

BOARD OF ROAD COMMISSIONERS FOR ALASKA

1925 PART I

UNIV OF AK AHG

ILL REQ 264 8-31-76

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US ALASKA ROAD COMMISSION

REPORT UPON THE CONSTRUCTION AND MAINTENANCE OF MILITARY AND POST ROADS, BRIDGES, TRAILS AND OTHER ROADS...

FOR THE YEARS 1906, 1907, 1918 (EXTRACT PPI 1981-2034), 1921-1923, 1925 (PT. 1), EXTRACT PP-1987-1999, (PT. 2), 1927-31

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2. A somewhat similar situation arose some time ago at the Lake of the Woods. In this case the matter was first referred to the International Joint Commission, which after survey, published its report and recommendations in 1917. Subsequently the United States and the Dominion of Canada each selected an engineer, the two to consider the report and recommendations of the International Joint Commission, with a view to formulating an agreement based thereon and presenting it to their respective Governments.
3. In 1921 the Department of State requested that an officer be selected from the Corps of Engineers qualified to discuss matters of interest to both the State and the War Departments concerning the revision of the boundary waters treaty of 1909 between the United States and Great Britain.
4. These duties were under Maj. G. R. Young, Corps of Engineers.
5. Various hearings, discussions, and negotiations relating to those matters were conducted by that officer and were in progress at the end of the fiscal year.

BOARD OF ROAD COMMISSIONERS FOR ALASKA

OFFICERS OF THE BOARD

President: Maj. James G. Steese, Corps of Engineers, United States Army, retired.
Engineer officer: Maj. James G. Steese to August 4, 1924, and Maj. Lunsford E. Oliver, Corps of Engineers, United States Army, from August 5, 1924 to date.
Secretary and disbursing officer: First Lieut. Pierre A. Agnew, Corps of Engineers, United States Army, to January 31, 1925, and Second Lieut. Harry E. Fisher, Corps of Engineers, United States Army, February 1, 1925 to date.
Military assistant, under the immediate orders of the president of the board: Maj. Lunsford E. Oliver to August 4, 1924; Second Lieut. Harry E. Fisher, from October 22, 1924, to January 31, 1925; and First Lieut. Pierre A. Agnew, from February 1, 1925 to June 20, 1925.

Organization and duties.—The act of Congress approved January 27, 1905, "To provide for the construction and maintenance of roads * * * in the District of Alaska, and for other purposes" (33 Stats. 616), as amended by act of May 14, 1906 (34 Stats. 192), prescribes in section 2 as follows:

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 to 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 town, 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, agriculture, or manufacturing purposes.

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 board was organized May 15, 1905. War Department orders of February 15, 1913, relative to the work of the board, prescribe that the senior officer on duty, designated as president, shall have general charge of the operations, that the Engineer officer shall supervise the work of construction in the field as provided by law, and that the third officer shall act as disbursing officer of the board.

From its organization until December 29, 1917, the board reported direct to the War Department through The Adjutant General. On that date orders were issued by the Secretary of War placing the work under the general supervision of the Chief Engineers.

A retired officer of the Corps of Engineers has been appointed president of the board under authority of the following provision in the act of Congress approved March 3, 1911 (36 Stat. 1052):

Provided, That hereafter the Secretary of War may, in his discretion, assign suitable retired officers of the Army to active duty as members of the Board of Road Commissioners for Alaska.

He was subsequently appointed engineer officer under authority of the following provision in the act of Congress approved June 15, 1917 (40 Stat. 231):

Provided, That when retired officers of the Army, any portion of whose active service was in the Corps of Engineers, are called back into active service they shall be eligible to fill any position required by law to be filled by an officer of the Corps of Engineers.

Offices of the board.—The principal office of the board is at Juneau, Alaska. Suboffices are maintained, when required by active operations, at Valdez, Chitina, Fairbanks, Eagle, Nenana, Anchorage, Seward, Takotna, and Nome, Alaska; Seattle, Wash.; and Washington, D. C.

Location and description.—The work thus far accomplished includes the construction of 1,472 $\frac{1}{4}$ miles of wagon road, 1,086 $\frac{3}{4}$ miles of sled road, 6,465 miles of permanent trail, and 712 miles of temporary flagged trail, a total of 9,736 miles.

The Territory has an area of 590,880 square miles, which is more than twelve times the size of the State of New York, or practically one-fifth the size of the United States proper. At its southern point it is 700 miles from the northwest point of the State of Washington by the usually traveled route. Thence the southeastern Alaska Archipelago and a strip of mainland lying west of the Canadian boundary extend northwesterly for about 520 miles to the major portion of the Territory, which lies west of the one hundred and forty-first meridian, and has a dimension of approximately 900 miles north and south and 700 miles each and west, with the Alaska Peninsula and Aleutian Islands reaching out from the southwestern

The topography of Alaska varies from rolling to extremely rugged, with little level area. The seaward slope, as far west as Cook Inlet, is especially rugged and subject to a heavy rain and snow fall.

The timber along the coast attains a dense growth, but in the interior is only found along the stream valleys. Spruce and hemlock form the greatest part of the timber on the coast. Hemlock is not found in the interior.

On the north slope of the Alaska range and on interior river valleys considerable areas are found frozen permanently to bedrock. The climate and topography throughout are such that in the summer time passage overland is difficult. On the seaward slope the heavy rainfall upon the blanket of decayed vegetation creates a footing almost impassable. In the interior the surface thawing of the bed of frozen gravel makes a widespread and difficult morass.

Original condition.—Prior to the organization of the Board of Road Commissioners for Alaska there were in the whole of the Territory less than a dozen miles of what might be called wagon road, with a few hundred miles of pioneer trail, mostly constructed by expeditions under the War Department. Travel was largely confined to the open waterways in summer and to their frozen courses or overland in winter. When mining machinery and other supplies were to be transported from the coast or river landing they were in most cases hauled over the snow during the winter, with some preliminary clearing of the route when necessary. Travel across country in summer, generally speaking, was possible only on foot or with pack horses. It was difficult always, and frequently dangerous, on account of the numerous swift and deep streams, fed by the ice-cold and silt-laden waters of mountain glaciers.

Previous projects.—See description in Annual Report of the Chief of Engineers for 1923, beginning on page 2086.

Existing project.—For description of development of existing project, see Annual Report of the Chief of Engineers for 1924, beginning page 2069.

The proposed annual appropriations and the amounts actually appropriated to date under the 1920 program described in the Annual Report for 1924, are as stated in the table below:

Fiscal year	Working season	Amount estimated	Amount actually appropriated
First (1922)	1921	\$655,000	\$425,000
Second (1923)	1922	1,200,000	465,000
Third (1924)	1923	1,500,000	650,000
Fourth (1925)	1924	1,600,000	780,000
Fifth (1926)	1925	1,400,000	900,000
Total for first 5 years		6,055,000	3,220,000

The total appropriations for the first five years were less than half the estimates, and about three-fourths of the available funds were required for maintenance and repair. Construction should be speeded up so as to get the maximum benefit from the work already accomplished, and the 1920 program was, therefore, revised in 1924.

The appropriations recommended for the second five years of the 10-year period are as follows:

(a) For maintenance of existing routes, 9,736 miles, at \$542,000 per year	\$2,710,000
(b) For improvement of existing routes to the same standard throughout	2,000,000
(c) For completion of projects already undertaken	1,735,000
(d) For completion of projects already approved but not yet undertaken	1,780,000
(e) For completion of projects likely to arise with development during the five years	1,135,000
Total for five years	9,960,000
Less Alaska fund and Territorial contributions (estimated)	960,000
Net Federal appropriations	9,000,000

1924 PROGRAM

Federal appropriations required each year of five-year period of road and trail development

Fiscal year	Working season	(a) Maintenance, existing routes	(b) Improvement, existing routes	(c) Completion, approved projects already under way	(d) Construction, approved projects not yet under way	(e) Construction, new projects likely to develop	Total
1927	1926	\$350,000	\$600,000	\$510,000	\$200,000	\$100,000	\$1,750,000
1928	1927	350,000	500,000	475,000	575,000	100,000	2,000,000
1929	1928	350,000	500,000	400,000	550,000	200,000	2,000,000
1930	1929	350,000	500,000	250,000	300,000	350,000	1,750,000
1931	1930	350,000	500,000	100,000	85,000	485,000	1,500,000
Total		1,750,000	2,000,000	1,735,000	1,780,000	1,135,000	9,000,000

¹ Exclusive of Alaska fund and territorial contributions for maintenance estimated at \$102,000 per year

The act of Congress approved February 12, 1925, contains the following language:

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 centum 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.

Under this general authority, plans can be made in advance, supplies purchased and shipped in over the snow, and full advantage taken of the very short working season.

The special acts of Congress authorizing and defining the scope of the work and the duties of the board are as follows:

- Act approved January 27, 1905 (33 Stat. 616).
- Act approved May 4, 1906 (34 Stat. 192).
- Act approved March 3, 1913 (37 Stat. 728).
- Act approved July 9, 1918 (40 Stat. 843).
- Act approved June 30, 1921 (42 Stat. 90).
- Act approved February 12, 1925.

For latest published maps see map following page 54, Part II, of the annual report of the Alaska Road Commission fiscal year 1921, and also a wall map of Alaska published by the board of road commissioners 1922

References to published articles not previously reported.—“Building Roads to Develop Alaska,” the Highway Magazine, December, 1924, pages 13-15, illustrated, by Col. James G. Steese.

Local cooperation.—For description of development of local cooperation, see Annual Report of the Chief of Engineers for 1924, beginning on page 2071.

Under the provisions of section 17 of the Territorial road law of April 21, 1919, Mr. Anton Eide, assistant superintendent of the board for southwestern Alaska, acted as chairman and secretary of the Territorial divisional road commission for the third division. Similarly, Mr. M. C. Edmunds, superintendent of the Alaska Road Commission for the Fairbanks district, acted as chairman and secretary of the fourth divisional road commission. No Territorial road organization has been maintained since March 31, 1921.

During the fiscal year the board supervised the expenditure of \$11,806.14 by the chairman of the Territorial road commission for the third division and \$9,000 by the chairman of the Territorial road commission for the fourth division.

During the fiscal year it has expended directly funds amounting to \$7,335.93 for shelter cabins and \$86,478.45 for roads contributed by the Territory, and \$3,849.77 contributed by others.

The last item includes \$2,966.65 expended in the construction of a 150-foot municipal wharf for the city of Nome.

For the working season of 1925 the Territorial board has allotted to the Department of Agriculture \$16,500 and to the Federal board the following amounts:

Cooperative projects	\$111,000
Shelter cabins	10,000
Total	121,000
Chairman third division	10,000
Chairman fourth division	8,000
Grand total	140,100

These funds are held subject to the call of the Federal board. The sum of \$2,500 of shelter-cabin fund has been deposited in the United States Treasury to the credit of the board; \$1,660.25 of this is included in total of shelter-cabin expenditures reported above. The divisional funds are disbursed through local banks, but all vouchers are audited by the Federal board under the same restrictions that apply to Federal vouchers before being certified to the Territorial treasurer for payment.

There has been cooperation with the Territory also in connection with the purchase, rehabilitation, and operation of two tramroads, one extending from Nome to Shelton on the Seward Peninsula, a distance of about 87 miles, and the other situated in the Tolovana District about 50 miles northwesterly from Fairbanks and extending from the town of Brooks about 13 miles southerly to the head of navigation on the Tolovana River.

The Nome-Shelton tramroad was purchased on October 3, 1922, for \$24,014. During the fiscal year, \$33,518.12 was spent on its rehabilitation.

The Tolovana tramroad was purchased on June 11, 1924, for \$6,425. During the fiscal year, \$9,386.30 was spent on its rehabilitation.

The 1919 Territorial road act released cooperative national forest funds of the Department of Agriculture which had been accumulating for several years. Until July 1, 1920, Maj. William H. Waugh, engineer, United States Army, a former engineer of the Bureau of Public Roads and up to that date a member of the Board of Road Commissioners for Alaska, served also as the representative of the Department of Agriculture in charge of national-forest road construction.

On July 1, 1920, the Department of Agriculture created a separate organization to handle its work and took over a few of the board's projects. The department funds were inadequate to handle all of the projects in the national forests that were under construction under the board.

When greatly increased funds for the national forests became available in 1922 the board offered its services to handle all forest-road construction in accordance with the requirements of the Forest Service, but the Department of Agriculture decided to increase its own organization. Since May 1, 1922, it has assumed responsibility for all former projects of the board within or partly within the national forests. The funds of this board formerly absorbed in these projects are thereby available for use in other parts of the Territory.

Effect of improvement.—The roads and trails constructed by the board have not only opened up to development nearly all sections of the Territory, but have effected large savings in freight charges. Data collected by the board since 1911 indicate that the annual saving in cost of transportation of freight due to the construction of roads by the board is in excess of \$2,000,000. It is doubtful, however, if anything like that amount of freight would have been transported without the roads, 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.

