcha Bridge	4, 555. 65	81, 206. 87	4, 555. 65	30, 836. 20		12, 624. 18
5	Ester-Dunbar ²		19, 405. 18		6, 781. 00		50, 269. 69
5A	Dunbar-Tanana	749. 31	89, 182. 74	749. 31	38, 913. 05		1, 919. 01
5B	Nenana-Campbells		2, 025. 61		106. 60		

¹ Transferred to Department of Agriculture.

² Abandoned.

Consolidated cost summary—Continued

No.	Subproject	Cost, 1932	Total cost to June 30, 1932	Cost maintenance and improvement, 1932	Total cost maintenance and improvement to June 30, 1932	Cost construction, 1932	Total cost construction to June 30, 1932
5C	Fish Lake-American Creek		\$7,501.43		\$1,734.90		\$5,766.53
5D	American Creek Aviation Field		940.00				940.00
5E	Tanana Aviation Field	\$189.76	4,274.92	\$189.76	374.96		3,899.96
5F	Illinois Creek-Moran Creek		1,178.89				1,178.89
6A	Willow Creek-Tonsina	3,783.70	229,458.59	3,783.70	119,797.81		109,660.78
6B	Tonsina-Chitina	13,794.13	353,827.21	13,794.13	208,464.52		145,362.69
6D	Chitina Depot	147.89	14,600.78	147.89	2,662.12		11,938.66
6E	Chitina native school		599.66		104.60		495.06
6F	Lower Tonsina Aviation Field		1,587.15				1,587.15
6G	Copper Center Aviation Field	9.09	276.92	9.09	76.33		200.59
6H	Chitina Aviation Field		110.85				110.85
7A	Summit-Chatanika	4,318.49	80,508.40	4,318.49	39,745.69		40,762.71
7AA	Cleary Creek	186.81	8,375.56	186.81	4,057.75		4,317.81
7B	Fox-Olmes	1,009.87	50,809.91	1,009.87	22,718.26		28,091.65
7BA	Dome-Spaulding Mine		3,220.31		380.94		2,839.37
7BB	Fox-Steel Creek		855.75				855.75
7C	Summit-Fairbanks Creek	2,103.27	53,254.89	2,103.27	28,352.28		24,902.61
7CA	Summit-Fish Creek	199.76	16,561.15	199.76	3,780.33		12,780.82
7D	Ester Creek	3,131.49	85,005.60	3,131.49	46,348.67		38,656.93
7DA	College Spur	28.25	1,391.52	28.25	861.52		530.00
7DB	Ester-Dome	8.50	4,683.31	8.50	490.58		4,192.73
7DC	St. Patricks-Happy	231.71	7,116.57	231.71	1,047.10		6,069.47
7DD	Ester-Béglér	10.28	1,010.28	10.28	172.37		1,000.00
7E	Vault Creek 2		1,379.09		29.09		4,702.83
7F	Vault Creek-Treasure Creek 2		4,875.20				1,350.00
7G	Fairbanks-Gilmore	17,267.67	183,377.92	17,267.67	112,975.17		70,402.75
7GA	Lazelle Road	171.42	6,024.96	171.42	1,911.45		4,113.51
7H	Little Eldorado Creek	9,778.20	21,826.89	9,778.20	13,248.58		8,578.31
7I	Gilmore-Summit	7,667.30	54,187.23	7,667.30	35,023.91		19,163.32
7LA	Gilmore Creek 2		1,562.00				1,562.00
7J	Fairbanks-Chena Hot Springs	814.42	17,618.57	814.42	9,585.98		8,032.59
7JA	Chena River Branch	181.72	1,653.37	181.72	1,039.36		614.01
7JB	Palmer Creek Aviation Field	14.11	839.11	14.11	264.11		575.00
7JC	Colorado Creek-South Fork		600.00				600.00
7K	Olmes-Livengood	37,926.59	52,917.46		2,170.39	\$37,926.59	50,747.07
7N	Farmers-Birch Hill	776.71	25,414.36	776.71	11,012.39		14,401.97
7NA	Isabelle Creek		2,484.38		809.38		1,675.00
7NB	Ballaine-Rickert		1,926.76		126.76		1,800.00
7R	Goldstream-O'Connor Creek	399.00	553.64	399.00	399.00		154.64
7S	Graehl Bridges	469.47	4,894.79	469.47	1,844.43		3,050.36
7T	Farmers-Chena Slough	1,496.27	17,097.31	1,496.27	5,898.54		11,198.77
7V	Fairbanks, wireless		495.46		495.46		

7X	Chena Hot Springs Aviation Field		1,739.58		50.00		1,689.58
7Y	Fairbanks Aviation Field	14.11	19,969.33	14.11	498.11		19,471.22
7Z	Fairbanks Aviation Field Road		766.66				766.66
8	Nome-Council	10,593.80	422,411.60	10,593.80	243,028.64		179,382.96
8D	Council-Ophir Creek	1,195.68	7,804.82	1,195.68	7,804.82		
8H	Casa de Paga	175.50	32,357.27	175.50	14,917.62		17,439.65
8J	Shovel Creek		66.55		8.05		58.50
8K	Council Aviation Field	845.03	2,244.27	845.03	845.03		1,399.24
8L	Port safety aids	120.00	616.50		616.50		
9	Rampart-Eureka	1,091.92	52,312.66	1,091.92	23,198.30		29,114.36
10	Seward-Kenai Lake 1		80,783.93		34,523.10		46,260.83
10A	Seward-Radio 1		6,594.04		124.00		6,470.04
10B	Seward-Nash 1		21,996.00		8,753.70		13,242.30
10C	Lowell Creek flood control	701.71	124,663.54	701.71	11,424.92		113,238.62
10D	Seward Aviation Field	286.77	10,343.61		245.75	286.77	10,097.86
11A	Eagle-Liberty	7,237.09	119,083.46	3,507.09	65,660.91	3,730.00	53,422.55
11B	American Summit-Forty Mile	345.50	26,945.31	345.50	6,694.12		20,251.19
11C	Steel Creek, mouth of Walkers Fork	638.90	8,499.06	638.90	3,866.56		4,632.50
11D	Steel Creek-Walkers Fork	249.50	6,446.20	249.50	2,386.20		4,110.00
11E	Eagle-Seventy Mile	746.89	20,385.89	746.89	15,421.30		4,964.59
11F	Liberty-Chicken	1,815.55	17,439.74	1,815.55	13,425.47		4,014.27
11G	Steel Creek-Canyon Creek		914.00		914.00		
11J	Forty Mile-Chicken		44.75		44.75		
11K	Forty Mile-Steel Creek		80.00		80.00		
11L	Franklin-Chicken	117.00	1,843.75	117.00	1,843.75		
11M	Jack Wade-Walkers Fork-Boundary	165.87	290.87	165.87	290.87		
11N	Lillywig Creek		909.50				909.50
11P	Chicken Aviation Field	49.00	2,749.14	49.00	49.00		2,700.14
11Q	Eagle Aviation Field	443.48	2,762.98	443.48	742.23		2,020.75
12A	Mile 34-Lynx Creek 2		22,192.66		8,239.03		13,953.63
13A	Nome-Bessie	918.43	86,629.09	918.43	48,087.14		38,541.95
13B	Bessie-Snake River	5,127.84	82,475.02	5,127.84	52,941.90		29,533.12
13BA	Snake River-Monument Creek	371.38	1,788.65	371.38	371.38		1,417.27
13C	Bessie-Sunset Creek	16,674.63	36,414.10	1,242.00	15,141.82	15,432.63	21,772.28
13D	Bessie-Dry Creek 2		3,289.20		1,706.73		1,582.47
13E	Dry Creek-Newton 2		623.74		223.86		399.88
13F	Nome-Osborne	187.21	56,827.92	187.21	41,434.13		15,393.79
13G	Grass Gulch 2		1,125.73		398.94		726.79
13H	Center Creek 2		1,538.80		1,455.15		83.65
13J	Wonder-Flat Creek 2		2,803.72		2,633.22		170.50
13K	Bessie-Buster	563.89	53,836.81	563.89	36,332.83		17,503.98
13L	Nome buoys		585.00		585.00		
13M	Nome Depot	307.22	4,832.42	307.22	4,832.42		
14	Sitka-Indian River 1		9,610.88		3,336.16		6,274.72
14A	Sitka-Indian River	129.15	6,771.76	129.15	3,208.76		3,563.00
14B	Sitka National Monument	1,291.69	12,196.08	1,291.69	10,646.08		1,550.00
14C	Sitka National Cemetery	1,072.33	9,233.02	1,072.33	5,733.02		3,500.00
14D	Sitka-Pioneer Cemetery Road	45.00	4,399.16	45.00	1,058.14		3,341.02
15	National Cemetery Road	200.41	1,993.30	200.41	1,295.83		697.47
15A	Circle-Miller House	25,591.20	583,981.73	13,330.20	151,293.70	12,261.00	432,688.03
	Central House-Circle Hot Springs	884.52	32,181.54		884.52		22,300.70