The use of automobiles is increasing rapidly. Approximately 90 per cent of the traffic on the main wagon roads is handled by motor, which has greatly increased the cost of road maintenance. The use of tractors for drawing freight, particularly on the sled roads of the interior, is a valuable new development.

Operations and results during fiscal year.—The work in the last fiscal year was largely directed to extending the general rehabilitation begun in 1920 to trails and roads in remote portions of the Territory. This gradual rehabilitation started on the more important projects and has now reached trails extending to all inhabited parts of the Territory.

The work accomplished during the fiscal year may be summarized as follows: New construction, 46 $\frac{1}{4}$ miles wagon road, 45 miles sled road, 188 miles trail, 1,040 linear feet of bridges of over 60-foot span. Improvement, 22 miles wagon road reconstructed, 63 miles wagon road graveled, 45 miles Nome-Shelton tramway opened for traffic; 3 miles Tolovana tram reconstructed, and innumerable small bridges and culverts rebuilt. Maintenance, 982 $\frac{1}{2}$ miles wagon road, 52 miles tramway, 702 $\frac{1}{4}$ miles sled road, 4,168 miles permanent trail, and 472 miles temporary flagged trail. Total for all classes of work, 6,789 miles, consisting of 1,113 $\frac{3}{4}$ miles of wagon road, 100 miles of

tramway, 747 $\frac{1}{4}$ miles of sled road, 4,356 miles of permanent trail, and 472 miles of temporary flagged trail.

The more important roads upon which new construction was performed were the Haines-Pleasant Camp, McCarthy-Nizina, Chatanika-Circle, Mount McKinley National Park, Talkeetna-Cache Creek, Long-Poorman, and Ophir-Takotna. The extensive bridge program inaugurated the previous year was continued. The more important structures upon which the new construction or extensive repairs were performed included bridges across Big Boulder, above Haines, Nizina, Tazlina, and Gulkana Rivers, Gun Creek in Isabelle Pass, Millers at mile 223, Chena Slough (Fairbanks), Bull River (Colorado), and Iron and Charette Creeks on Nome-Shelton tramway.

The important Richardson Highway, which was reopened in 1921, was maintained open during the entire season. There was an increased tourist travel during the 1924 season. Traffic reports show the following movement over the highway during the calendar year 1924: 2,603 persons, 1,007 motor-driven vehicles, 33 wagons, 60 double bobsleds, 20 pack horses, and 80 tons of freight. During the 1925 season tourist travel began in June, nearly a month earlier than had been possible heretofore.

Construction work progressed unusually well during the 1924 season on account of very dry weather. A late spring in 1925 has delayed work somewhat.

The total expenditures during the fiscal year amounted to \$1,138,347.64, of which \$728,040.04 was for construction and \$410,307.60 was for maintenance.

Condition at end of fiscal year.—The work of maintenance and rehabilitation has been pushed, and the roads and trails under the jurisdiction of the board are in better shape than ever before. The total mileage of roads and trails constructed or maintained by the board aggregate 9,736 miles, consisting of 1,472 $\frac{1}{4}$ miles of wagon road, 1,086 $\frac{3}{4}$ miles of sled road, 6,465 miles of permanent trail, and 712 miles of temporary flagged trail. Work was performed upon 6,789 miles of the system during the fiscal year.

The 410-mile Valdez-Chitina-Fairbanks road received special attention. Two more seasons should see this important overland route completed to a uniform standard and given a gravel surface throughout. Over 100 miles of the 160-mile extension from Fairbanks to Circle on the Upper Yukon are now passable for wagons, and the entire route is utilized for winter travel by double bobsled.

The total expenditures to the end of the fiscal year, June 30, 1925, amounted to \$8,911,714.97, not including outstanding liabilities or contributed funds, of which \$5,196,097.56 was expended for new construction and \$3,715,617.41 for maintenance.

Proposed operations.—The 10-year program described under "Existing project" proposed the appropriation of \$1,400,000 for the prosecution of the work for the fiscal year ending June 30, 1926. Only \$900,000 was provided by the act of February 12, 1925. These funds will be expended on rehabilitation of the existing system. Unless much greater annual appropriations are made, little can be done to meet the pressing need for improvements and extensions of the system, especially in providing urgently needed highway and trail leaders to the Government.

now completed. For the fiscal year 1925 Congress has provided for a maintenance and operations deficit on the Alaska Railroad of \$1,605,000.

The annual maintenance of the road and trail system after completion, as nearly as can be estimated at this time, will cost about \$550,000.

Amount which can be profitably expended during the fiscal year ending June 30, 1927.—An appropriation, in accordance with the 1924 program, of \$1,750,000, to be distributed approximately as follows, can be profitably expended on the work during the fiscal year ending June 30, 1927:

District	Mileage	Maintenance		Total	New construction		Total	Grand total	Average per mile
		(a) Repair	(b) Improvement		(c) Approved projects already under way	(d) Approved projects not yet started			
Southeastern	85	\$24,050	\$26,400	\$50,450	\$30,000		\$30,000	\$80,450	\$946.47
Bethel	834	8,340	9,200	17,540				17,540	21.03
Bastle	506	17,160	18,800	35,960	15,000		15,000	50,960	85.50
Valdez	145½	33,400	36,000	69,400	100,000		100,000	169,400	1,166.28
Chitina	523½	66,000	73,600	139,600				139,600	266.67
Fairbanks	1,049½	116,550	129,000	245,550	200,000		200,000	445,550	424.64
Nenana	1,206	57,500	64,000	121,500	70,000	\$50,000	120,000	211,500	200.25
Southwestern	633	58,500	65,000	123,500	50,000	120,000	170,000	293,500	463.67
Kuskokwim	1,177½	50,500	56,000	106,500	45,000		45,000	151,500	129.51
Nome	3,486½	110,000	122,000	232,000		120,000	120,000	352,000	100.96
Total	9,738	642,000	690,000	1,332,000	510,000	200,000	800,000	1,942,000	199.45
Less Alaska fund and Territorial contributions for maintenance, estimated at								192,000	
Net Federal appropriation								1,750,000	

COMMERCIAL STATISTICS

Total commerce of Alaska for the calendar year 1924:

IMPORTS	
Merchandise from the United States	\$32,050,433
Merchandise from foreign ports	529,618
Total imports	32,580,051
EXPORTS	
Merchandise to the United States	54,525,026
Merchandise, gold, and silver to foreign ports	1,351,380
Domestic gold and silver to the United States	5,138,656
Total exports	61,015,062
Grand total, exports and imports	93,595,113

The value of Alaska's mineral output in 1924 was approximately \$17,670,000, as compared with \$20,300,000 in 1923 and \$19,506,365 in 1922. Minerals are being produced in the following order of value: Copper, gold, coal, silver, lead, petroleum, marble, gypsum, tin, and platinum.

The production of gold increased over 5 per cent during the year, while the total production of lead, petroleum, marble, gypsum, tin,

and platinum increased about 10 per cent and copper declined about 20 per cent. Taking into consideration serious fires which occurred in the mills of the copper-producing properties, thus temporarily handicapping their output, also the fact that the average price of copper in 1924 was considerably below the already low average in 1923, a temporary decline in copper production was to be expected.

Quoting from Dr. A. H. Brooks, chief Alaskan geologist of the Geological Survey:

The Alaska gold miner shares with his colleagues in the rest of the world the disability produced by the disrupted economic conditions, which cause very high operation costs, while the value of his produce remains fixed. Were it not for the improvement in transportation furnished by the railroads and wagon roads, that in certain districts have reduced costs, Alaska gold output would have been far less than it has been.

In 1924 Alaska produced about 90,000 tons of coal from 10 mines, as compared with 119,826 tons from 12 mines in 1923. A very large part of the total output came from the Ryan Jones mine in the Matanuska field, which produces bituminous coal, and from the mine of the Healy River Coal Corporation in the Nenana field, which produces good lignite. Some development work was done during the year in new coal fields. Beds of bituminous coal were opened 8 miles below Kaltag, along the Yukon River, and also 6 miles above Tanana. Excellent cannel coal in very large quantities was discovered along the upper Healy River and is now being developed. The significant feature of the coal-mining industry for the year is that the Territory is supplying more and more of its own fuel.

In 1924, as in the past, all the petroleum produced in Alaska was obtained from a dozen small wells in the Kutalla field, on the only patented tract of oil land in the Territory. These wells and a small refinery are operated by the Chilkat Oil Co., which sells its gasoline and distillate in the local market. Interest in the exploration of promising oil fields in Alaska continues. Drilling in the Cold Bay district was continued on the Pearl Creek dome by the Standard Oil Co. of California. The Associated Oil Co. renewed operations in June, 1924, and continued drilling during the remainder of the year.

Geologic and topographic surveys of naval petroleum reserve No. 4, in northern Alaska, were made during the year. The Geological Survey has not as yet made a study of these surveys and a statement has not been made regarding the possibility of obtaining oil in that region. The work done, however, confirms the finding of the expedition that visited the coastal region of the reserve in 1923 and reported the occurrence of seeps of oil there.

Canned salmon shipped from Alaska to the United States and Canada totaled 246,130,455 pounds, valued at \$31,415,190, or an increase over 1923 of 13,638,868 pounds and \$900,904 in value. The product of this industry is greater than all other products of Alaska put together, including gold and silver. The value of fish and fish products for 1924, \$39,140,740, constituted over 64 per cent of the shipments from the Territory. Shipments of fresh, smoked, and mild-cured salmon amounted to \$1,943,313, or an increase of \$414,441 over 1923. The relative value of the chief fish products exported in 1924 is as follows: Canned salmon, fresh frozen halibut, cured or preserved herring, cured or preserved salmon, clams, fish oil and

INVESTIGATION AND REPORT REQUIRED BY THE ACT OF CONGRESS APPROVED MARCH 2, 1923

In compliance with the following provision contained in the act of Congress approved March 2, 1923: "For cost of survey and preparation of plans and estimates for a Government dock at Juneau, Alaska, \$600," the board made a survey of the harbor of Juneau during the summer of 1923, selected a suitable site for a wharf, negotiated for an approach and access to the uplands, and prepared plans and estimates for construction. Its report, dated July 10, 1924, was transmitted to Congress through the Chief of Engineers and the Secretary of War, and printed in House Document No. 561, Sixty-eighth Congress, second session. Recommendation is made for the construction of a wharf 400 feet long and 40 feet wide, at an estimated cost of \$22,500.

Additional duties of the board.—The president of the board is also district engineer for the Juneau, Alaska, river and harbor district. The other two members of the board are placed under the immediate orders of the district engineer and the secretary and the disbursing officer of the board is disbursing officer for the district. Expenditures, \$54,417.89.

The president of the board, in addition to his other duties, has under the provisions of acts of Congress approved June 17, 1910, and June 15, 1917, been detailed for consultation or to superintend the construction or repair of any aid to navigation authorized by Congress in the Sixteenth (includes Territory of Alaska) Lighthouse District and reported by letter to the Secretary of Commerce.

By informal agreement with the Territorial board of road commissioners this board has agreed, under the terms of the Territorial act of April 21, 1919, to permit its assistant superintendent for the southwestern district and its superintendent for the Fairbanks district to be appointed chairman and secretaries of the Third and Fourth Territorial road districts, respectively, to supervise their operations and to certify vouchers to the Territorial treasurer for payment, following the same general procedure as for Federal vouchers. Expenditures, \$20,806.14.

Effective November 14, 1921, the president of the board was appointed consulting engineer for the Territory and assumed direct charge of all Territorial public works. In May, 1923, he was appointed director of public works for the Territory. Expenditures, \$99,008.53.

By informal arrangement the president of the board 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. Expenditures, \$80,342.37.

At the request of the Secretary of the Interior, the board 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. Expenditures, \$80.75.

At the request of the Quartermaster General of the Army, the board has agreed to assume charge of the administration of the Sitka National Cemetery, created by Executive order of June 12, 1924. Expenditures, \$300.

At the request of the Quartermaster General of the Army, the board submitted a special report upon the water-supply system of Chilkoot Barracks, Alaska, and has assumed charge of the construction of a 1,000,000-gallon concrete reservoir and repairs to the pipe line crossing Chilkat Inlet. Expenditures, \$7,500.

Financial summary

Amount expended on all projects to June 30, 1925, including receipts from sales, etc.:		
During fiscal years 1905-1924	\$7,872,075.86	
Fiscal year 1925	1,039,039.11	\$8,911,714.97
Alaska special fund, fiscal years 1920-1924	491,428.92	
Alaska special fund, fiscal year 1925	98,708.53	590,132.45
		<u>9,501,847.42</u>
Total for new work	5,496,097.56	
Total for maintenance	4,005,749.86	
Total expended		<u>9,501,847.42</u>
Balance available		879,560.78
Grand total to be accounted for		<u>10,381,408.20</u>
Appropriations to June 30, 1925:		
Construction and maintenance of military and post roads, bridges, and trails, Alaska		6,625,600.00
Wagon roads, bridges, and trails, Alaska fund		2,910,714.83
Increase of compensation, War Department		95,059.50
Receipts from sales, etc., prior to 1921		48,694.14
Funds contributed by Territory of Alaska and others for public roads, bridges, trails, and ferries, Alaska special fund		589,804.94
Roads and trails, national parks		80,000.00
National cemeteries		300.00
Refunds to War Department appropriations		15,248.83
Refunds to increase of compensation		16.95
Refunds to contributed funds		1,700.61
Refunds to roads and trails, national parks		29.00
Reimbursement from Navy Department		3,976.19
Sales, refunds, etc., to accrue to Alaska fund		10,272.21
Total		<u>10,381,408.20</u>

Fiscal year ending June 30	1921	1922	1923	1924	1925
Expended for improvement and new work	\$432,243.00	\$236,251.01	\$314,195.39	\$400,360.53	\$728,040.04
Expended for maintenance	234,545.18	446,995.77	425,887.10	445,747.12	410,307.80
Total expended	666,788.08	683,247.68	740,082.49	846,107.65	1,138,347.64
Appropriated by War Department acts	350,000.00	425,000.00	1,115,000.00	725,000.00	955,000.00
Allotted from Alaska fund	218,237.10	173,029.19	34,398.23	67,883.67	168,518.01
National cemeteries					300.00
Contributed by Territory of Alaska and others	113,746.61	56,421.05	113,392.42	110,865.35	79,861.57
Roads and trails, national parks					80,000.00
Increase of compensation, War Department	940.00	4,322.00	28,857.72	58,903.23	1,835.54
Total	682,023.71	688,772.33	1,291,648.37	963,112.25	1,286,515.12

July 1, 1924, balance available.....	\$749,252.05
Amount appropriated by deficiency act approved Dec. 6, 1924.....	55,000.00
Amount appropriated by War Department act approved Feb. 12, 1925.....	900,000.00
Amount accrued to Alaska fund during fiscal year 1925.....	123,871.33
Amount contributed by Territory of Alaska and others.....	79,861.57
Refunds, all appropriations.....	11,686.21
Receipts from sales, etc., during fiscal year 1925.....	16,101.72
Increase of compensation, War Department, 1924.....	1,835.54
National cemeteries, 1925.....	300.00
Roads and trails, national parks, 1925-26.....	80,000.00
Total resources.....	2,017,908.42
June 30, 1925, amount expended during fiscal year, including receipts from sales, etc.:	
New work.....	\$728,040.04
Maintenance.....	410,307.60
July 1, 1925, balance unexpended.....	1,138,347.64
July 1, 1925, outstanding liabilities.....	259,925.79
July 1, 1925, balance unobligated.....	619,634.99
Amount available from War Department act approved Feb. 12, 1925.....	747,047.83
Amount available from Alaska fund on June 30, 1925.....	120,867.64
Receipts from sales, refunds, etc., during fiscal year (not credited).....	10,272.21
Amount available from contributed funds on June 30, 1925.....	1,373.10
Amount available for fiscal year ending June 30, 1925.....	879,560.78
Amount (estimated) required to be appropriated for completion of existing projects.....	9,000,000.00
Amount that can be profitably expended in fiscal year ending June 30, 1927:	
For new work.....	800,000.00
For maintenance.....	950,000.00
Total.....	1,750,000.00
APPROPRIATIONS	
Construction and maintenance, military and post roads, bridges, and trails, Alaska:	
Total amount appropriated to and including June 7, 1924 (see detailed statement on p. 2084, Annual Report of the Chief of Engineers, 1924).....	\$5,670,600.00
Dec. 6, 1925.....	55,000.00
Feb. 12, 1925.....	900,000.00
Receipts from Treasury United States, account "Alaska fund" wagon roads, bridges, and trails, Alaska fund:	
Total receipts to end of fiscal year 1924 (see statement on p. 163, Pt. II, Annual Report of the Alaska Road Commission, fiscal year 1924).....	2,775,208.93
1925.....	123,871.33
Proceeds from sales, etc.....	11,634.57
Total.....	2,910,714.83

* Exclusive of available funds.

Increase of compensation, Military Establishment:	
Fiscal years 1918-1924 (see detailed statement on p. 2084, Annual Report of the Chief of Engineers, 1924).....	\$93,223.06
Fiscal year 1924 (expended during 1925).....	1,835.54
Total.....	\$95,059.50
National cemeteries:	
Fiscal year 1925.....	300.00
Roads and trails, national parks:	
March 3, 1925.....	80,000.00
Total, Federal funds.....	0,711,674.33

CONTRIBUTED FUNDS

(Act of Congress approved June 30, 1921, Alaska special fund)

1. By the Territory of Alaska (see detailed statement on p. 2084, Annual Report of the Chief of Engineers, 1924):	
Fiscal year 1920.....	\$115,517.94
Fiscal year 1921.....	113,746.01
Fiscal year 1922.....	54,737.28
Fiscal year 1923.....	112,012.88
Fiscal year 1924.....	106,325.35
Fiscal year 1925.....	
Public roads, etc.....	\$76,478.45
Shelter cabins.....	2,500.00
Total, Territory.....	581,318.51
2. By others (see detailed statement on p. 2085, Annual Report of the Chief of Engineers, 1924):	
Fiscal year 1922.....	1,688.77
Fiscal year 1923.....	1,379.54
Fiscal year 1924.....	4,540.00
Fiscal year 1925:	
National Park Service.....	\$342.37
Tanana Valley Dredging Co.....	300.00
P. L. McDonald.....	100.00
The Alaska Railroad.....	80.75
Total, contributed funds.....	589,804.94
Grand total, all funds.....	10,301,479.27

MONUMENTS AND MEMORIALS OUTSIDE THE DISTRICT OF COLUMBIA

ERECTION OF MONUMENTS IN THE FIRST NEW YORK DISTRICT

District engineer: Lieut. Col. J. R. Slattery, Corps of Engineers, to March 31, 1925; Col. W. B. Ladue, Corps of Engineers, since that date.

Division engineer: Col. H. C. Newcomer, Corps of Engineers, to December 3, 1924; Col. W. B. Ladue, Corps of Engineers, to February 11, 1925; and Col. Herbert Deakynne, Corps of Engineers, since that date.

MACDONOUGH MEMORIALS, LAKE CHAMPLAIN, N. Y. AND VT.

The prior history and description of this work are contained in the Annual Reports of the Chief of Engineers for 1916, page 1849, and 1917, page 1960.

ANNUAL REPORT OF THE ALASKA ROAD COMMISSION

FISCAL YEAR 1925

ANNUAL REPORT OF THE ALASKA ROAD COMMISSION
FISCAL YEAR 1925

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

TWENTY-FIRST ANNUAL
REPORT

1925

PART II

OPERATIONS

BOARD OF ROAD COMMISSIONERS
FOR ALASKA

JUNEAU, ALASKA

1925

ALASKA DAILY EMPIRE PRINT, JUNEAU—6-20-25—500

DOCUMENTS
COLLECTION

of Alaska library

THE
ALASKA ROAD COMMISSION

(From the speech of President Harding delivered in
Seattle, July 27, 1923, upon his return from
a tour of Interior Alaska.)

... "In another direction there is justification for a most liberal disposition; that of road and trail building. Much of the Alaska which will in another generation be rich and productive, is yet unexplored, to say nothing of being mapped and equipped with highways. There should be an organization capable of the readiest response to demands for roads and trails. No discovery of riches should be kept from national development for want of access to it. Alaska is so vast a region that merely to prospect it thoroughly is a matter of generations, with a far larger population than it now possesses. Roads constitute a prime need in every new country, and our long national experience in pushing our highways ahead of the onrolling wave of settlement ought to convince us that the broadest liberality towards roads in Alaska will be certain to bring manifold returns.

"Aside from all this, there is the necessity to provide feeders for the railroad which the government has built and is now operating. More than \$56,000,000 has been spent on this 500 miles of railroad. It was not built in the expectation of immediate or even early profit; rather, it stands in much the same relation to Alaska that the Union Pacific did to our widely separated ocean fronts, east and west, when it was constructed far in advance of economic justifications. It is a pledge, a testimony of faith, a declaration of firm confidence in the future of all Alaska. It is but a beginning, as the present road system is but a beginning; and I AM WILLING TO BE CHARGED WITH A PURPOSE OF SOMETHING LIKE PRODIGALITY IN MY WISH TO SERVE ALASKA GENEROUSLY, AND MORE, IN THIS MATTER OF ROAD BUILDING." ...

Alaska Road Commission.
Juneau, Alaska, August 15, 1925.

The Honorable, The Secretary of War
(Thru The Chief of Engineers, United States Army)
Washington, D. C.

Sir:

In compliance with the provisions of Sec. 2 of an Act of Congress approved January 27, 1903, as amended by Act approved May 14, 1908, I have the honor to submit the attached report of the operations of this Commission for the fiscal year ending June 30, 1925.

Major Lunsford E. Oliver, Corps of Engineers, reported for duty with the Commission and was appointed Assistant Chief Engineer on May 21, 1924. On August 5, 1924 he succeeded as Chief Engineer, the undersigned who had served temporarily as Chief Engineer since the relief of Major John C. Gotwals, Corps of Engineers, on March 26, 1924.

Lieut. Harry E. Fisher, Corps of Engineers, reported for duty with the Commission on Oct. 22, 1924. He succeeded Captain P. A. Agnew, Corps of Engineers, as Secretary and Disbursing Officer on February 1, 1925. Captain Agnew remained on duty with the Commission till June 29, 1925.

The close and cordial relations which this Commission has developed with other officials, both Federal and Territorial, continued during the year and several additional jobs for other bureaus were undertaken. The oft-repeated criticisms of government red-tape in Alaska decidedly do not apply to the operations of this Commission, which is the only federal bureau permanently resident in the Territory and clothed by its enabling act with authority "of its own motion" to handle its business without reference to Washington.

Respectfully,

JAMES G. STEESE.

President

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President Alaska Road Commission

Ex-Chairman, The Alaska Railroad

Chairman of the Alaska Road Commission, 1918-1922

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5669 By Major John C. Gotwals, Corps of Engineers

Ex-Chief Engineer, Alaska Road Commission

Ex-Chief Engineer, The Alaska Railroad.

The Military Engineer, Jan.-Feb. 1922. "The Alaskan Trail."

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Secretary of the Interior; Director, National Park Service; Governor of Alaska; Chief of Engineers, U. S. Army; and President, Alaska Road Commission.

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Iron Creek Bridge	" "
Bull River Bridge	" "
Nizina River Bridge	" "
Tsaina River Bridge	" "
Tazlina River Bridge	" "
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Upper Tonsina River Bridge	" "
Sheep Creek Canyon Bridge	" "

REPORT UPON THE CONSTRUCTION AND MAINTEN-
ANCE OF MILITARY AND POST ROADS, BRIDGES,
AND TRAILS, ALASKA; and of other Roads, Tram-
ways, Ferries, Bridges, Trails and Related Works in
the Territory of Alaska.

REPORT OF THE BOARD OF ROAD COMMISSIONERS
FOR ALASKA.

James G. Steese.....President
Lunsford E. Oliver.....Chief Engineer.
H. E. Fisher.....Secretary and Disbursing Officer.

For description of Project Under This Commission see Part 1
of this Report, contained in Annual Report of the Chief of En-
gineers, United States Army.

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
monies 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% of total fund) of said fund shall
be devoted to the construction and maintenance of wagon roads,
bridges, and trails in said Territory * * * * *.

SECTION 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 ap-
pointment, 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, 1925, as amended by Acts of May 11, 1906 and March 3, 1913).

Provided, That hereafter the Secretary of War may, in his discretion, assign suitable retired officers of the Army to active duty as members of the board of road commissioners for Alaska. (Act of March 3, 1911).

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, 1913). 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 centum 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 Feb. 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

DEPARTMENT

OLIVER
OFFICER

SOUTH-WESTERN
DISTRICT

SUPERINTENDENT

M. W. STERLING

ASST. Supt.

ANTON EGE

JUNIOR ENGR.

G. J. TRUITT

AUTO MECHANIC

R. WINBAUER

FOREMEN

J. H. BELL
GUY BURCH
F. FRYDENBERG
CARL JOHNSON
C. S. LAWRENCE
CHAS. LEAN
C. F. MAGARA
T. H. MCDONALD
W. N. JOHNSON
S. SANDERSON
OSCAR TAYLOR
BERT WILSON
J. VANWINKLE

VALDEZ

DISTRICT

SUPERINTENDENT

W. H. HUDDLESTON

JUNIOR ENGR.