1 Transferred to Department of Agriculture.

2 A abandoned.

Consolidated cost summary—Continued

No.	Subproject	Cost, 1932	Total cost to June 30, 1932	Cost maintenance and improvement, 1932	Total cost maintenance and improvement to June 30, 1932	Cost construction, 1932	Total cost construction to June 30, 1932
15B	Central House-Deadwood						
15C	Circle Hot Springs Aviation Field	\$8,160.92	\$12,051.88			\$8,160.92	\$12,051.88
15D	Leech cut-off	64.11	1,702.21	\$64.11	\$385.71		1,316.50
15E	Miller House spur		224.75				224.75
16	Chatanika-Miller House	206.05	2,206.22	206.05	335.69		1,870.53
16A	U. S. Creek Branch	98,687.12	752,743.38	41,160.00	217,134.87	57,527.12	535,608.51
16B	Eagle Creek spur	706.81	12,362.79	706.81	1,990.66		10,372.13
16C	Chatanika-Miller House (winter)		306.03		224.86		81.17
16D	Sourdough Creek Branch	71.78	23,262.11	71.78	8,647.37		14,614.74
17	Tanana-Kaltag	206.29	2,970.41	206.29	206.29		2,764.12
17A	Lewis Landing-Dishkaket ²	386.40	34,235.33	386.40	10,497.53		23,737.80
17B	Nulato-Dishkaket ²		483.37				483.37
17C	Nulato Aviation Field		735.88		250.00		485.88
17D	Tanana-Kaltag telephone line	14.13	5,026.02	14.13	14.13		5,011.89
18	Kaltag-Nome		6,683.59		6,683.59		28,137.39
18A	Bonanza-Kotzebue	1,758.09	70,535.17	1,758.09	42,397.73		1,230.00
18B	Golovin-Council	717.94	9,741.30	717.94	8,511.30		1,230.00
18D	Unalakleet Aviation Field	13.09	386.94	13.09	386.94		1,441.67
18E	Solomon Aviation Field	571.90	1,641.17	171.90	199.50	400.00	95.00
18F	Golovin Aviation Field	267.55	719.83	267.55	624.83		1,579.07
18G	Moses Aviation Field	167.80	1,751.97	167.80	172.90		225.00
18H	Kaltag-Unalakleet telephone line		254.20		29.20		287.50
18J	Spruce Creek		2,454.00		2,454.00		10,276.22
19	Kern Creek-Knik ²		287.50				6,833.20
19A	Kenai Lake-Kern Creek ²		13,891.95		3,615.73		741.66
19B	19B Mile 27, mile 29, A. N. R. R. ²		6,833.20				1,595.81
19C	Kenai Lake, mile 27, A. N. R. R. ²		741.66				3,758.26
19D	Kern Creek-Indian Creek ²		1,595.81				3,434.15
19E	Girdwood-Crow Creek ¹		3,758.26				8,437.44
20A	Knik-Susitna ²		4,434.15		2,542.50		629.59
20B	Susitna-Rainy Pass		8,437.44		629.59		7,807.85
20C	Rainy Pass-Big River		32,876.98		6,598.69		26,278.29
20D	Dishkaket-Kaltag ²		16,436.46		1,927.39		38.60
20DA	Takotna-Ophir (winter)		4,290.00		38.60		4,251.40
20DB	Ophir-Dishkaket	8.98	4,896.47	8.98	1,096.47		3,800.00
20E	Susitna-McDougal ²		4,335.00		760.00		3,575.00
20F	McDougal-Cache Creek ²		8,640.21		347.10		8,640.21
20G	Lakeview-McDougal ²		7,350.00				7,002.90
20H	Nancy-Susitna		3,675.00				3,675.00
20J	Susitna-Tyonek	1.00	2,773.36	1.00	2,773.36		2,643.93
20K	Susitna Aviation Field	51.40	4,122.45	51.40	1,478.52		931.10
21	Unalakleet-St. Michael		931.10				2,602.63

21A	St. Michael Aviation Field		110.00				110.00
22	Hot Springs-Sullivan Creek	354.00	60,168.37	354.00	32,344.53		27,823.84
23A	Snowshoe-Beaver		14,163.03		3,227.58		10,935.45
23B	Beaver-Caro	375.45	65,198.90	375.45	34,958.09		30,240.81
23C	Big Creek		9,614.77		3,294.77		6,320.00
23D	Caro-Flat Creek		16,517.56	1,233.94	12,494.30		4,023.26
23E	Caro-Coldfoot	1,233.94	13,157.46		5,607.59		7,559.87
23F	Chandalar Aviation Field		8,335.74		120.00		8,215.74
24	Mile 29, A. N. R. R.-Sunrise ¹		57,850.94		27,123.09		30,727.85
24A	Lynx Creek-Six Mile ¹		10,882.40		3,800.00		7,082.40
24B	Sunrise-Hope ¹		1,085.00		200.00		885.00
25A	Cripple River ²		8,801.79		3,743.82		5,057.97
25B	Penny River ²		1,967.08		691.05		1,276.03
25C	Nome wireless	202.02	3,638.64	202.02	1,873.73		1,764.91
25D	Mouth of Center Creek	286.66	26,229.45	286.66	18,728.38		7,501.07
25DA	Little Creek Branch	281.50	4,078.29	281.50	281.50		3,796.70
25E	Submarine Paystreak	437.90	35,556.33	437.90	11,186.00	6,477.34	24,370.33
25H	Otter Creek ²		1,802.52		652.98		1,149.54
25K	Nome City Dock		2,966.65				2,966.65
25L	Nome Aviation Field		8,982.43		5,459.73		3,522.70
25M	Telephone lines, Seward Peninsula	2,062.27	13,149.20	2,062.27	11,449.20		1,700.00
25N	Nome city streets		1,319.57		1,319.57		1,700.00
25P	Nome Harbor lights	173.81	815.29	173.81	815.29		6,477.34
25R	Radio telephones	6,477.34	6,477.34			6,477.34	34,994.07
26	Candle-Candle Creek	2,642.88	83,480.75	2,642.88	48,486.68		34,994.07
26A	Kugruk River approach ²		488.00		488.00		340.00
26B	Bear Creek Trail		613.09		273.09		340.00
26C	Candle-Kiwalik		1,027.91				1,027.91
26D	Kiwalik Aviation Field	432.40	873.50	432.40	573.50		300.00
26E	Candle Aviation Field		1,355.00				1,355.00
26F	Telephone line reconnaissance		148.00		148.00		575.00
26G	Candle radio road		575.00				30,891.90
27	Deering-Inmachuk	4,654.79	99,914.28	4,654.79	69,022.38		1,022.00
27A	Deering Aviation Field	10.40	1,159.65	10.40	137.65		8,207.02
28	Shelton-Candle	100.84	12,368.89	100.84	4,161.87		5,239.00
28A	Nome-Serpentine Hot Springs	2,546.36	15,994.93	2,546.36	10,755.93		7,012.11
29	Tanana-Bettles	81.52	12,252.29	81.52	5,240.18		5,130.00
29A	Bettles-Coldfoot	2,334.84	18,734.89	2,334.84	13,604.89		1,708.57
29C	Mile 70-Hughes		2,167.02		458.45		500.00
29D	Wild River Trail		1,425.76		1,425.76		20,425.81
29E	Bettles River Aviation Field		500.00				4,309.26
30	Hot Spring Landing-Eureka	5,826.11	76,263.16	5,826.11	55,837.35		1,140.00
30A	Hot Springs-Toffy		6,683.47		2,374.21		8,580.92
30B	Manley Hot Springs Aviation Field	24.98	1,189.98	24.98	49.98		5,437.29
31	Caribou Creek		13,634.62		5,053.70		
32A	Takotna-Flat (summer)		9,247.94		3,810.65		
32AA	Takotna-Flat (via Moore Creek)	62.89	123.83	62.89	123.83		
32AB	Flat-Moore Creek		15.00		15.00		
32AC	Candle Creek-Takotna		1,216.09		1,216.09		
32B	Iditarod-Flat		120,589.49	3,660.50	64,703.22		55,886.27
32BA	Iditarod River improvement	3,660.50	100.00	3,660.50			100.00

¹ Transferred to Department of Agriculture.

² Abandoned.

Consolidated cost summary—Continued

No.	Subproject	Cost, 1932	Total cost to June 30, 1932	Cost maintenance and improvement, 1932	Total cost maintenance and improvement to June 30, 1932	Cost construction, 1932	Total cost construction to June 30, 1932
32C	Ophir-Iditarod						
32D	Flat-Crooked Creek	\$53.91	\$7,747.26	\$53.91	\$2,747.26		\$5,000.00
32DD	Flat-Georgetown	391.78	5,932.57	391.78	4,452.57		1,480.00
32E	Takotna Aviation Field		150.00		150.00		
32F	Takotna Depot	1,479.25	3,859.87		437.43	\$1,479.25	3,422.44
33A	Otter Creek Towpath ²	3,235.01	13,064.12	3,235.01	5,454.85		7,609.27
33B	Summit-Otter Creek		448.23				448.23
33C	Flat City-Flat Creek		5,047.66		5,047.66		
33D	Head Flat Creek-Willow Creek	741.53	4,754.68	741.53	4,754.68		
33E	Willow Creek-Chicken Creek	1,507.13	7,241.88	1,507.13	5,998.88		1,243.00
33F	Flat City-Otter Discovery	3,022.35	7,108.19	3,022.35	7,608.19		1,500.00
33G	Candle Landing-Candle Creek	3,503.62	20,665.29	1,500.00	8,850.59	2,003.62	11,814.70
33H	Flat Aviation Field		6,572.00		975.00		5,597.00
34	Iditarod-Dishkaket ²	223.42	3,123.42	223.42	223.42		2,900.00
34A	Flat-Holy Cross-Anvik		4,330.98		100.00		4,730.98
34B	Iditarod-Shageluk-Anvik	118.48	1,920.14	118.48	1,920.14		
35A	Archangel extension	89.91	1,123.78	89.91	623.78		500.00
35AA	Sherry Branch	296.08	31,113.28	296.08	13,915.36		17,197.92
35AB	Fairangel extension		1,768.49		649.17		1,119.32
35B	Palmer-Fishhook		104.20				104.20
35C	Palmer-Matanuska River	93.40	38,892.28	93.40	14,204.36		24,687.92
35D	Willow Creek extension	31.17	34,702.33	31.17	11,046.17		23,656.16
35DA	Gold Chord Branch	3,190.34	108,868.29	3,190.34	70,734.15		38,134.14
35DB	Lucky Shot-St. Peters	179.21	11,617.49	179.21	1,026.25		10,591.24
35E	Wasilla-Fishhook	28,544.59	54,341.28			28,544.59	54,341.28
35F	Wasilla-Knik	3,619.90	127,167.24	3,619.90	93,754.61		33,412.63
35G	Palmer-Springer	243.98	52,346.51	243.98	25,911.04		26,435.47
35H	Wasilla-Finger Lake-Palmer	97.82	3,173.76	97.82	1,600.44		1,573.32
35I	Moose-Palmer	2,110.85	39,280.38	2,110.85	17,223.15		19,057.23
35J	Wasilla-Matanuska	133.95	2,520.62	133.95	627.53		1,893.09
35K	Matanuska Trunk Road	616.82	26,388.58	616.82	17,107.35		9,276.23
35L	Palmer-Matanuska	7,419.23	47,366.38	7,419.23	32,314.92		15,051.46
35N	Houston-Willow Creek	345.98	15,579.65	345.98	7,174.95		8,404.70
35O	Fishhook-Goldmint		1,212.32		272.00		940.32
35P	Moose Creek-Baxter ²	2,407.79	24,982.28	2,407.79	7,445.45		17,536.83
35Q	Edlund Road		2,218.62				2,218.62
35R	Bogard Road	63.73	3,153.02	63.73	601.33		2,551.69
35RA	Engstrom Road	84.89	13,514.11	84.89	1,285.53		12,228.58
35S	Moose Creek Trail		1,020.00				1,020.00
35T	Werner connection		2,118.44		77.43		2,041.01
35U	Moose Creek Aviation Field		486.94				486.94
35V	Fishhook Aviation Field		481.75		20.25		461.50
			917.49		68.75		848.74