ANTON ANDERSON

AUTO MECHANIC

W. S. PRATT

FOREMEN

MATT MCCLADE
JOHN NEFF
IRA WOODS
JAS. MCCONNELL
FRED ANDERSON

SOUTH-EASTERN

DISTRICT

SUPERINTENDENT

R. A. AGNEW

ASST. Supt.

R. J. SHEPARD

FOREMEN

JOE WARENZE
P. TRIERSCHLE
CARL ROBERTS

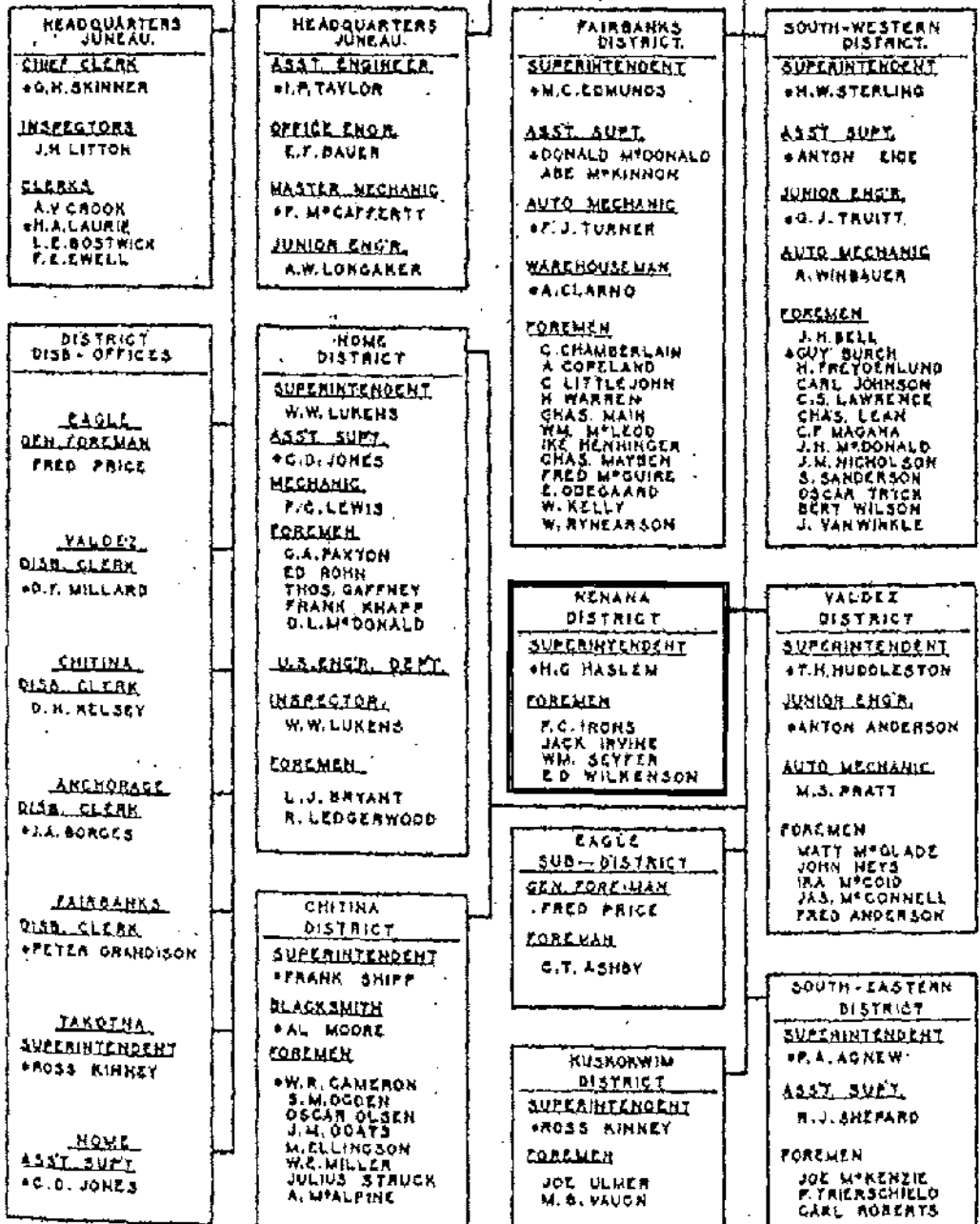
ORGANIZATION CHART

ALASKA ROAD COMMISSION AND U.S. ENGINEER DEPARTMENT
WORKING SEASON, 1924.

JAS. G. STEESE
PRESIDENT OF THE BOARD
AND
DISTRICT ENGINEER USED

P. A. AGNEW
SECRETARY
AND
DISBURSING OFFICER

L. E. OLIVER
ENGINEER OFFICER



* - ENTIRE YEAR, OTHERS PART TIME ONLY.

1925 A.R.C. Report - Official page 9

*need page added from
this one. The page contains
a list of ARC personnel
Done*

ANNUAL REPORT ALASKA ROAD COMMISSION.

9

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 \$800,000 to be immediately available. (Act of Feb. 12, 1925).

OPERATIONS DURING THE FISCAL YEAR.

The work during the fiscal year ending June 30, 1925, was executed under appropriations for "Construction and maintenance of roads, bridges, and trails, Alaska, 1924-1925," approved June 7, 1924; and "1925-1926" approved Feb. 12, 1925; 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 consisted chiefly of maintenance and rehabilitation of existing roads, trails and bridges. The construction of several new projects was continued mostly under cooperative agreements with the Territorial Board of Road Commissioners and the National Park Service.

The roads constructed by this Commission are in general good wagon roads. However, a more substantial type of road has now been built in many places, upon which automobiles and light trucks can be used economically. 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 sub-office is maintained at Washington, D. C., as required. The Territory is divided into eight districts and two sub-districts with boundaries as shown on maps accompanying the district reports herein.

Each district is in charge of a superintendent. It is the duty of each superintendent to visit his working crews and to give them the necessary engineering supervision during the season. The foremen in local charge are in nearly all cases trained men who have been attached to this Commission for many years.

MACHINERY AND EQUIPMENT.

The following additional equipment was purchased during the fiscal year:

- 33 Trucks, Ford 1 yd. dump.
- 2 Trucks, Ford 1 ton cargo.
- 3 Trucks, Ford Runabout.
- 2 Tractors, Best.
- 3 Graders, horsedrawn.
- 1 Grader, Tractor drawn, (Adams).
- 1 Grader, Wehr, with Fordson Tractor attached.
- 4 Dump Bodies, 1 yd. for Ford Trucks.
- 3 Dump Bodies, 1 yd. for G. M. C. Trucks.
- 1 Drag, Oregon Road Planer.
- 2 Trailers, Highway dump.
- 4 Trailers, Highway freight.
- 2 shovels, gasoline, Byers $\frac{1}{2}$ yd.
- 4 Dump bodies, $1\frac{1}{2}$ yd. for wagons.

Additional quantities of surplus Army stocks suitable for this work have been received including

- 5 Holt 5 ton tractors.
- 60 Tons dynamite 40%.
- 1 Transit, surveying.
- Miscellaneous small surveying instruments and drafting supplies.

The high cost of labor and of maintaining horses has made necessary the prosecution of the greater part of our work 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:

- 23 Auto Trucks, Dodge.
- 56 Auto Trucks, Ford.
- 16 Auto Trucks, G. M. C.
- 4 Auto Trucks, Packard.
- 2 Auto Trucks, Pierce Arrow.
- 7 Auto Trucks, White.
- 1 Boiler, Piledriver.

- 2 Cars, Gasoline section.
- 1 Cars, Roller bearing push.
- 1 Compressor, air.
- 2 Crushers, stone.
- 1 Drum, hoisting.
- 23 Drags, road.
- 1 Drag, planer.
- 2 Drag lines, gasoline.
- 2 Derricks, motor.
- 2 Ditchers, road.
- 1 Engine, donkey.
- 9 Engines, Hoisting.
- 10 Graders, road, tractor drawn.
- 17 Graders, road, horsedrawn.
- 1 Grader, power with Fordson Tractor.
- 1 Jackhammer.
- 4 Levels, surveying.
- 1 Locomotive, Fordson.
- 2 Machines, mowing.
- 1 Mixer, concrete.
- 4 Piledrivers.
- 48 Plows.
- 3 Radio outfits.
- 8 Rollers, road.
- 1 Rake, moss.
- 4 Saws, power driven.
- 1 Scarifier.
- 67 Scrapers, slip.
- 10 Scrapers, wheel.
- 1 Shovel, $\frac{3}{4}$ yd. steam.
- 2 Shovels, $\frac{1}{2}$ yd. gasoline.
- 55 Sleds, bob.
- 5 Tractors, Best.
- 23 Tractors, Holt.
- 1 Tractor, Case.
- 3 Tractors, Titan.
- 1 Tractor, Yuba.
- 36 Trailers, Highway.
- 7 Transits, surveying.
- 77 Wagons.
- 1 Welding outfit.
- 4 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 clearing, grubbing and construction of the road includes all work done upon the 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, wagon roads are any roads cleared, grubbed, ditched, graded, and drained sufficiently to accommodate wagon traffic. Light 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 graded like wagon roads, but not grubbed. They are drained only sufficiently to prevent their destruction by the summer rains. Their wearing surface is of snow. Double bob-sleds, drawn by two, four, etc., horses haul heavy loads over these roads as well as over the wagon roads in winter time. During the past two or three 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.

Since assuming charge at the beginning of the 1920 working season, the present Commission has been engaged in overhauling the entire road and trail situation, rehabilitating or abandoning the projects which have fallen into disrepair or disuse, and drawing up a progressive and comprehensive plan of operations covering a period of years.

The total mileage of roads and trails constructed by the Commission during its first sixteen years of existence (1905-1920) aggregated 4,899 miles, consisting of 1031 miles of wagon road, 336 miles of

ANNUAL REPORT ALASKA ROAD COMMISSION. 13

sled road, and 3223 miles of trail. In addition some 712 miles of temporary trail have been flagged as required.

Not all of this mileage has been maintained year by year; some has been in disuse or practically impassable for many years and a small mileage has been superseded by other routes or methods of transportation as will appear more in detail below.

The specific routes included in this 5602 miles are enumerated in Tables I and IV, Annual Report for 1921. The following table summarizes the status of the work of investigation and rehabilitation begun five years ago and now practically completed.

STATUS	MILEAGE					
	Wagon Road	Sled Road	Trail	Total	Flagged	Grand Total
1920 Report	1,631	686	3,223	4,539	712	5,602
ADDITIONS:						
New Mileage	5133 1/2	534 1/2	4,395 1/2	5,443 1/2		5,443 1/2
Reclassified	1503 1/2	234 1/2	65	483 1/2		483 1/2
GRAND TOTAL	1,895 1/2	1,465	7,683 1/2	10,714	712	11,426
DEDUCTIONS:						
Transferred to other Bureaus	117 1/2	0	45 1/2	172		172
Reclassified	133 1/2	183 1/2	243	459 1/2		459 1/2
Abandoned or dropped account duplication of routes	92 1/2	115 1/2	930	1,137 1/2		1,137 1/2
NET TOTAL	1,472 1/2	1,066 1/2	6,465	8,024	712	8,736
Departmental Work 1925	113 1/2	54	54	221 1/2		221 1/2
War Dept. Work 1925	145 1/2	275 1/2	2,635	2,455 1/2	310	2,715 1/2
A. E. C. Work 1925	213 1/2	747 1/2	4,356	5,317	472	5,789

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

DISTRICT	Wagon Road	Sled Road	Trails	Flagged Trails	Total
Southeastern Alaska	57		5		62
Nome	29	43	301		423
Barrow			427		427
Wainwright	162 1/2		37 1/2		200
Etah	157				157
Barter	313 1/2	151 1/2	263		717 1/2
Wainwright	95 1/2	112 1/2	347		545
Northwestern Alaska	123	54	117		294
Umanak	23	38 1/2	60 1/2		121 1/2
Wainwright	272 1/2	27	2,213	472	2,984 1/2
TOTALS	1,213 1/2	747 1/2	4,377	472	6,759

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

FEDERAL APPROPRIATIONS:

Alaska Fund, 1908-1920	32,155,030.92*
War Dept. Act, 1905-1920	3,058,041.44**
Increase of Compensation, 1915-1920	146.05

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U. S. Treasury Adjustments, 1905-1929	22,870.76
Alaska Fund, 1921-1925	651,856.29
War Dept. Acts, 1921-1925	2,833,809.29
Increase of Compensation, 1921-1925	94,931.25
National Park Service, 1925	80,020.00
Total	\$5,911,714.97

CONTRIBUTED FUNDS:

Territory of Alaska, 1920	\$ 101,181.58
Territory of Alaska, 1921-1925	459,994.81
Miscellaneous, 1922-1925	7,953.08

Total	\$ 569,129.45
Grand Total	\$9,501,847.12

*Includes the following adjustments:

Appropriations	\$2,123,585.65
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ADDITIONS:

Receipts, from sales	\$48,694.14
Repayments, voucher corrections	1,328.68
Total	50,020.82

Total	\$2,173,606.47
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DEDUCTIONS:

Disbursing officer shortage ***	18,675.55
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Net Total	\$2,155,030.99
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**Includes the following adjustments:

Appropriations	\$3,055,000.00
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ADDITIONS:

Navy Dept. reimbursement	\$ 3,976.19
Repayments, voucher corrections	291.59
Total	4,267.99

Total	\$3,059,267.99
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DEDUCTIONS:

Disbursing officer shortage***	1,226.55
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Net Total	\$3,058,041.44
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***Defaulting officer was dismissed the service by G. O. No. 4, War Dept., Washington, D. C., Feb. 17, 1919.