35W	Wasilla Aviation Field		459.50				459.50
35X	Wasilla Aviation Field Road	22.45	1,191.11	22.45	55.17		1,135.94
36	Mineral Creek	257.64	60,633.37	257.64	25,318.36		35,315.01
36A	Granby Road		3,431.35		349.44		3,081.91
36B	South Second Street, Cordova		3,373.15				3,373.15
36C	Eyak Lake Road ¹		7,735.85				7,735.85
36CA	Cordova Aviation Field		941.90		15.75		926.15
36D	Valdez-Quartz Creek ²		524.75				524.75
36E	Valdez-Glacier ²		616.91				616.91
36F	Shoups Bay ²		3,457.25				3,457.25
37	Topkok-Candle		1,026.56		210.00		816.56
37A	Bluff-White Mountain		3,273.23				3,273.23
37B	Bluff Aviation Field		50.00				50.00
38A	Ruby-Long	10,413.65	237,807.24	10,413.65	105,786.89		132,020.35
38B	Poorman-Cripple	307.20	3,757.04	307.20	2,254.08		1,502.96
38C	Ophir-Cripple	44.15	4,001.58	44.15	2,102.53		1,899.00
38D	Ophir-Takotna	7,204.47	264,146.31	7,204.47	89,638.81		174,507.50
38DA	Little Creek Road		13,185.52		2,537.45		10,648.04
38E	Long-Poorman	7,588.85	158,145.17	7,588.85	40,952.61		117,192.56
38EE	Long-Poorman (winter)		5,378.00		110.00		5,268.00
38EEE	Tamarack-Poorman		22,322.69				22,322.69
38F	Poorman-Ophir		3,030.44		3,030.44		
38G	Takotna Aviation Field Road	559.56	8,934.24		1,000.00	559.56	7,934.24
38H	Ganes Creek Road	3,515.50	14,930.71	3,515.50	11,526.86		3,403.85
38K	Ruby Aviation Field	23.76	2,098.51	23.76	898.51		1,200.00
38L	Ruby Aviation Field Road		500.00				500.00
38M	Ophir Aviation Field		1,825.12				1,825.12
39	Juneau-Sheep Creek ¹		45,929.40		20,539.27		25,390.13
40	Douglas-Gastineau Channel ¹		18,616.56		6,596.68		12,019.88
41	Kiana-Klery Creek	146.87	3,905.94	146.87	891.18		3,014.76
41A	Kotzebue-Shungnak	245.13	3,993.31	245.13	3,993.31		
41AA	Kiana-Selawik-Shungnak	791.40	791.40			791.40	791.40
41B	Kotzebue-Point Barrow	147.57	6,065.59	147.57	1,665.57		4,400.02
41C	Kiwalik-Noorvik	454.25	454.25				454.25
41D	Kotzebue Aviation Field	110.40	1,955.45	110.40	537.90		1,417.55
41E	Kobuk Aviation Field	300.00	2,299.00			300.00	2,299.00
42	St. Michael-Kotlik		2,385.51		2,385.51		
43	Petersburg-Scow Bay ¹		23,466.23		9,968.56		13,497.67
44	Skagway Valley ¹		11,124.83		2,320.88		8,803.95
44A	Skagway Trails	1,899.53	17,833.41	1,899.53	6,674.70		11,158.71
44B	Skagway Aviation Field	263.34	7,048.87	263.34	263.34		6,785.53
45	Silver Bow Basin ¹		23,466.21		17,527.59		5,938.62
46	Kobi-Eureka	94.74	16,437.54	94.74	3,865.91		12,571.63
46A	Roosevelt-Kantishna		61,686.53		19,723.84		41,962.69
46B	Lignite-Kantishna		13,130.00		1,163.09		11,966.91
46C	Nenana-Knights Roadhouse	157.30	3,651.03	157.30	2,058.45		1,592.58
46D	McKinley Park Road	96,237.79	721,437.38	25,194.94	87,907.23	71,042.85	633,530.10
46E	Diamond-Telida	69.70	10,276.40	69.70	3,464.84		6,811.56
46F	Nenana Cemetery Road	47.70	7,606.51	47.70	3,787.88		3,818.63
46G	Kobi-Bonnifield		5,767.51		60.90		5,706.61
46H	Lake Minchumina Aviation Field	14.11	914.11	14.11	164.11		750.00

¹ Transferred to Department of Agriculture.

² Abandoned.

Consolidated cost summary—Continued

No.	Subproject	Cost, 1932	Total cost to June 30, 1932	Cost maintenance and improvement, 1932	Total cost maintenance and improvement to June 30, 1932	Cost construction, 1932	Total cost construction to June 30, 1932
46J	Kantishna Aviation Field		\$775.00		\$100.00		\$875.00
46K	Telida Aviation Field		850.00		250.00		600.00
46M	Nenana Aviation Field	\$65.48	1,108.04	\$65.48	388.04		720.00
47	Coldfoot-Wiseman	83.48	16,255.34	83.48	7,312.77		8,942.61
47A	Wiseman Aviation Field	623.33	6,434.02	623.33	2,320.77		4,113.25
47B	Nolan Branch	3,808.67	25,729.83	2,608.67	7,095.09	\$1,200.00	18,634.74
47C	Wiseman-Hammond	856.42	7,897.70	856.42	3,930.63		3,967.07
48	Iliamna Bay-Iliamna Lake	14,738.49	71,749.37	3,000.00	7,506.46	11,738.49	64,242.91
49	Davidsons Landing-Taylor	1,518.16	19,930.25	1,518.16	12,217.08		7,713.17
50	Stikine River ¹		2,256.75				2,256.75
51	Talkeetna-Cache Creek	10,329.54	277,143.09	10,329.54	111,803.74		165,339.35
51A	Cache Creek Trail		4,553.11		2,283.11		2,270.00
51B	Peters Creek Trail	2,281.07	14,632.70		2,144.81	2,281.07	12,487.89
51C	Yentna-Mills Creek		5,174.80		44.36		5,130.44
51E	Mills Creek-Cache Creek	107.22	2,253.83	107.22	946.38		1,307.45
51F	Cache Creek Aviation Field		179.90				179.90
52	Ketchikan-Wards Cove ¹		26,120.42		5,000.00		21,120.42
52A	Ketchikan-Charcoal Point ¹		15,500.48		3,000.00		12,500.48
53	Eagle-Circle		5,846.59		4,161.87		1,684.72
53A	Circle-Fort Yukon	77.00	7,929.98	77.00	3,763.41		4,166.57
53B	Fort Yukon Aviation Field	14.11	3,098.00	14.11	537.11		2,540.89
54	Chisana-Nizina	337.16	10,303.37	337.16	2,976.07		7,327.30
54A	Chisana Aviation Field		1,744.63		250.00		1,494.63
54B	Nabesna Aviation Field		2,001.48		524.90		1,476.58
55	Kenai-Russian River	1.00	14,186.58	1.00	7,627.32		6,559.26
55A	Kenai Aviation Field		901.51				901.51
56	Tasnuma ²		1,058.14				1,058.14
56B	Katalla-Chilkat ²		7,752.56				7,752.56
57	McCarthy-Dan Creek	13,642.91	230,544.32	7,642.91	79,192.09	6,000.00	151,352.23
57A	Nizina River Bridge	774.63	168,749.63	774.63	42,807.83		125,941.80
57B	Nizina-Chitina River	1,438.01	7,726.62		888.04	1,438.01	6,838.58
57C	McCarthy-Kennecott River	75.00	516.27	75.00	516.27		
57D	Chititu Branch	221.29	7,865.42	221.29	1,636.94		6,228.48
57E	McCarthy-Green Butte		2,178.42		2,178.42		
57F	McCarthy Aviation Field		2,925.11		344.23		2,580.88
57G	Copper Creek Trail		301.98				301.98
57H	Chitina River Aviation Field		735.00				735.00
58	Hyder-Salmon River ¹		63.50				63.50
59	Fairbanks Bridge	227.14	73,947.03	227.14	12,247.73		61,699.30
59A	Fairbanks Depot	5,380.51	29,463.84	1,180.51	6,453.84	4,200.00	23,010.00
60A	Valdez Aviation Field		2,558.24		206.59		2,351.65