In addition to the above funds, disbursed through the U. S. 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, 1905-1929	\$ 200,000.00
Department of Agriculture, 1920	202,702.67
Quartermaster General, 1901-1902	100,000.00*
Chief of Engineers, 1891-1905	34,631.78*
Territorial Funds and Forest Revenues Prior to 1921	684,289.64
Territorial Divisional Commissioners, 1921-1924	51,494.33
Territorial Divisional Commissioners, 1925	21,113.35
Seward Peninsula Tramway, 1923	24,014.00
Tolovana Tramway, 1924	6,425.00
McKinley National Park, 1924	700.25
Total	\$1,355,326.53

*Expended prior to organization of the Alaska Road Commission.

The following table gives the total amounts expended on the various routes up to June 30, 1926, from all sources. It does not include expenditures by the Forest Service. Several items among the contributed funds are subject to minor modification:

Sub- Project No.	Name of Route	MILEAGE			Total Miles	Federal Appropriations and Alaska Fund		Contributed	Supervised	GRAND TOTAL
		Wagon Road	Sled Road	Trail		F.Y. 1905-'20	F.Y. 1921-'25	Funds F.Y. 1920-'25	Funds F.Y. 1916-'25	
1	Prince of Wales Island	4		7	11	\$ 55,649.78	\$ 204.50	\$ 7,995.98		\$ 63,850.26
2	Juneau-Eagle River					110,497.01			\$ 9,927.23	120,424.24
2A	Auk Bay Extension	2			2	44,286.13		14,870.66	1,247.64	60,404.43
2B	Mendenhall Glacier Extension	3			3		15,150.21			15,150.21
2C	Eagle River Extension	6		14	20		842.39		2,305.75	3,148.14
2D	Juneau-Duck Creek	10			10		4,448.21			4,448.21
2E	Gastineau Channel Dredging								28,621.83	28,621.83
2F	Gold Creek Bridge, Juneau								2,156.75	2,156.75
2G	Alaska Juneau Mine Trail								831.66	831.66
3	Haines-Pleasant Camp					166,664.71	37,999.91	6,398.20		211,062.82
3A	Haines-Wells	25			25		13,130.96	12,968.99		26,099.95
3B	Pleasant Camp Extension	18			18		66,133.53	39,782.30		105,915.83
3C	Porcupine Extension	20			20		705.69	700.00		1,405.69
3D	Haines-Mud Bay	10			10		2,261.30	7,950.00	16,268.16	26,469.46
3E	Haines-Chilkoot	3			3				5,962.74	5,962.74
3F	Haines-Jones Point								2,093.46	2,093.46
4A	Donnelly-Washburn		55		55	32,380.06	1,080.00			33,460.06
4AA	Richardson-Democrat Creek								500.00	500.00
4B	Valdez-Ernestine					483,794.16				483,794.16
4BA	Valdez-Plumigan Drop	33			33		293,071.49			293,071.49
4BB	Plumigan Drop-Ernestine	30			30		65,607.60			65,607.60
4C	Ernestine-Willow Creek	29			29	143,952.57	102,437.66			246,390.23
4D	Willow Creek-Gulkana	36			36	252,464.01	109,024.48			361,488.49
4E	Gulkana-Sourdough	21½			21½	142,402.90	84,013.92			226,416.82
4F	Sourdough-Mile 168	18			18	119,244.60	89,872.03			209,116.63
4G	Mile 168-Delta River	38			38	166,546.96	80,925.25			247,472.21
4H	Delta River-McCarthy					406,192.19	18,846.42			425,038.61
4H-1	Delta River-Rapids	25½			25½		107,161.79			107,161.79
4H-2	Rapids-Grundler	48			48		71,267.02			71,267.02
4I	Grundler-Idchardson	20½			20½	155,782.30	78,010.90			233,793.20
4J	Idchardson-Salchaket	30			30	190,346.82	84,934.48			275,281.30
4K	Salchaket-Fairbanks	40			40	226,994.69	218,531.21			445,525.90
4KA	Salcha Bridge						38,162.78			38,162.78
5	Ester-Fort Gibbon					93,669.81	3,356.10			97,025.91
5A	Dunbar-Ft. Gibbon		121		121		6,788.79			6,788.79
6A	Willow Creek-Tonsina	24			24	87,006.88	98,665.46			179,671.34
6B	Tonsina-Chitina	16			16	154,826.80	101,669.87			256,496.67

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Sub Project No.	Name of Route	MILEAGE			Total Miles	Federal Appropriations and Alaska Fund		Contributed Funds		Supervised Funds	GRAND TOTAL
		Wagon Road	Shed Road	Trail		P.Y. 1906-'20	P.Y. 1921-'25	P.Y. 1920-'25	P.Y. 1916-'25		
7	Fairbanks-Fairbanks Creek	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
7A	Summit-Cluckanika	11	.....	.....	11	24,086.70	13,652.12	360.00	31,302.28	31,302.28	42,630.85
7AA	Cheney Creek	2	.....	.....	2	.....	.....	.....	718.41	718.41	.....
7AB	Cheney-Pish Creek	.....	.....	.....	.....	.....	.....	.....	380.30	380.30	.....
7B	Box Olney	13	.....	.....	13	26,792.30	394.05	.....	6,144.31	33,238.46	.....
7BB	Box Road Creek	.....	.....	.....	.....	.....	.....	.....	865.76	865.76	.....
7C	Summit-Fairbanks Creek	13	.....	.....	13	14,810.64	1,134.60	30.00	6,291.93	22,286.17	.....
7D	Kato Creek	13	.....	.....	13	27,221.14	2,293.16	243.75	12,486.50	42,054.55	.....
7DA	College Spur	1/2	.....	.....	1/2	.....	.....	.....	530.00	530.00	.....
7DB	St. Patrick's Creek (proposed)	.....	.....	.....	.....	.....	.....	.....	189.00	189.00	.....
7E	Vault Creek	2	.....	.....	2	4,496.20	.....	.....	379.00	4,875.20	.....
7F	Vault Creek-Treasure Creek	1 1/2	.....	.....	1 1/2	1,379.09	.....	.....	.....	1,379.09	.....
7G	Fairbanks-Gilmore	13	.....	.....	13	17,851.14	21,472.24	.....	4,896.95	44,220.33	.....
7GA	Lazelle Road	2 1/2	.....	.....	2 1/2	.....	.....	.....	633.17	633.17	.....
7H	Little Eldorado Creek	6	.....	.....	6	3,830.83	.....	.....	5,799.07	9,629.90	.....
7I	Gilmore-Summit	6	.....	.....	6	11,683.70	6,340.69	.....	5,334.93	23,359.32	.....
7IA	Gilmore Creek	.....	.....	.....	.....	.....	.....	.....	1,562.00	1,562.00	.....
7J	Fairbanks-Chena Hot Springs	.....	64	.....	64	5,217.83	4,916.96	.....	3,087.10	13,221.89	.....
7K	Olney-Lyngood	.....	.....	64	64	12,067.89	316.82	.....	761.68	13,146.39	.....
7L	Farmers-Brech Hill	9	.....	.....	9	.....	.....	.....	19,370.62	19,370.62	.....
7NA	Isabelle Creek	2	.....	.....	2	.....	.....	.....	175.00	175.00	.....
7B	Goldstream-O'Connor Creek	.....	6	.....	6	.....	154.64	.....	.....	154.64	.....
7S	Gravel Bridge	.....	.....	.....	.....	.....	.....	.....	1,323.57	1,323.57	.....
7T	Farmers-Chena Slough	4 1/2	.....	.....	4 1/2	.....	.....	.....	2,548.74	2,548.74	.....
7U	Noyes Slough Bridge	.....	.....	.....	.....	.....	.....	.....	459.69	459.69	.....
7V	Fairbanks Wireless	1/4	.....	.....	1/4	.....	377.00	.....	.....	377.00	.....
7Z	Fairbanks Locals	.....	.....	.....	.....	.....	.....	.....	14,918.48	14,918.48	.....
8	Rome-Council	57	.....	25	82	135,886.07	42,461.18	79,811.92	55,647.98	304,807.20	.....
8A	Romanza-Perry	.....	.....	.....	.....	.....	317.80	1,335.87	.....	1,653.67	.....
8B	Safety Ferry	.....	.....	.....	.....	.....	467.90	980.63	.....	1,448.53	.....
8C	Council Ferry	.....	.....	.....	.....	.....	176.00	50.00	.....	226.00	.....
8D	Council-Ophir Creek	12	.....	.....	12	.....	1,220.46	610.00	.....	1,830.46	.....
8E	Bear Creek Trolley	.....	.....	.....	.....	.....	1.00	10.00	.....	11.00	.....
8F	Casa de Paga	20	.....	.....	20	.....	2,013.24	5,900.00	10,079.75	18,232.09	.....
8J	Shovel Creek	5	.....	.....	5	.....	.....	.....	58.50	58.50	.....
9	Rampart-Bureka	8	19 1/2	.....	27 1/2	37,282.98	3,488.93	562.00	1,518.32	42,841.63	.....

10	Seward-Kenai Lake	14	.....	14	63,217.43	9,170.33	5,000.00	3,396.17	80,783.93
10A	Seward Radio	1	.....	1	6,470.04	35.00	.....	.....	6,505.04
10B	Seward-Nash	2½	.....	2½	.....	.....	.....	18,992.30	18,992.30
10C	Lowell Creek Survey	.....	.....	.....	.....	.....	80.75	.....	80.75
11A	Eagle Liberty	20	7	27	64,004.71	21,261.83	800.80	600.00	87,667.34
11AA	American Hummill King Solomon	.....	5	5	.....	150.00	.....	.....	150.00
11B	Liberty-Forty Mile	23	.....	23	16,376.07	770.14	.....	1,216.00	18,362.21
11C	Steel Creek Jack Wade	15	.....	15	4,979.00	660.91	.....	.....	5,639.91
11C'	Steel Creek Jack Wade (hammer)	.....	15	15	.....	150.00	.....	.....	150.00
11D	Canyon Creek Walker's Park	27	.....	27	4,110.00	500.00	.....	.....	4,610.00
11E	Eagle Seventy Mile	4	10	40	3,054.09	6,979.03	.....	.....	9,633.12
11F	Jack Wade-Chleken	.....	20	20	.....	541.50	.....	.....	541.50
11G	Blad Creek-Chuyon Creek	.....	6	6	.....	705.00	.....	.....	705.00
11H	Liberty-Cabin Dome	.....	10	10	.....	4,158.11	.....	.....	4,158.11
11I	Dome-Hood Creek	.....	12	12	.....	.....	.....	.....	.....
11J	Forty Mile-Franklin	30	.....	30	.....	.....	.....	.....	.....
11K	Forty Mile-Steel Creek	.....	8	8	.....	80.00	.....	.....	80.00
11L	Franklin-Chleken	10	.....	10	.....	.....	.....	.....	.....
11L'	Franklin-Chleken	20	.....	20	.....	.....	.....	.....	.....
11M	Jack Wade-Walker's Park	.....	18	18	.....	.....	.....	.....	.....
11MM	Jack Wade-Walker's Park	25	.....	25	.....	.....	.....	.....	.....
12A	Mile 34 A. N. R. R. Hope	16	.....	16	44,192.66	.....	.....	.....	44,192.66
13A	Nome-Bosnie	3½	.....	3½	40,551.01	6,386.26	8,128.18	.....	61,064.46
13B	Bosnie-Hammer	3½	.....	3½	33,261.51	2,856.74	4,068.80	.....	30,187.05
13C	Bosnie-Little Creek	2	.....	2	5,260.39	1,583.79	5,665.10	.....	12,409.28
13D	Bosnie-Dry Creek	1½	.....	1½	3,218.40	.....	70.80	.....	3,289.20
13E	Dry Creek-Newton	½	.....	½	555.44	68.30	.....	.....	623.74
13F	Nome-Osborne	5½	.....	5½	11,636.85	9,863.15	12,210.72	.....	33,710.72
13G	Grass Gulch	2	.....	2	1,125.73	.....	.....	.....	1,125.73
13H	Center Creek	1½	.....	1½	1,533.80	5.00	.....	.....	1,538.80
13I	Nome River Extension	5	.....	5	8,191.62	396.74	712.50	.....	9,300.86
13J	Wonder-Flat Creek	2	.....	2	2,803.72	.....	.....	.....	2,803.72
13K	Bosnie-Buster	5	.....	5	14,770.70	2,437.99	3,957.00	.....	21,165.69
14	Sitka-Indian River	3½	.....	3½	9,590.65	3,195.22	500.00	.....	13,285.88
14A	Sitka National Monument	.....	2	2	.....	1,021.31	1,707.37	.....	2,728.68
14B	Sitka Military Cemetery	½	.....	½	.....	888.65	600.00	307.50	1,886.15
15	Circle-Miller House	49	.....	49	115,317.13	21,827.36	4,598.63	.....	141,743.12
15A	Central House-Circle Hot Springs	9	.....	9	.....	.....	2,602.75	.....	2,602.75
15B	Central House-Dendwood	.....	.....	.....	.....	.....	2,669.75	.....	2,669.75
16	Chatanuka-Miller House	20¾	60¼	81	21,095.62	167,626.01	1,000.00	189,721.63
17	Pl. Gibbon-Katag	257	257	25,391.44	5,649.74	31,041.18

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Sub-Project No.	Name of Route	MILEAGE			Total Miles	Federal Appropriations and Alaska Fund			Contributed Funds	Supervised Funds	(GRAND TOTAL)
		Wagon Road	Sled Road	Trail		P.Y. 1905-'20	P.Y. 1921-'25	P.Y. 1920-'25	P.Y. 1916-'25		
17A	Lewis Landing-Dishkaket			108	108	483.37				483.37	
17B	Nulato-Dishkaket			90	90	735.88				735.88	
18	Nome-Solomon			280	280	38,903.51	10,981.63	2,205.00	475.00	52,565.14	
18A	Bonanza-Kotzebue			240	240		1,275.99	1,460.50		2,736.49	
18B	Gakona-Council			35	35		44.00	70.00		114.00	
18C	Kalfog-Portage-Barvey			86	86				312.72	312.72	
19	Kern Creek-Kulk			40	40						
19A	Kern Lake-Kern Creek			2	2	26,820.88				26,820.88	
19B	Mile 27-Mile 29 A. N. R. R.			7	7						
19C	Kenal Lake-Mile 27 A. N. R. R.			22	22						
19D	Kern Creek-Indian Creek			10	10		3,434.15			3,434.15	
19E	Gledwood-Crow Creek	10		30	30	8,437.44				8,437.44	
20A	Kulk-Susitna			127	127	28,359.90	2,517.08	2,000.00		32,876.98	
20B	Susitna-Rainy Pass			119	119	12,426.96	4,009.50			16,436.46	
20C	Rainy Pass-Big River			66	66	29,586.58				29,586.58	
20D	Dishkaket-Kalfog			19	19		383.10			383.10	
20DA	Oplur-Takotna		19	55	55		760.00			760.00	
20DB	Oplur-Dishkaket			35	35						
20E	Susitna-McDougal			30	30	19,665.21				19,665.21	
20F	McDougal-Cachee Creek			15	15						
20G	Lakeview-McDougal			25	25		296.33			296.33	
20H	Nancy-Susitna			60	60	4,946.71	552.00	450.00		5,948.71	
21	Undikleet-St. Michaels			9	9	31,664.19	13,433.27	5,524.18	1,005.00	51,626.64	
22	Hol Springs-Solbyann Creek	9		101	101	5,805.81	4,165.65		2,580.00	12,551.46	
23A	Snowshoe-Beaver			75	75	23,419.22	16,665.92			40,085.14	
23B	Beaver-Cary	75		20	20		626.64			626.64	
23C	Big Creek			45	45		2,571.96			2,571.96	
23D	Caro-Pud Creek			85	85		8,389.91			8,389.91	
23E	Caro-Coldfoot										
24	Mile 29 A. N. R. R. Moore Pass			39	39	43,837.13	3,400.21			47,237.34	
24A	Lynx Creek-Six Mile			7	7		296.00			296.00	
24B	Sunrise-Hope			9	9		185.00			185.00	
25A	Cripple River			12	12	5,991.64	525.20	2,284.95		8,801.79	
25B	Penny River			1 1/2	1 1/2	1,281.08	86.00	600.00		1,967.08	
25C	Nome-Wireless			2	2	911.29	853.85	600.00		2,371.14	
25D	Mouth Center Creek			3	3	4,498.62	1,643.77	1,393.50		7,535.89	
25E	Submarine Phystreak			3	3	24,553.20	1,901.31	2,800.00	461.35	29,715.86	

294	Yukon Extension	3	3	11,662.94	1,124.36	2,364.30		45,151.59
295	Yukon River Extension	3	3	7,160.31	1,779.28	3,787.40		12,726.99
296	Chitina Creek	1 1/2	1 1/2	1,802.52				1,802.52
297	Barrow Ferry					500.25	663.50	1,063.75
298	Nome City Dock						2,966.65	2,966.65
299	Candle-Candle Creek	6	6	24,640.03	11,444.64	13,911.23	4,026.95	54,028.85
300	Kugruk River Approach	1 1/4	1 1/4		488.00			488.00
301	Bear Creek Trail		45	45				488.00
302	Deering-Inngichuk	25						
303	Shelton-Candle		25	25	21,151.02	9,168.57	20,340.56	1,617.35
304	Nome-Paylor		152	152	6,229.86	177.50	22.00	2,965.83
305	Port Gibbons-Bettles		135	135		1,497.20	725.00	865.00
306	Bettles-Coldfoot		156	156	9,166.76			2,111.48
307	Alatna-Shungnak Recon- naissance	52 1/2	52 1/2		2,817.25		2,000.00	11,278.24
308	Hot Springs Landing-Kareka	24	24		2,397.25			4,817.25
309	Caribou Creek		46	46	20,917.52	13,169.03	1,713.71	3,967.09
310	Takotna-Flat (summer)	46	46	8,580.91	2,913.81	540.00		39,767.35
311	Takotna-Flat (winter)		95	95	5,606.39	2,505.75		12,340.72
312	Flat-Moore Creek		93	93		40.00		8,112.14
313	Candle Creek-Takotna		7	7		10.00		40.00
314	Iditarod-Flat		12	12		1,141.20		10.00
315	Ophiir-Iditarod (winter)	8	8	20,061.92	20,286.70	2,900.00	12,098.31	1,141.20
316	Flat-Crooked Creek		79	79	5,000.00	1,130.10	100.00	65,346.93
317	Flat-Georgetown		62	62		1,280.00	200.00	6,230.10
318	Otter Creek Towpath		65	65		150.00		1,480.00
319	Summit-Otter	6	22	448.23				150.00
320	Flat City-Flat Creek	5	6	4,447.66	600.00			448.23
321	Head Flat Creek-Willow Creek	4 1/2	4 1/2		450.00			5,047.66
322	Willow Creek-Chicken Creek	3	3		10.00			600.00
323	Flat City-Otter-Discovery	3	3		300.00		11,086.08	450.00
324	Candle-Landing-Candle Creek	9	9					10.00
325	Iditarod-Distickket	30	68	98	4,830.98		6,572.00	11,386.08
326	Flat-Auyik		80	80		175.00		6,572.00
327	Knik-Willow Creek							4,830.98
328	Archangel Extension	5 1/2	5 1/2	67,823.31	21,893.44			175.00
329	Mill 26 1/2, Palmer	8 1/2	8 1/2	2,267.35	22,469.09			89,716.75
330	Palmer Matanuska River	14 1/2	14 1/2	11,915.48	6,722.04		867.08	24,926.14
331	Willow Creek Extension	11	11 1/2	25,312.58	7,152.10		1,014.41	17,664.66
332	Wasilla-Fishhook	16	16		63,847.14			33,475.09
333	Wasilla-Knik	16	16		23,067.06			63,847.14
334	Palmer-Springer	3	3		20,898.42		345.00	23,067.06
							2,073.32	21,243.42
								2,073.32

Sub- Project No.	Name of Route	MILEAGE			Total Miles	Federal Appropriations and Alaska Fund			Contributed Funds	Supervised Funds	GRAND TOTAL
		Wagon Road	Sled Road	Trail		F.Y. 1905-'20	F.Y. 1921-'25	F.Y. 1926-'25			
3511	Wasilla-Finger Lake-				12		2,398.68	1,200.00	22,657.23	25,655.91	
	Palmer	12			6		500.00	500.00	1,267.59	2,267.59	
351	Moose-Palmer	6			8		3,286.91	1,200.00	2,546.56	7,027.47	
351J	Wasilla-Matanuska	8			8		537.67	600.00	21,331.46	22,469.13	
351K	Matanuska Trunk Road	8			6½				5,238.53	5,238.53	
351L	Palmer-Matanuska	6½			30				940.32	940.32	
351N	Houston-Willow Creek		30		6		210.00		210.00	210.00	
351O	Pishhook-Goldmint		6		6				2,218.62	2,218.62	
351P	Moore Creek-Baxter	6			½				1,529.69	1,529.69	
351Q	Ballard Road	½			½				400.00	400.00	
351R	Eogard Road	½			1½	2,208.29	5,146.90	1,600.00	24,347.37	33,302.56	
36	Valdez-Mineral Creek	6½		1½	8				3,081.91	3,081.91	
36A	Granby Road	6			6				3,373.16	3,373.16	
3611	South 2d St. Cordova	14			¼				7,736.85	7,736.85	
361	Eyak Lake Road								524.74	524.74	
361D	Valdez-Quartz Creek								616.91	616.91	
361E	Valdez-Glacier								3,467.25	3,467.25	
361F	Shoups Bay								1,026.56	1,026.56	
37	Topkok-Candle			154	154	816.56	210.00			192,161.50	
38A	Ruby-Long Creek	30			30	167,182.09	21,154.82	3,824.59		9,823.58	
38B	Poorman-Cripple			47	47	4,192.66	5,630.92			1,701.25	
38C	Ophir-Cripple			47	47	699.00	1,002.25			162,442.40	
38D	Ophir-Pakotna	16			16	111,017.40	41,426.00			32,282.12	
38E	Long-Poorman (summer)	4			4	31,792.12	490.00			110.00	
38E1E	Long-Poorman (winter)		29		29	100.00	10.00			22,322.69	
38E1E1E	Panatchek-Poorman									919.47	
38E1E1E1E	Poorman-Ophir (summer)				126	919.47				8,374.68	
38E1E1E1E1E	Pakotna-Landing	1½			1½	8,374.68					
3811	Flume Dredge Road	8½			6					45,923.40	
381	Ganes Creek-Yankee Creek	5			3	41,805.06	4,124.34			14,007.50	
39	Juneau-Sheep Creek	3			3			251.00			
40	Douglas-Castineau Channel	2			2	13,445.12	311.38				
40A	Hawk Inlet Trail						10.00	15.00		25.00	
	Reconnaissance				12	2,772.12	293.65			3,066.77	
41	Klana-Klery Creek				200	427.50		1,200.00		1,627.50	
41A	Kotzebue-Shungnak				500		23.00	25.00		48.00	
411	Kotzebue-Pt. Barrow				500	1,282.30	393.00	165.00		1,840.30	
42	St. Michael-Kotlik				70						