60B	Upper Tonsina Aviation Field		1,747.47		47.50		1,699.97
61	Strelina-Kuskulana		17,106.28		4,569.73		12,536.55
61A	Kotsina Trail		16,095.29		1,523.74		14,571.55
61B	Nugget Creek extension		1,630.00		1,630.00		
61C	Elliot-Kotsina ²		6,858.42				6,858.42
61E	Farnan Trail		941.96		15.80		926.16
61F	Bremner Trail	1,695.49	5,215.47		46.73	1,695.49	5,168.74
61G	Bremner Aviation Field	500.00	500.00			500.00	500.00
62	Dime Creek	1,172.34	78,869.24	1,172.34	35,166.28		43,702.96
62A	Haycock-Bear Creek		517.82		301.82		216.00
62B	Haycock Aviation Field	2,010.40	2,115.40			2,010.40	2,115.40
62C	Koyuk Aviation Field	285.90	312.98	285.90	285.90		27.08
63	Dunbar-Brooks	115.64	31,525.72	115.64	12,296.13		19,229.59
63B	Brooks-Livengood Creek	191.50	33,223.88	191.50	13,159.02		20,064.86
63BA	Amy Creek Branch		2,368.45		300.00		2,068.45
63C	Brooks Tram ²		63,455.39		45,144.09		18,311.30
63D	Brooks Aviation Field Road		713.00				713.00
63E	Livengood Aviation Field	164.12	2,778.87	164.12	624.87		2,154.00
64	Cripple-Lewis Landing ²		100.00		100.00		
64A	Cripple-Cripple Mountain		553.65		261.65		292.00
64AA	Cripple-Cripple Mountain (winter)	8.98	860.03	8.98	248.98		611.05
65A	Gulkana-Chistochina	46,191.00	350,435.66	22,101.00	82,572.16	24,090.00	267,863.50
65B	Chistochina-Slate Creek	2,946.18	7,132.91		109.50	2,946.18	7,023.41
65C	Chistochina-Slana	77,097.55	126,274.51	5,006.00	5,098.20	72,091.55	121,176.31
65D	Kechumstuk-Tanana Crossing		1,669.82		1,669.82		
65E	Chicken-Kechumstuk		1,663.50		1,663.50		
65F	Grundler-Tanana Crossing	176.90	12,174.17	176.90	2,801.46		9,372.71
65G	Slana-Chisana	4,384.91	16,717.89		980.12	4,384.91	15,737.77
65H	Tanana Crossing Aviation Field		550.00				550.00
65K	Chistochina Aviation Field		2,067.97				2,067.97
66	Matanuska-Chickaloon ²		1,268.30				1,268.30
67	Nome-Teller	960.89	11,497.69	960.89	11,197.69		300.00
67A	Teller-Cape Prince of Wales	27.90	2,970.98	27.90	2,970.98		
67B	Teller-Bluestone	1,694.13	11,950.27	1,694.13	6,273.82		5,676.45
67C	Teller-Pilgrim Hot Springs	21.55	3,138.05	21.55	1,338.05		1,800.00
67D	Teller-American River		906.34		56.67		849.67
67E	Teller Aviation Field	110.40	1,071.20	110.40	318.40		752.80
67F	Tin City-Goodwin	292.50	2,659.42	292.50	561.60		2,097.82
67G	Lost River Aviation Field		121.40				121.40
67H	Wales Aviation Field		121.40				121.40
67J	Woolley-Gold Run	4.25	29.25	4.25	29.25		
68	Flagging trails	1,895.94	98,835.12	1,895.94	98,835.12		
70	Miscellaneous surveys and reconnaissances	6,159.72	21,503.84		1,038.76	6,159.72	20,465.08
72	Wrangell oil dock ¹		4,964.97				4,964.97
72A	Wrangell Cemetery Road ¹		8,639.22		2,350.00		6,289.22
73	Marshall Road	1,162.48	23,569.93	241.48	8,090.83	921.00	15,479.05
73A	Kotlik-Marshall	82.15	3,614.65	82.15	2,764.65		850.00
73B	Stuyahok		1,660.00				1,660.00
73C	Old Hamilton-Scammon Bay	62.00	2,440.18	62.00	586.73		1,853.45
73D	Marshall Aviation Field	100.00	2,100.00		100.00		2,000.00
75	Anchorage Loop	7,756.55	121,541.34	7,756.55	64,537.55		57,003.79

¹ Transferred to Department of Agriculture.

² Abandoned.

Consolidated cost summary—Continued

No.	Subproject	Cost, 1932	Total cost to June 30, 1932	Cost maintenance and improvement, 1932	Total cost maintenance and improvement to June 30, 1932	Cost construction, 1932	Total cost construction to June 30, 1932
75A	Anchorage-Lake Spenard	\$1,968.20	\$21,942.81	\$1,968.20	\$11,932.58		\$10,010.23
75C	Chester Creek boat landing	122.90	1,341.18	122.90	558.76		782.42
75D	Anchorage Depot	161.27	7,383.93	161.27	3,417.53		3,966.35
75E	McDonald Road	165.18	2,820.03	165.18	1,714.90		1,105.13
75G	East First Street, Anchorage ²		1,023.46				1,023.46
75H	Lake Spenard Aviation Field		277.45				277.45
75I	Oilwell Road	902.99	7,297.77	902.99	2,707.73		4,589.99
75J	Anchorage Aviation Field	154.20	4,768.20	154.20	154.20		4,614.00
75L	Anchorage Loop-Eklutna	192.29	2,717.75	192.29	192.29		2,525.46
75M	Anchorage Radio Road		448.09				448.09
76	Cantwell-Valdez Creek		10,793.95		2,953.75		7,840.20
76A	Valdez Creek Aviation Field		1,337.10				1,337.10
78	Valdez Depot		5,266.56		5,266.56		
79	Seward Depot	57.50	4,171.55	57.50	4,171.55		
80A	McGrath-Takotna		368.05		368.05		
80AA	McGrath-Takotna (winter)	137.80	5,075.15	137.80	2,893.15		2,182.00
80B	McGrath-Telida	253.74	12,376.59	253.74	5,198.33		7,178.21
80C	McGrath-Candle Creek		305.29		305.29		
80D	Nixon Fork-Nixon Mine	36.78	2,384.78	36.78	36.78		2,348.00
80E	Takotna-Twin Peaks		213.16		100.00		113.16
80F	Medfra-Nixon Mine	93.60	3,553.20	93.60	1,753.20		1,800.00
80G	Takotna-Nixon Fork		610.56		610.56		
80GG	Takotna-Nixon Fork (winter)		183.16		183.16		
80H	McGrath Aviation Field	63.50	14,409.93	63.50	63.50		14,346.43
80J	Medfra Aviation Field		345.00		60.00		285.00
81	Good Creek-Salmon River	255.10	13,984.03	255.10	3,993.89		9,990.14
81A	Rink River		1,550.00				1,550.00
82	Taku River ¹		20,208.95				20,208.95
84	Fairbanks-Council survey		41,528.75				41,528.75
86	Fourth of July Creek	556.60	4,751.26	556.60	3,590.03		1,161.23
87	Woodchopper Creek		872.00		810.00		62.00
88	Ferry-Eva Creek	7,008.65	28,175.53	7,008.65	9,815.64		18,359.89
89	Kougarok reconnaissance		4,312.11				4,312.11
89A	Seward Peninsula Railroad	12,200.94	197,540.06	12,200.94	133,000.14		64,539.92
89B	Pilgrim Aviation Field	10.40	1,126.40	10.40	410.40		716.00
89C	Iron Creek-American Creek	292.50	2,478.67	292.50	723.75		1,754.92
90A	Shelter cabins, first division		340.35				340.35
90B	Shelter cabins, second division	1,424.03	39,197.96	1,040.70	7,286.66	\$383.33	31,911.30
90C	Shelter cabins, third division	21.55	24,720.02	21.55	2,328.90		22,391.12
90D	Shelter cabins, fourth division	1,254.30	42,449.33	504.30	5,495.15	750.00	36,954.18
91	Yakutat ¹		50.55				50.55
92A	Bethel-Quinhagak	268.00	2,979.21	268.00	1,181.71		1,797.50
92B	Bethel-Tuluksak	966.89	3,755.13	966.89	2,276.65		1,478.48
92C	Akiak-Russian Mission	150.75	1,734.75	150.75	150.75		1,584.00
92D	Bennett's cut-off		396.00				396.00
92E	Yukon-Kuskokwim portage	89.83	27,541.66	89.83	1,025.68		26,515.98
92F	Quinhagak-Goodnews Bay	80.86	2,863.27	80.86	445.50		2,417.77
92G	Goodnews Bay-Togiak		2,428.57		225.24		2,203.33
92H	Togiak-Nusbagak		8,492.98		4,300.82		4,192.16
92I	Lewis Point-Naknek	382.56	4,171.66	382.56	1,539.32		2,632.34
92J	Naknek-Egegik	166.34	2,982.84	166.34	877.84		2,105.00
92K	Egegik-Kanatak		1,168.50		818.50		350.00
92L	Crooked Creek-Akiak	196.56	1,949.74	196.56	1,129.74		820.00
92M	Akiak-Tuluksak	205.04	3,927.35	205.04	1,412.39		2,514.96
92N	Akiak-Canyon Creek		306.00		306.00		
92O	Tuluksak-Foothills	27.80	1,471.94	27.80	286.82		1,185.12
92P	Holy Cross-Kaltshak	242.67	1,362.77	242.67	862.77		500.00
92Q	Upper Landing-Bear Creek	2,691.04	8,219.02	2,691.04	4,119.02		4,100.00
92R	Dillingham-Snag Point	14,511.27	16,417.58			14,511.27	16,417.58
93	Chulitna Trail	72.00	8,899.44	72.00	1,943.00		6,956.44
93A	Bull River Trail		4,515.60		933.28		3,582.32
93B	Indian River		6,579.63		13.40		6,566.23
93C	Curry Aviation Field	3.84	4,221.05	3.84	844.45		3,376.60
93D	Chulitna tram	3.84	523.71	3.84	3.34		520.37
93E	Hidden River tram	135.92	135.92			135.92	135.92
94	Kodiak-Aberts	2,171.85	62,619.07	2,171.85	15,810.56		46,808.51
95	Kanatak-Becharof Lake		30,276.74		6,394.43		23,882.31
95B	Larsen Bay-Karluk River		962.05				962.05
96	Chickaloon-King River	37.00	1,870.68	37.00	1,070.68		800.00
96A	Chickaloon cable	20.22	404.44	20.22	152.15		272.29
96B	Chickaloon-Nelchina	366.66	8,283.83	366.66	783.46		7,500.37
97	Suntrana footbridge		413.80				413.80
97A	Healy Aviation Field		491.79				491.79
98	Homer Spit	250.45	37,474.75	250.45	4,605.00		32,869.75
98A	Nuka Bay		5,757.75		2,106.77		3,650.98
98B	Ninilchik Aviation Field		384.18				384.18
98C	Kasilof Aviation Field		674.52				674.52
98D	Kasilof Road	1,012.10	18,158.45	1,012.10	1,012.10		17,146.35
100	Office and general overhead	30,483.65	580,323.26	19,242.31	307,483.97	11,241.34	272,839.29
101	Territorial general overhead		71,521.31		31,584.89		39,936.42
	Total costs	1,122,750.79	³ 18,948,129.03	678,803.87	8,669,576.71	443,946.92	10,278,552.32
110	Book value of plant	39,500.25	90,347.56				
111	Supplies and materials on hand	44,219.76	206,629.27				
	Total expenditures	⁴ 1,039,030.78	19,245,105.86				