1	Chukchi Bay	2	1	6	8,471.65	.....	1,500.00	13,794.58	23,466.23
11	Chugway - Valby	21	.....	21	10,303.30	.....	.....	821.53	11,124.83
11A	Chugway - Thompsons Cove	.....	3	3	.....	10,948.24	2,963.75	.....	13,911.99
12	Chukchi Bay - Laramie	4	.....	4	18,054.27	2,616.03	2,796.91	.....	23,466.21
16	Kobi - Bopoka	96	.....	96	4,671.63	10,384.62	.....	.....	14,956.15
16A	Roosevelt - Knutson	34	.....	34	.....	47,612.29	12,370.61	1,655.03	61,637.93
16B	Lagalle - Knutson	.....	86	86	.....	12,252.86	483.07	.....	12,735.93
16C	Nenana - Knutson Roadhouse	.....	42	42	.....	2,264.20	.....	.....	2,264.20
16D	McKadey - Park Road	10	.....	77	87	92,846.06	.....	700.25	93,546.31
16E	Diamond - Pelida	.....	90	90	.....	7,663.62	.....	.....	7,663.62
16F	Nenana - Cemetery	2 1/2	.....	2 1/2	.....	2,818.63	1,000.00	.....	3,818.63
16G	Kobi - Bonfield	45	.....	45	.....	5,706.61	.....	.....	5,706.61
17	Coldfoot - Wiseman	11	.....	11	5,000.00	3,359.37	.....	2,000.00	10,359.37
18	Hianna Bay - Hianna Lake	.....	12	12	7,137.77	9,639.78	.....	.....	16,777.55
19	Davidson's - Landing - Taylor	24	16	40	5,911.46	2,411.79	6,577.00	.....	14,900.25
20	Sitkine - River	.....	10	10	2,256.76	.....	.....	.....	2,256.76
51	Talkeetna - Cache Creek	23 1/2	20	43 1/2	4,889.02	122,602.38	81,109.36	.....	208,600.76
51A	Cache Creek Trail	.....	20	20	.....	1,430.90	300.00	.....	1,730.90
51B	Peters Creek Trail	.....	10	10	.....	5,398.89	1,000.00	.....	6,398.89
51C	Upper Yentna	.....	.....	.....	.....	901.26	.....	.....	901.26
52	Reconnaissance	.....	.....	.....	.....	.....	.....	.....	.....
52A	Ketchikan - Ward's Cove	.....	.....	.....	6,801.98	.....	19,318.44	.....	26,120.42
52B	Ketchikan - Charcoal Point	.....	.....	.....	.....	.....	.....	15,500.48	15,500.48
52C	Bagle - Circle	160	160	.....	206.00	1,109.45	.....	.....	1,315.45
53A	Circle - Pt. Yukon	67	67	.....	.....	4,166.57	.....	.....	4,166.57
54	Chisana - Nizina	.....	78	78	3,849.11	.....	.....	3,208.00	7,057.11
55	Kennai - Rossignol River	60	.....	60	301.30	8,059.11	100.00	369.25	8,819.66
56	Tasna - Trail	114	114	.....	1,058.14	.....	.....	.....	1,058.14
56A	Katalla - Yakutaga	60	60	.....	.....	.....	.....	.....	.....
56B	Katalla - Chilkat	.....	.....	.....	.....	.....	.....	7,752.56	7,752.56
57	McCarthy - Nizina	9	.....	9	26,277.66	63,266.12	.....	.....	89,543.78
57A	Nizina - River - Ridge	.....	.....	.....	.....	102,941.80	25,000.00	38,268.20	166,210.00
58	Nyder - Salmon River	.....	.....	.....	63.50	.....	.....	.....	63.50
59	Fairbanks - Bridge	.....	.....	.....	54,829.60	7,370.55	.....	.....	62,200.15
59A	Fairbanks - Depot	.....	.....	.....	.....	9,253.91	.....	.....	9,253.91
60	Valdez - Dyke	.....	.....	.....	56,065.98	.....	821.85	.....	56,887.83
61	Strella - Kusukum	12 1/2	.....	12 1/2	5,085.13	1,754.16	500.00	9,080.42	16,420.71
61A	Kobuk - Reconnaissance	.....	.....	.....	.....	476.93	.....	.....	476.93
61B	Nugget Creek Extension	6	.....	6	.....	.....	.....	6,833.42	6,833.42
61C	Chiluk - Kotana	.....	.....	.....	.....	.....	.....	26.00	26.00
61D	Chiluk - Copper River	.....	.....	.....	.....	.....	.....	.....	.....
62	Blue Creek	9	.....	9	.....	23,471.10	19,042.59	29,609.09	72,022.78
63	Dunbar - Brooks	63	.....	63	.....	6,074.86	6,042.34	2,258.38	12,976.57
63A	Brook - Permitt	13	.....	13	8,979.91	.....	.....	4,847.41	13,797.32

Sub Project No.	Name of Route	MILEAGE			Total Miles	Federal Appropriations and Alaska Fund				GRAND TOTAL
		Wagon Road	Shed Road	Trail		P. Y. 1905-'20	P. Y. 1921-'25	Contributed Funds P. Y. 1926-'25	Supervised Funds P. Y. 1918-'25	
631	Brooks-Amy Creek	4			4				30,433.31	31,043.31
63c	Brooks Trail	13			13	9,386.30			6,425.00	15,811.30
64	Cripple Lewis Landing			60	60	100.00				100.00
64A	Cripple Cripple Mountain			12	12	442.00				442.00
65A	Gulkana Chitochena	4			36	37,216.81				37,216.81
65H	Chitochena Slate Creek			40	40	109.50			149.00	258.50
66c	Chitochena Tanana Crossing			140	140					92.20
66D	Kechumatuik Tanana Crossing			60	60	716.82				716.82
65E	Chicken-Kechumatuik			28	28	1,372.00				1,372.00
65F	Grundler-Tanana Crossing			113	113	1,000.00				1,000.00
66	Mtanauska-Chickaloon			38	38	353.76			914.55	1,268.30
67	Nome-Teller			80	80			956.94	1,980.00	3,086.94
67A	Teller-Cape Prince of Wales			142	142	651.14		1,670.00		2,321.14
67B	Teller-Bronstone			18	18	354.46		500.00		854.46
67c	Teller-Mary's Igloo			40	40	810.00		1,530.00		2,400.00
68	Flagging Trails			712	712	40,927.29	16,483.07	9,834.53	12,069.53	79,314.42
69	Gastineau Channel Bridge					4,689.80				4,689.80
70	Misc. Surveys and Reconnaissances					3,338.06				3,338.06
						18,767.78				18,767.78
71	Trucks									8,964.97
72	Wrangell Oil Dock	½			½	2,964.97		2,000.00		4,964.97
72A	Wrangell Cemetery Road								8,639.22	8,639.22
73	Marshall Road	4¼			4¼	5,047.75		775.25	11,685.90	18,029.65
73A	Kotik-Marsdahl			190	190	990.00		200.00		1,190.00
73B	Stayabok			11	11	915.00		745.00		1,660.00
73C	Old Hamilton-Seammon Bay			89	89	53.45		700.00		753.45
75	Anchorage-Eagle River	14½			14½	54,081.06		4,694.85	564.57	59,360.48
75A	Anchorage-Lake Spennard	4			4				8,440.23	8,440.23
75B	Anchorage-Whitney	5			5	32.30		50.00	5,041.86	6,124.16
75c	Chester Creek Boat Landing	1			1				582.82	582.82
75D	Anchorage Warehouse					4,363.34				4,363.34
75E	McDonald Road	1¼			1¼	200.00		300.00		500.00
75G	East 1 St. Anchorage								1,023.40	1,023.40
76	Cantwell-Valdez Creek			55	55	6,371.59				6,371.59
77	Shelton Ferries					531.50		100.00		631.50

	London-Come District				707.14	600.00	723.11	2,100.25
	London-Come District				114.66	100.00	216.00	430.66
78	Valdez Depot				4,133.46			4,133.46
79	Seward Depot				3,890.90			3,890.90
80	Kuskokwim Reconnaissance				60.00			60.00
80A	McGrath-Takotna (summer)	5	5		184.87			184.87
80AA	McGrath-Takotna (winter)	18	18		681.00		332.00	1,013.00
80B	McGrath-Tellida	94	94		8,887.92			8,887.92
80C	McGrath-Candle Creek	11	11		215.00			215.00
80D	Nixons Fork-Nixons Mine	37	37				2,348.00	2,348.00
80E	Takotna-Twin Peaks (proposed)				80.00			80.00
80F	Berry Landing-Nixon Mine	12	12		150.00			150.00
80G	Takotna-Nixons Fork (summer)		15½	15½	450.00			450.00
80GG	Takotna-Nixon Fork	14½	14½		75.00			75.00
81	Good Creek-Salmon River	1½	1½		1,675.87	3,335.00		5,010.87
82	Taku River	3	3		899.21		19,309.74	20,208.95
83	Talkotna-Iron Creek Reconnaissance				921.26		153.77	1,075.03
86	Fourth of July Creek	5	10		3,036.27			3,036.27
87	Woodchopper Creek		8	8	872.00			872.00
88	Perry-Iva Creek	6	11½		8,554.10			8,554.10
89	Kouzarok-Reconnaissance				4,312.11			4,312.11
89A	Seward Peninsula Railroad	87	87		66,171.97		24,014.00	90,185.97
90A	Shelter Cabins, 1st Division					340.35		340.35
90B	Shelter Cabins, 2d Division					7,887.25	5,007.69	12,894.94
90C	Shelter Cabins, 3d Division					6,724.75	1,097.47	7,822.22
90D	Shelter Cabins, 4th Division					11,707.90	2,007.00	13,714.90
91	Yakutat	1½	1½		43.73	6.82		50.55
92A	Bethel-Qulbhagak	90	90		797.50	1,000.00		1,797.50
92B	Bethel-Aktak	26	26		482.98	725.00		1,207.98
92C	Aktak-Russdan Mission	75	75		784.00	800.00		1,584.00
92D	Bennett's Cutoff	18	18		196.00	200.00		396.00
92E	Yukon-Kuskokwim Portage	120	120		400.00	100.00		500.00
92F	Qulbhagak-Goodnews Bay	60	60		1,650.32	768.45		2,417.77
92G	Goodnews-Poglak	53	53		1,233.33	970.00		2,203.33
92H	Poglak-Nushagak	125	125		2,448.47	1,400.00		3,848.47
92I	Lewis Point-Naknek	86	86		1,772.34	860.00		2,632.34
92J	Naknek-Bizelkik	50	50		1,365.00	740.00		2,105.00
92L	Napaimut-Antak	26	26		510.00	310.00		820.00
92M	Antak-Pulaksak	60	60		1,394.96	1,120.00		2,514.96
92N	Aktak-Canyon Creek	46	45					
93	Chulitna Trail	3	3		4,409.26	3,000.00	877.17	8,286.43

Sub-Project No.	Name of Route	MILEAGE			Total Miles	Federal Appropriations and Alaska Fund		Contributed Supervised Funds		GRAND TOTAL
		Wagon Road	Sled Road	Trail		P. Y. 1905-'20	P. Y. 1921-'25	P. Y. 1920-'25	P. Y. 1915-'25	
92A	Roll River Trail			4	4				1,598.81	1,598.81
93B	Indian River Bridge						200.00			200.00
94	Kodiak Alberta			6	6		11,174.77			11,174.77
95	Kanatak Becharof Lake	83 1/4			83 1/4		28,296.80			28,296.80
96	Chekaloon-King River		6 1/2		6 1/2		822.00			822.00
97	Suttrana Footbridge						413.80			413.80
98	Homer Spit						2,826.92			2,826.92
100	Office and General Overhead					257,475.98	146,969.78	777.71		405,223.47
101	Territorial General Overhead								71,166.31	71,166.31
TOTALS		1669 1/4	1180 3/4	8043 1/2	10883 3/4	\$5,213,072.36	\$3,698,642.61	\$590,132.45	\$827,992.13*	\$10,329,839.55**
Deduct Mileage transferred, reclassified or abandoned		187 1/4	94	866 1/2	1147 3/4					
Net Total		1472 1/4	1086 3/4	7177	9736					

*Includes \$684,239.64 expended by Territorial Division Commissioners prior to supervision by Alaska Road Commission.

**Total Expenditure for Construction and Maintenance on routes subsequently abandoned are:
 Alaska Road Commission.....\$190,968.57
 Territory of Alaska.....45,093.63

Total\$236,062.20 which is 2.3% of Total Expenditure.

REMARKS ON SUB-PROJECTS.

Project No. 1: Turned over to Department of Agriculture July 1, 1920. The funds of the Department of Agriculture are limited to projects in the Tongass and Chugach National Forests. This releases Alaska Road Commission funds for use in other parts of the Territory.

Project No. 2: Turned over to Department of Agriculture May 1, 1922. Routes 2C and 2D are subdivisions of this route and mileage is shown under these routes.

Project No. 2A: Turned over to Department of Agriculture July 1, 1920.

Project No. 2B: Turned over to Department of Agriculture May 1, 1922.

Project No. 2C: A subdivision of Route 2. Turned over to Department of Agriculture May 1, 1922.

Project No. 2D: A subdivision of Route 2. Turned over to Department of Agriculture May 1, 1922.

Project No. 2E: Last expenditure by the Territory 1919.

Project No. 2F: Last expenditure by the Territory 1915.

Project No. 2G: Last expenditure by the Territory 1920.

Project No. 3: Subdivided in 1921 into Routes 3A and 3C and mileage shown under latter routes.

Project No. 3A: Subdivision Route 2.

Project No. 3B: A new project on north bank of Klaini River.

Project No. 3C: Subdivision Route 2.

Project No. 3E: Last expenditure by the Territory in 1920. Will be rehabilitated.

Project No. 3F: Last expenditure by the Territory in 1913. No credit for mileage taken. May later be rehabilitated.

Project No. 4A: Abandoned. No need exists for this route now the discontinuance of winter travel via the Delta River No. Last expenditure 1920.

Project No. 4Aa: Abandoned. Last expenditure by the Territory 1917.

Project No. 4B: Subdivided in 1921 into routes 4BA and 4BB: Mileage shown under latter routes.