¹ Transferred to Department of Agriculture.

² Abandoned.

³ Includes \$932,280.46 of supervised funds.

⁴ Includes \$1,312.40 General Accounting Office settlements. Does not include \$3,858.13 reimbursements and receipts from sales.

Costs in detail, Territorial and cooperative projects

(Included in preceding table)

FIRST DIVISION

Ac- count No.	Name of subproject	Federal	Territorial	Total
2E	Gastineau Channel Bar		\$240.00	\$240.00
2H	Juneau Wharf		275.01	275.01
2J	Juneau Float		45.38	45.38
3A	Haines-Wells	\$524.12	5,520.15	6,044.27
3B	Pleasant Camp extension	460.00	5,225.68	5,685.68
3D	Haines-Mud Bay	15.00	100.75	115.75
3E	Haines-Chilkoot		116.14	116.14
3F	Haines-Jones Point		34.75	34.75
3G	Chilkoot Barracks water supply		28,344.60	28,344.60
3H	Chilkoot Barracks roads	\$1,252.50		1,252.50
14	Sitka-Indian River	15.00	114.15	129.15
14A	Sitka National Monument	179.01	1,112.68	1,291.69
14B	Sitka National Cemetery	\$1,072.33		1,072.33
14C	Pioneer Cemetery Road		45.00	45.00
14D	National Cemetery Road	20.00	180.41	200.41
44A	Skagway trails	170.00	1,729.53	1,899.53
44B	Skagway Aviation Field		263.34	263.34
81	Good Creek-Salmon River	25.00	230.10	255.10
	Total	3,732.96	43,577.67	47,310.63

SECOND DIVISION

8	Nome-Council	\$6,457.30	\$4,136.50	\$10,593.80
8D	Council-Ophir	645.68	550.00	1,195.68
8H	Casa de Paga Road	55.20	175.50	230.70
8K	Council Aviation Field		845.03	845.03
8L	Port safety aids		120.00	120.00
13A	Nome-Bessie	498.43	420.00	918.43
13B	Bessie-Snake River	2,777.84	2,350.00	5,127.84
13BA	Snake River-Monument Creek	201.38	170.00	371.38
13C	Bessie-Sunset Creek	2,540.63	14,134.00	16,674.63
13F	Nome-Osborne	101.21	86.00	187.21
13K	Bessie-Buster	355.39	258.50	613.89
18	Kaltag-Nome	952.89	805.20	1,758.09
18A	Bonanza-Kotzebue	387.94	330.00	717.94
18B	Golovin-Council	7.09	6.00	13.09
18D	Unalakleet Aviation Field		571.90	571.90
18E	Solomon Aviation Field		267.55	267.55
18F	Golovin Aviation Field		167.80	167.80
25C	Nome wireless	107.02	95.00	202.02
25D	Center Creek Road	154.66	132.00	286.66
25DA	Little Creek Branch		281.50	281.50
25E	Submarine-Paystreak	232.90	205.00	437.90
25L	Nome Aviation Field		2,062.27	2,062.27
25P	Nome Harbor lights		173.81	173.81
25R	Radio telephones		6,477.34	6,477.34
26	Candle-Candle Creek	1,431.88	1,211.00	2,642.88
26D	Kiwalik Aviation Field		432.40	432.40
27	Deering-Inmachuk	2,520.79	2,134.00	4,654.79
27A	Deering Aviation Field		10.40	10.40
28	Shelton-Candle	54.84	46.00	100.84
28A	Nome-Serpentine Hot Springs	1,376.36	1,170.00	2,546.36
41	Kiana-Klery Creek	79.87	67.00	146.87
41A	Kotzebue-Shungnak	130.13	115.00	245.13
41AA	Kiana-Selawik-Shungnak	428.40	363.00	791.40
41B	Kotzebue-Point Barrow	79.57	68.00	147.57
41C	Kiwalik-Noorvik	244.25	210.00	454.25
41D	Kotzebue Aviation Field		110.40	110.40
41E	Kobuk Aviation Field		300.00	300.00
49	Davidson's Landing-Taylor	818.16	700.00	1,518.16
62	Dime Creek	632.34	540.00	1,172.34
62B	Haycock Aviation Field		2,010.40	2,010.40
62C	Koyuk Aviation Field		285.50	285.50
67	Nome-Teller	520.89	440.00	960.89
67A	Teller-Cape Prince of Wales	14.90	13.00	27.90
67B	Teller-Bluestone	914.13	780.00	1,694.13

¹ Contributed by the Bureau of Fisheries, U. S. Forest Service, and the Alaska Game Commission.

² Funds provided by quartermaster, Chilkoot Barracks.

³ Allotted by quartermaster, Ninth Corps Area.

⁴ Contributed by National Park Service.

⁵ Allotted by Quartermaster General of the Army.

⁶ Contributed by the U. S. Lighthouse Service.

⁷ Contributed by Hammon Goldfields Consolidated.

⁸ Includes \$97.98 contributed by Northern Air Transport.

Costs in detail, Territorial and cooperative projects—Continued

SECOND DIVISION—Continued

Ac- count No.	Name of subproject	Federal	Territorial	Total
67C	Teller-Pilgrim Hot Springs	\$11.55	\$10.00	\$21.55
67E	Teller Aviation Field		110.40	110.40
67F	Tin City-Goodwin	180.30	132.20	262.50
67J	Wooley-Gold Run	2.50	1.75	4.25
68	Flagging trails	1,026.94	869.00	1,895.94
73	Marshall Road	486.00	486.48	1,162.48
73A	Kotlik Marshall	44.15	38.00	82.15
73C	Scammon Bay Trail	34.00	28.00	62.00
73D	Marshall Aviation Field		100.00	100.00
89A	Seward Peninsula Railroad	12,200.94		12,200.94
89B	Pilgrim Aviation Field		10.40	10.40
89C	Iron Creek-American Creek	160.30		160.30
90B	Shelter cabins		1,424.03	1,424.03
	Total	39,028.75	49,074.66	88,103.41

THIRD DIVISION

4BA	Valdez-Ptarmigan drop, dyke	\$12,123.68	\$15,000.00	\$27,123.68
6G	Copper Center Aviation Field		9.09	9.09
10D	Seward Aviation Field		286.77	286.77
35B	Palmer-Fishhook	82.40	11.00	93.40
35C	Palmer-Matanuska River	27.17	4.00	31.17
35DA	Gold Chord Branch	159.21	20.00	179.21
35DB	Lucky Shot-Willow Station	21,610.95	\$6,933.64	28,544.59
35G	Palmer-Springer		97.82	97.82
35H	Wasilla-Palmer	1,875.85	235.00	2,110.85
35I	Moose Creek Road		133.95	133.95
35J	Wasilla-Matanuska	546.82	70.00	616.82
35K	Matanuska Trunk Road	6,394.23	1,025.00	7,419.23
35L	Palmer-Matanuska		345.98	345.98
35O	Fishhook-Goldmint	2,137.79	67.00	2,407.79
35Q	Edlund Road		63.73	63.73
35R	Bogard Road		84.89	84.89
35X	Wasilla Aviation Field Road		22.45	22.45
36	Valdez-Mineral Creek	228.67	29.00	257.67
51B	Peters Creek Trail	2,031.07	10,250.00	12,281.07
57	McCarthy-Dan Creek	11,617.91	2,025.00	13,642.91
57A	Nizina Bridge	774.63		774.63
57B	Chitina River Trail	1,278.01	1,065.00	2,343.01
57D	Chititu Branch	196.29	25.00	221.29
61F	Bremner Trail	1,505.49	190.00	1,695.49
61G	Bremner Aviation Field		500.00	500.00
70	Surveys and reconnaissances	152.10	11,150.00	11,302.10
75	Anchorage Loop	6,686.55	12,107.00	18,793.55
75A	Anchorage-Lake Spenard		1,968.20	1,968.20
75C	Chester Creek boat landing		122.90	122.90
75E	McDonald Branch	145.18	20.00	165.18
75I	Oilwell Road		902.99	902.99
75J	Anchorage Aviation Field		154.20	154.20
75L	Anchorage Loop-Eklutna		192.29	192.29
90C	Shelter cabins		21.55	21.55
92R	Dillingham-Snag Point	12,361.27	2,150.00	14,511.27
98	Homer Spit	220.45	30.00	250.45
98D	Kasilof Road		1,012.10	1,012.10
	Total	82,155.72	35,586.55	117,742.27

FOURTH DIVISION

4AB	Donnelly Aviation Field		\$14.11	\$14.11
5E	Tanana Aviation Field		189.76	189.76
7AA	Cleary Creek Road		1386.81	1386.81
7B	Fox-Olnes	\$659.87	350.00	1,009.87
7C	Summit-Fairbanks Creek		2,103.27	2,103.27
7CA	Summit-Fish Creek		199.76	199.76
7D	Fairbanks-Ester	1,448.88	14,682.61	16,131.49
7DA	College Spur		28.25	28.25
7DB	Ester Dome		8.50	8.50
7DC	St. Patrick's-Happy		231.71	231.71

⁹ Includes \$5,000 contributed by Willow Creek Mining Co.

¹⁰ Contributed by Peters Creek Placer Co.

¹¹ Contributed by Whitney & Lass.

¹² Includes \$15 contributed by C. W. Smith.

¹³ Includes \$32 contributed by Cleary Hill Alaska Mines Co.

¹⁴ Includes \$952.61 miscellaneous contributions.

Costs in detail, Territorial and cooperative projects—Continued

FOURTH DIVISION—Continued

Ac-count No.	Name of subproject	Federal	Territorial	Total
7DD	Ester-Beegler		\$10.28	\$10.28
7GA	Lazelle Road		171.42	171.42
7H	Little Eldorado Road	\$6,249.20	3,529.00	9,778.20
7J	Fairbanks-Chena Hot Springs	539.42	275.00	814.42
7JA	Chena River Branch	116.72	65.00	181.72
7JB	Palmer Creek Aviation Field		14.11	14.11
7K	Olmes-Livengood	37,011.62	914.97	37,926.59
7N	Farmers-Birch Hill		776.71	776.71
7S	Graehl Bridges		469.47	469.47
7T	Farmers-Chena Slough		1,496.27	1,496.27
7Y	Fairbanks-Aviation Field		14.11	14.11
9	Rampart-Eureka	721.92	370.00	1,091.92
11P	Chicken Aviation Field		49.00	49.00
11Q	Eagle Aviation Field		443.48	443.48
15A	Central House-Circle Hot Springs	584.52	300.00	884.52
15B	Deadwood Creek	5,050.92	3,110.00	8,160.92
15C	Circle Hot Springs Aviation Field		64.11	64.11
15E	Miller House Spur		206.05	206.05
16A	U. S. Creek Branch		706.81	706.81
16D	Sourdough Creek Branch		206.29	206.29
17C	Nulato Aviation Field		14.13	14.13
22	Hot Springs-Sullivan Creek	234.00	120.00	354.00
30	Hot Springs Landing-Eureka	3,836.11	1,990.00	5,826.11
30B	Manley Hot Springs Aviation Field		24.98	24.98
32B	Flat Iditarod	2,435.50	1,225.00	3,660.50
32E	Takotna Aviation Field		1,479.25	1,479.25
33H	Flat Aviation Field		223.42	223.42
38D	Ophir-Takotna	4,704.47	2,500.00	7,204.47
38G	Takotna Aviation Field Road		559.56	559.56
38H	Ganes Creek Road		3,515.50	3,515.50
38K	Ruby Aviation Field		23.76	23.76
46F	Nenana Cemetery Road	29.70	18.00	47.70
46H	Lake Minchumina Aviation Field		14.11	14.11
46M	Nenana Aviation Field		65.48	65.48
47A	Wiseman Aviation Field		623.33	623.33
53B	Fort Yukon Aviation Field		14.11	14.11
63	Dunbar-Brooks	75.64	40.00	115.64
63B	Livengood Creek Road		191.50	191.50
63E	Livengood Aviation Field		164.12	164.12
80H	McGrath Aviation Field		63.50	63.50
90D	Shelter cabins		1,254.30	1,254.30
92Q	Tuluksak-Bear Creek	1,781.04	910.00	2,691.04
	Total	65,479.53	33,220.91	98,700.44

¹⁴ Includes \$500 contributed by miners on Deadwood Creek.

Summary, by divisions—Territorial and cooperative projects

Divisions	Federal	Territorial	Total
First division	\$3,732.96	\$43,577.67	\$47,310.63
Second division	39,028.75	49,074.66	88,103.41
Third division	82,155.72	35,586.55	117,742.27
Fourth division	65,479.53	33,220.91	98,700.44
Total	190,396.96	161,459.79	351,856.75

Summary, by districts—Territorial and cooperative projects

District	Federal	Territorial	Total
Southeastern	\$3,732.96	\$43,577.67	\$47,310.63
Eagle		492.48	492.48
Valdez	12,352.35	15,029.00	27,381.35
Chitina	15,372.33	2,909.09	18,281.42
Fairbanks	56,558.52	21,867.90	78,426.42
Southwestern	54,431.04	17,648.46	72,079.50
Kuskokwim	8,921.01	10,860.53	19,781.54
Nome	39,028.75	49,074.66	88,103.41
Total	190,396.96	161,459.79	351,856.75

¹ Includes \$37,350.57 contributed by others.

Total costs, by districts

District	Construction	Maintenance and improvement	Total
Juneau office and general overhead ¹	\$11,241.34	\$19,242.51	\$30,483.85
Southeastern	28,344.60	18,966.03	47,310.63
Eagle	3,730.00	8,635.38	12,365.38
Valdez		85,327.55	85,327.55
Chitina	113,146.14	169,762.60	282,908.74
Fairbanks	127,883.25	207,278.08	335,161.33
Southwestern	114,331.79	75,762.94	190,094.73
Kuskokwim	18,553.70	32,134.25	50,687.95
Nome	26,716.10	61,694.53	88,410.63
Total cost	443,946.92	678,809.87	1,122,756.79
Less value of plant and materials carried over from previous year, included in above costs			83,720.01
Total expenditures			² 1,039,036.78

¹ Includes expenses of suboffice in Seattle, Wash., and Washington, D. C.

² Includes \$1,312.40 General Accounting Office settlements; does not include \$3,858.13 reimbursements and receipts from sales.

I. APPROPRIATIONS

Construction and maintenance of military and post roads, bridges, and trails, Alaska:

Act of June 12, 1906	\$150,000.00
Act of June 20, 1906	³ 35,000.00
Act of Mar. 2, 1907	250,000.00
Act of May 11, 1908	250,000.00
Act of Mar. 3, 1909	350,000.00
Act of Mar. 23, 1910	100,000.00
Act of Mar. 3, 1911	150,000.00
Act of Aug. 24, 1912	125,000.00
Act of Mar. 2, 1913	⁶ 155,000.00
Act of Apr. 27, 1914	125,000.00
Act of Mar. 4, 1915	165,000.00
Act of Aug. 29, 1916	500,000.00
Act of May 2, 1917	500,000.00
Act of July 9, 1918	100,000.00
Act of July 11, 1919	100,000.00
Act of June 5, 1920	350,000.00
Act of June 30, 1921	⁷ 425,000.00
Act of June 30, 1922	465,000.00
Act of Mar. 2, 1923	⁸ 650,600.00
Act of June 7, 1924	725,000.00
Act of Dec. 6, 1924	⁹ 55,000.00
Act of Feb. 12, 1925	900,000.00
Act of Apr. 15, 1926	900,000.00
Act of Feb. 23, 1927	¹⁰ 1,022,500.00
Act of Mar. 23, 1928	¹¹ 925,000.00
Act of Feb. 28, 1929	800,000.00
Act of May 28, 1930	800,000.00
Act of Feb. 23, 1931	800,000.00
Total	11,873,100.00

⁵ For Fairbanks-Council survey.

⁹ Deficiency to cover increase of compensation 1925.

⁶ Includes \$55,000 for Valdez dyke.

¹⁰ Includes \$22,500 for Juneau Wharf.

⁷ Includes \$10,000 for Nome-Kiwalik survey.

¹¹ Includes \$100,000 for flood control, Lowell Creek.

⁸ Includes \$600 for survey Juneau Wharf.

Construction and maintenance of wagon roads, bridges, and trails, "Alaska fund":

Fiscal year 1905.....	\$28,000.00
Fiscal year 1906.....	80,500.00
Fiscal year 1907.....	128,584.00
Fiscal year 1908.....	117,750.00
Fiscal year 1909.....	145,200.00
Fiscal year 1910.....	125,000.00
Fiscal year 1911.....	155,000.00
Fiscal year 1912.....	152,000.00
Fiscal year 1913.....	228,000.00
Fiscal year 1914.....	166,316.32
Fiscal year 1915.....	171,824.31
Fiscal year 1916.....	164,402.30
Fiscal year 1917.....	50,000.00
Fiscal year 1918.....	256,000.00
Fiscal year 1919.....	35,000.00
Fiscal year 1920.....	124,992.96
Fiscal year 1920 (sup.).....	153,805.19
Fiscal year 1921.....	98,437.82
Fiscal year 1922.....	135,975.05
Fiscal year 1923.....	119,227.10
Fiscal year 1924.....	115,803.20
Fiscal year 1925.....	123,871.33
Fiscal year 1926.....	137,431.66
Fiscal year 1927.....	142,905.28
Fiscal year 1928.....	73,653.64
Fiscal year 1929.....	150,432.68
Fiscal year 1930.....	216,757.86
Fiscal year 1931.....	54,843.66
Fiscal year 1932.....	176,898.16

Total..... 3,828,612.52

Increase of compensation, War Department:

Fiscal year 1918.....	145.20
Fiscal year 1919.....	
Fiscal year 1920.....	
Fiscal year 1921.....	940.00
Fiscal year 1922.....	4,322.09
Fiscal year 1923.....	32,846.67
Fiscal year 1924.....	56,805.54

Total..... 95,059.50

National cemeteries:

Fiscal year 1925.....	302.17
Fiscal year 1926.....	300.00
Fiscal year 1927.....	800.00
Fiscal year 1928.....	792.83
Fiscal year 1929.....	1,176.00
Fiscal year 1930.....	1,467.72
Fiscal year 1931.....	800.00
Fiscal year 1932.....	1,065.88

Total..... 6,704.60

Roads and trails, national parks:

Act of Mar. 3, 1925.....	\$80,000.00
Act of May 10, 1926.....	50,000.00
Act of Jan. 12, 1927.....	16,000.00
Act of Mar. 4, 1928.....	60,000.00
Act of Mar. 4, 1929.....	65,000.00
Act of May 14, 1930.....	220,000.00
Act of Feb. 14, 1931.....	204,876.37
Act of Apr. 22, 1932.....	80,000.00

Total..... 775,876.37

Barracks and quarters:

Fiscal year 1932..... 1,252.50

Total Federal appropriations..... 16,580,605.49

II. CONTRIBUTED FUNDS

Act of Congress approved June 30, 1921, Alaska Special Fund

By the Territory:

Act of Legislature approved Apr. 21, 1919, public roads, bridges, trails, and ferries—

Fiscal year—

1920..... \$115,517.94

1921..... 85,746.61

\$201,264.55

Approved May 7, 1921, public roads, bridges, trails, and ferries—

Fiscal year—

1921..... 28,000.00

1922..... 43,237.28

1923..... 88,512.88

159,750.16

Approved May 5, 1921, Nizina River Bridge—

Fiscal year—

1922..... 5,000.00

1923..... 20,000.00

25,000.00

Approved May 7, 1921, shelter cabins—

Fiscal year—

1922..... 6,500.00

1923..... 3,500.00

10,000.00

Approved May 4, 1923, public roads, bridges, trails, and ferries—

Fiscal year—

1924..... 91,325.35

1925..... 76,478.45

167,803.80

Approved May 4, 1923, shelter cabins—

Fiscal year 1924.....

15,000.00

Approved Apr. 30, 1925, public roads, bridges, trails, and ferries—

Fiscal year—

1926..... 113,850.00

1927..... 83,292.24

197,142.24

By the Territory—Continued.

Approved Apr. 30, 1925, shelter cabins—			
Fiscal year—			
1925.....	\$2,500.00		
1926.....	17,500.00		
		\$20,000.00	
Approved Apr. 30, 1925, telephone lines, Seward Peninsula—			
Fiscal year—			
1926.....	2,149.10		
1927.....	1,382.50		
1928.....	467.60		
		3,999.20	
Approved Apr. 30, 1925, Pioneers' Cemetery Road—			
Fiscal year 1927.....		3,341.02	
Approved May 2, 1927, public roads, bridges, trails, and ferries—			
Fiscal year—			
1928.....	163,099.02		
1929.....	181,512.79		
		344,611.81	
Approved May 2, 1927, shelter cabins—			
Fiscal year—			
1928.....	25,000.00		
1929.....	7,266.63		
		32,266.63	
Approved May 2, 1927, telephone lines, Seward Peninsula—			
Fiscal year—			
1928.....	2,796.97		
1929.....	1,203.03		
		4,000.00	
Approved May 2, 1929, Yukon-Kuskokwim portage—			
Fiscal year 1930.....		7,500.00	
Approved May 1, 1929, telephone lines—			
Fiscal year 1930.....		74.00	
Approved May 2, 1929, public roads, bridges, trails, and ferries—			
Fiscal year—			
1930.....	148,413.03		
1931.....	139,972.99		
		288,386.02	
Approved Apr. 27, 1929, telephone lines, Seward Peninsula—			
Fiscal year—			
1930.....	2,493.61		
1931.....	2,506.39		
		5,000.00	
Approved May 2, 1929, shelter cabins—			
Fiscal year—			
1930.....	12,000.00		
1931.....	6,628.99		
		18,628.99	

By the Territory—Continued.

Approved Apr. 6, 1931, Valdez Dyke—		
Fiscal year 1932.....		\$10,000.00
Approved Apr. 30, 1931, public roads, bridges, trails, and ferries—		
Fiscal year 1932.....		90,950.00
Act approved Apr. 30, 1931, radio telephones—		
Fiscal year 1932.....		6,477.34
Act approved Apr. 30, 1931, shelter cabins—		
Fiscal year 1932.....		2,699.88
Total Territory.....		1,613,895.64

By others:

Fiscal year 1922.....		1,683.77
Fiscal year 1923.....		1,379.54
Fiscal year 1924.....		4,540.00
Fiscal year 1925.....		883.12
Fiscal year 1926.....		2,819.01
Fiscal year 1927.....		5,756.63
Fiscal year 1928.....		19,489.15
Fiscal year 1929.....		23,430.32
Fiscal year 1930.....		17,969.23
Fiscal year 1931.....		18,764.32
Fiscal year 1932—		
Government agencies, Juneau.....	\$320.39	
U. S. Lighthouse Service.....	293.81	
Hammon Goldfields Consolidated.....	281.50	
Whitney & Lass.....	150.00	
Fairbanks Telephone Co.....	303.37	
City of Fairbanks.....	297.76	
Citizens of Fairbanks.....	76.50	
H. E. Revell.....	250.00	
Willow Creek mines.....	2,500.00	
Peters Creek Placer Co.....	250.00	
Deadwood Creek community.....	500.00	
C. W. Smith.....	15.00	
Northern Air Transport.....	97.98	
A. E. Creamer.....	13.35	
Alaska College.....	7.13	
Cleary Hill, Alaska, mines.....	32.00	
Jas. H. Cox.....	4.50	
National Park Service.....	1,112.68	
Quartermaster, Chilkoot Barracks.....	28,344.60	
		34,850.57
Total others.....		131,565.66

Funds contributed for flood control, Lowell
Creek:

Territory of Alaska.....		10,000.00
City of Seward.....		15,000.00
		25,000.00
Total, contributed funds.....		1,770,461.30

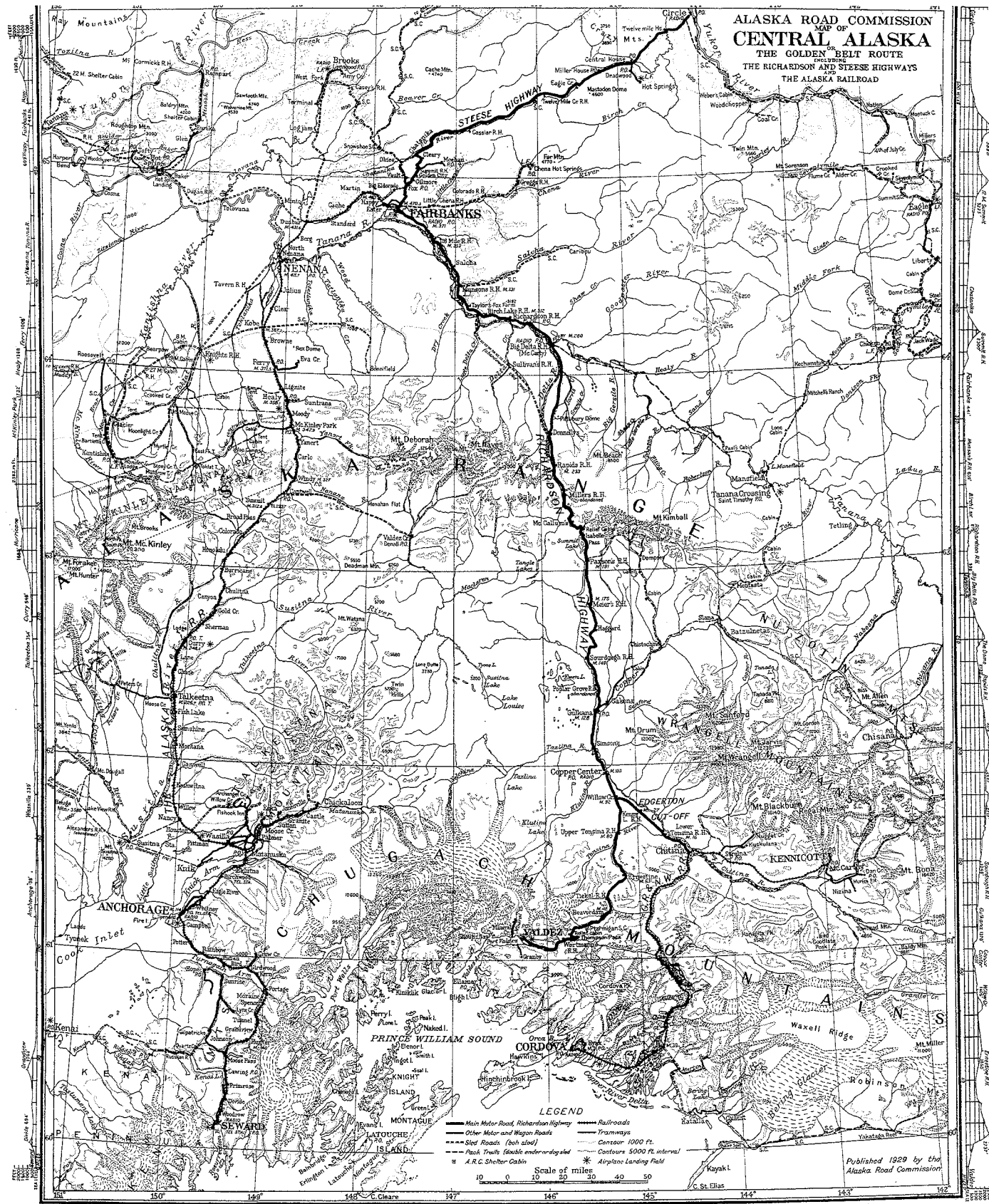
III. OTHER FUNDS SUPERVISED BY THE COMMISSION AND THE JUNEAU, ALASKA, RIVER AND HARBOR DISTRICT

Fiscal year 1920 and prior years-----		\$1, 221, 574. 09
Fiscal year 1921:		
For the Territory of Alaska, Kuskulana Bridge-----	\$750. 00	
For the Chief of Engineers, U. S. Army, rivers and harbors, fish traps, etc-----	1, 602. 50	
Total-----		2, 352. 50
Fiscal year 1922:		
For the Territory of Alaska—		
Chairman, third division-----	7, 812. 19	
Chairman, fourth division-----	21, 365. 00	
For the Chief of Engineers, U. S. Army, rivers and harbors, fish traps, etc-----	47, 503. 46	
For the Quartermaster General, U. S. Army, Chilkoot Barracks water supply-----	2, 502. 02	
Total-----		79, 182. 67
Fiscal year 1923:		
For the Territory of Alaska—		
Chairman, third division-----	10, 855. 72	
Chairman, fourth division-----	15, 717. 11	
Seward Peninsula Railroad-----	24, 014. 00	
For the Chief of Engineers, U. S. Army, rivers and harbors, fish traps, etc-----	21, 145. 12	
Total-----		71, 731. 95
Fiscal year 1924:		
For the Territory of Alaska—		
Chairman, third division-----	14, 993. 86	
Chairman, fourth division-----	20, 000. 50	
Tolovana tram road-----	6, 425. 00	
For the Chief of Engineers, U. S. Army, rivers and harbors, fish traps, etc-----	37, 931. 56	
For the National Park Service, Mount McKinley National Park Road-----	700. 25	
Total-----		80, 051. 17
Fiscal year 1925:		
For the Territory of Alaska—		
Chairman, third division-----	11, 806. 14	
Chairman, fourth division-----	9, 000. 00	
Kaltag Portage survey-----	312. 72	
For the Chief of Engineers, U. S. Army, rivers and harbors, fish traps, etc-----	54, 417. 89	
For the Quartermaster General, U. S. Army, Chilkoot Barracks water supply-----	2, 500. 00	
Total-----		78, 036. 75

Fiscal year 1926:		
For the Territory of Alaska—		
Chairman, third division-----	\$9, 882. 86	
Chairman, fourth division-----	12, 360. 00	
For the Chief of Engineers, U. S. Army, rivers and harbors, fish traps, etc-----	47, 521. 95	
For the Quartermaster General, U. S. Army, Chilkoot Barracks water supply-----	5, 000. 00	
Miscellaneous-----	8, 276. 25	
Total-----		\$83, 041. 06
Fiscal year 1927:		
For the Territory of Alaska—		
Chairman, third division-----	13, 052. 15	
Chairman, fourth division-----	13, 844. 42	
For the Chief of Engineers, U. S. Army, rivers and harbors, fish traps, etc-----	129, 169. 18	
For the Quartermaster General, U. S. Army, Chilkoot Barracks water supply-----	1, 078. 89	
Miscellaneous-----	3, 218. 00	
Total-----		160, 362. 64
Fiscal year 1928:		
For the Territory of Alaska—		
Chairman, third division-----	13, 975. 34	
Chairman, fourth division-----	17, 570. 41	
For the Chief of Engineers, U. S. Army, rivers and harbors, fish traps, etc-----	375, 890. 13	
Miscellaneous-----	3, 795. 00	
Total-----		411, 230. 88
Fiscal year 1929:		
For the Territory of Alaska, chairman, fourth division-----	1, 953. 90	
For the Chief of Engineers, U. S. Army, rivers and harbors, fish traps, etc-----	93, 054. 51	
Miscellaneous-----	3, 860. 00	
Total-----		98, 868. 41
Fiscal year 1930:		
For the Territory of Alaska-----	1, 000. 00	
For the Chief of Engineers, U. S. Army, rivers and harbors, fish traps, etc-----	92, 886. 29	
Miscellaneous-----	2, 500. 00	
Total-----		96, 386. 29

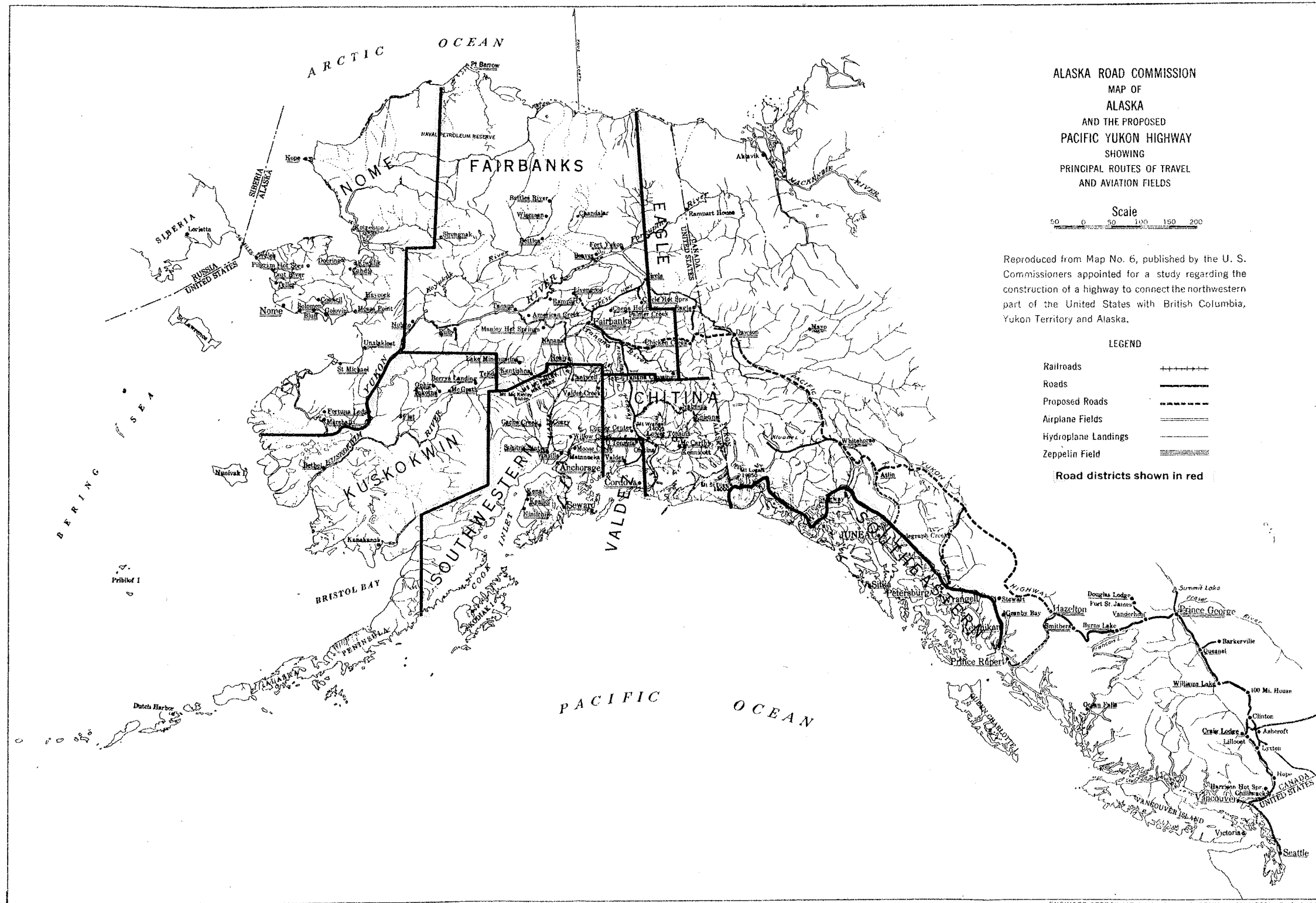
Fiscal year 1931, for the Chief of Engineers, U. S. Army.....	\$96,229.65
Fiscal year 1932:	
For the Chief of Engineers, U. S. Army—	
Improvement Nome Harbor.....	25,607.56
Improvement Wrangell Narrows.....	44,000.00
Improvement Ketchikan Harbor.....	199,514.05
Improvement Seward Harbor.....	63,622.76
Improvement Port Alexander.....	16,379.58
Examinations and surveys.....	11,400.51
Survey Salmon River.....	574.83
Total.....	\$361,099.29
Total supervised funds.....	2,840,147.35
Grand total, all funds.....	21,191,214.14

ALASKA ROAD COMMISSION
 MAP OF
CENTRAL ALASKA
 THE GOLDEN BELT ROUTE
 THE RICHARDSON AND STEESE HIGHWAYS
 THE ALASKA RAILROAD



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Published 1929 by the
 Alaska Road Commission



ALASKA ROAD COMMISSION
 MAP OF
 ALASKA
 AND THE PROPOSED
 PACIFIC YUKON HIGHWAY
 SHOWING
 PRINCIPAL ROUTES OF TRAVEL
 AND AVIATION FIELDS

Scale
 50 0 50 100 150 200

Reproduced from Map No. 6, published by the U. S. Commissioners appointed for a study regarding the construction of a highway to connect the northwestern part of the United States with British Columbia, Yukon Territory and Alaska.

LEGEND

- Railroads
- Roads
- Proposed Roads
- Airplane Fields
- Hydroplane Landings
- Zeppelin Field

Road districts shown in red