Project No. 4BA: Subdivision of Route 4B.

Project No. 4BB: Subdivision of Route 4B.

Project No. 4H: Subdivided in 1922 into routes 4H1 and 4H2 and mileage shown under latter routes.

Project No. 4H1: Subdivision Route 4H.

Project No. 4H2: Subdivision Route 4H.

Project No. 5: The portion from Ester to Dunbar 27 miles abandoned 1922 after completion of government railroad.

Project No. 5A: Part of Route 5 still maintained.

Project No. 7: Subdivided after 1920 into Routes 7G, 7H and 7C. Mileage shown under latter routes.

Project No. 7AB: Abandoned. Last expenditure by Territory 1920.

Project No. 7BB: Abandoned. Last expenditure by Territory 1920.

Project No. 7E: Abandoned. Last expenditure by Territory 1920.

Project No. 7F: Abandoned. Last expenditure by Territory 1920.

Project No. 7A: Abandoned. Last expenditure by Territory 1920.

Project No. 7C: Included in Route 7D after 1923.

Project No. 7Z: Under this heading expenditures by the Territory prior to 1917 on all Fairbanks local roads are carried.

Project No. 8A: Included in Route 8 after 1923.

Project No. 8B: Included in Route 8 after 1923.

Project No. 8C: Included in Route 8 after 1923.

Project No. 8G: Included in Route 8 after 1923.

Project No. 7D: 15 miles turned over to Department of Agriculture in 1920; balance on May 1, 1922.

Project No. 10A: Turned over to Navy Department 1920.

Project No. 12A: Section Mile 34 to Lynx Creek abandoned in favor of Route 24; remainder carried as Route 24A and 24B. Mileage shown hereunder only that abandoned.

- Project No. 13D: Abandoned. Last expenditure 1919.
- Project No. 13E: Abandoned. Last expenditure 1921.
- Project No. 13G: Abandoned. Last expenditure 1919.
- Project No. 13H: Abandoned. Last expenditure 1921.
- Project No. 13I: Abandoned. Last expenditure 1923.
- Project No. 13J: Abandoned. Last expenditure 1920.
- Project No. 14: Turned over to Department of Agriculture May 1, 1922.
- Project No. 15B: Last expenditure by Territory 1920.
- Project No. 17A: Abandoned. Last expenditure 1912.
- Project No. 17B: Abandoned. Last expenditure 1914.
- Project No. 19: Last expenditure 1917. Abandoned after completion of government railroad.
- Project No. 19A: Same as Route 19.
- Project No. 19B: Same as Route 19.
- Project No. 19C: Same as Route 19.
- Project No. 19D: Same as Route 19.
- Project No. 19E: Turned over to Department of Agriculture May 1, 1922.
- Project No. 20A: Abandoned in favor of shorter route after government railroad completed. Last expenditure 1918.
- Project No. 20D: Abandoned. This route originally carried as Takotna-Kaltag and the greater part of expenditures here shown were on the section Takotna to Ophir which is now carried as 3SD.
- Project No. 20E: Abandoned in favor of shorter route after completion of the railroad. Last expenditure 1917.
- Project No. 20F: Same as Route 20E.
- Project No. 20G: Same as Route 20E.
- Project No. 24: Turned over to Department of Agriculture May 1, 1922.
- Project No. 24A: Turned over to Department of Agriculture May 1, 1922.

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Project No. 24B: Turned over to Department of Agriculture May 1, 1922.

Project No. 25A: Abandoned.

Project No. 25B: Abandoned.

Project No. 25M: Abandoned. Last expenditure 1914.

Project No. 25I: Expenditures after 1923 carried under Route 67.

Project No. 33A: Abandoned. Last expenditure 1911.

Project No. 33B: Abandoned in favor of Route 36F.

Project No. 34: Abandoned. Last expenditure 1913.

Project No. 35: Subdivided after 1921 into Routes 35D, E, and F, and mileage shown under these routes.

Project No. 35D: Subdivision of Route 35.

Project No. 35E: Subdivision of Route 35.

Project No. 35F: Subdivision of Route 35.

Project No. 35P: Abandoned after completion of branch railroad. Last expenditure 1923.

Project No. 36C: Taken over by the Department of Agriculture from the Territory. Last expenditure by the Territory in 1919.

Project No. 36D: Last expenditure by the Territory in 1920.

Project No. 36E: Last expenditure by the Territory in 1919.

Project No. 36F: Last expenditure by the Territory in 1920.

Project No. 38EEE: Abandoned. Last expenditure by the Territory in 1920.

Project No. 39: Turned over to the Department of Agriculture May 1, 1922.

Project No. 42: Turned over to the Department of Agriculture May 1, 1922.

Project No. 44: Turned over to the Department of Agriculture May 1, 1922.

Project No. 45: Turned over to the Department of Agriculture May 1, 1922.

Project No. 51: Turned over to the Department of Agriculture May 1, 1922.

Project No. 52: Turned over to the Department of Agriculture in 1920.

Project No. 52A: Last expenditure by the Territory in 1916.

Project No. 55: The part of this route from Russian River to Kenai Lake transferred to the Department of Agriculture in 1920.

Project No. 56: Abandoned since the construction of the Copper River Railroad. Last expenditure in 1907.

Project No. 56B: Taken over by the Department of Agriculture from the Territory. Last expenditure by the Territory in 1919.

Project No. 57: Expenditure includes \$25,094.71 for bridge over Nizina River erected 1914 which was later destroyed by floods.

Project No. 57A: The amount of \$38,268.20 under supervised funds expended by the Territory of Alaska for bridge over Nizina River erected 1913, which was later destroyed by floods.

Project No. 58: Turned over to the Department of Agriculture in 1920.

Project No. 61C: Abandoned. Last expenditure by the Territory in 1919.

Project No. 63A: Abandoned since the purchase by the Territory of the Tolovana Tram.

Project No. 64: Abandoned. Last expenditure 1922.

Project No. 66: Abandoned since the completion of the Matanuska Branch Railroad. Last expenditure 1917.

Project No. 69: Expenditure for surveys and plans. Project not undertaken.

Project No. 71: Expenditure for motor equipment prior to 1920. Since that date all expenditures for equipment have been charged against routes.

Project No. 72: Turned over to Department of Agriculture May 1, 1922.

Project No. 72A: Last expenditure by the Territory in 1915.

Project No. 75G: Last expenditure by the Territory in 1920.

Project No. 77: Expenditures after 1923 carried under Route 77A.

Project No. 77A: Expenditures after 1923 carried under Route 77A which ferry is located.

Project No. 77B: Expenditures after 1922 carried under route on which bridge is located.

Project No. 80E: Expenditure for investigation.

Project No. 62: Turned over to Department of Agriculture May 1, 1922.

Project No. 91: Turned over to Department of Agriculture May 1, 1922.

Project No. 101: This item includes Divisional Chairman's salary and other expenses, prior to 1921 at which time the Alaska Road Commission assumed all overhead expenses. Since 1921 only chairman's bonds and pay of elected Divisional Commissioners carried under this item.

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	1,472 1/2	\$300	\$441,750.00
Sled Roads	1,050 1/2	25	26,262.50
Trails	6,465	10	64,650.00
Flagged Trails	712	3	2,136.00
Totals	9,700	\$358.95	\$348,800.50

The above does not provide for any improvements or extensions. The intermediate, or interion 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-ranging activities of this Commission may be realized from the fact that it would take two years of continuous traveling with the best facilities available for a single individual to make a complete inspection of the entire mileage for which the Commission is responsible.

Actually the President and Engineer Officer spend about 50% of their time in the field. They have visited every district and have inspected most of the sub-projects a number of times. The Secretary and Disbursing Officer has been engaged in overhauling the property, accounts and office methods and has made a tour of inspection of the district offices to standardize methods and accounts.

FEDERAL AID.

The provisions of the Federal Aid Road Acts do not apply to the Territory of Alaska. The original Federal Aid Road Act was approved July 11, 1916, and was amended by the Act approved February 28, 1919. The Federal Highway Act of November 9, 1921, as supplemented and amended, is now the basic law governing federal aid road work.

The extension of the Federal Aid Road Acts to Alaska has been proposed. In view of the fact that nearly 12 years before the federal aid idea was adopted, the Alaska Road Commission had been created by Congress in 1905 to meet the special conditions in Alaska, had the work well in hand; and in view of the further fact that the theory, specifications, methods, etc., of the Federal aid do not meet the conditions in the Territory, Congress has instead increased the powers and appropriations of the Alaska Road Commission.

DEPARTMENT OF AGRICULTURE.

While the provisions of the Federal Aid Road Acts do not apply to the Territory, the provisions of the same acts relating to roads in the National Forests do apply to the Tongass and Wrangell National Forests which constitute about 5% of the area of the Territory. As these forest funds require Territorial cooperation, the amounts accruing under the Acts of 1916 and 1919 stood until the passage of the Territorial Cooperative Road Act (April 21, 1919) (Chapt. 11, Session Laws of 1919). The funds then released and subsequent funds are expended under the direction of the Secretary of Agriculture, represented locally by the U. S. Forest Service. In addition to the cooperative funds, the Act of 1921 and subsequent acts released additional forest funds for the expenditure of which cooperation is not mandatory.

On July 1, 1920, the President of the Alaska Road Commission acted as the representative of the Department of Agriculture and supervised the performance of work and the expenditure of cooperative funds within the National Forests, as all projects were former projects of this Commission. Until May 1, 1922, the funds were inadequate to take care of the projects

in the National Forests already under construction under the Alaska Road Commission. The latter, therefore, continued to allot part of its own funds to these projects under a tripartite agreement to which the Territory, the Forest Service, and the Alaska Road Commission subscribed.

Since July 1, 1920, the Department of Agriculture has maintained a separate road building organization, the Bureau of Public Roads, in the Territory. Since May 1, 1922, it has assumed responsibility for all projects within or partly within the National Forests. To these projects the Territory contributes part of its funds under such cooperative agreements as may be required. The funds of the Alaska Road Commission, heretofore allotted to these projects, are thereby released for expenditure in the other 95% of the Territory.

The National Forests both lie along the sea-coast; the Tongass National Forest including most of Southeastern Alaska, the Chugach Forest including the Prince William Sound region, the shoreline of Kenai Peninsula, and the east shore of Cook Inlet. Due to the rugged character of these sections of the Territory and to the excellent system of sheltered waterways, the main transportation will always be by water. Most of the projects in the National Forests, therefore, consist of short recreational roads in the neighborhood of the principal towns, or from minor ports to agricultural or mining districts lying in the immediate hinterland. In general they do not tie into the main overland transportation system of the Territory.

TERRITORIAL ROAD LEGISLATION.

For a resume of territorial road legislation, see Part II, Annual Report for 1924, beginning on page 17.

The following Territorial funds have been appropriated and expended to March 31, 1925:

Appropriations:

1915-1924 Forest Revenues	\$ 189,678.48
April 30, 1917 Shelter Cabins	26,000.00
May 3, 1917 Roads, Bridges, Trails and Ferries	490,000.00
May 3, 1917 Nizina Bridge	25,000.00
May 1, 1918 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 Railway	24,014.00
May 7, 1921 Shelter Cabins	10,000.00
May 7, 1921 Roads, etc.	240,000.00
May 2, 1923 Tolovana Tram	6,425.00
May 4, 1923 Roads, etc.	24,000.00
May 4, 1923 Shelter Cabins	15,000.00
May 5, 1923 Kaling Portage Survey	312.72

Total appropriated to March 31, 1925\$1,575,480.20

Expenditures:

Expended by Territory prior to April 1, 1921.....	\$ 654,239.54
Supervised by A. R. C. 1921-1925	143,052.24
Cooperative with A. R. C. 1922-1925	532,179.37
Cooperative with Forest Service 1922-1925	152,407.59
Total expended to March 31, 1925	\$1,591,878.14
Balance April 1, 1925 in Forest Revenue Fund.....	12,551.66
Total	\$1,575,430.20

The 1925 session of the Territorial Legislature passed the following acts in further support of the cooperative activities of the Territorial Board and this Commission for the biennium ending March 31, 1927.

Chapter 65. Telephone Lines, Seward Peninsula.....	\$ 4,000
Chapter 71 Public roads, bridges and ferries	260,000
Chapter 71, Shelter Cabins	20,000

From the \$250,000, the Territorial Board is authorized to provide for the following special projects, if in its judgment found desirable:

Chapter 46. Aviation Fields, 4th Division.....	\$20,000
Chapter 61. Aviation Fields, 2d Division.....	5,000
Chapter 61. Maintenance, Nome Harbor.....	5,000
Chapter 62. Aviation Fields or Seaplane Moorings, 3d Division	10,000
Chapter 63. Nizina-Chisana Trail	8,000

TERRITORIAL BOARD.

The Territorial Board of Road Commissioners, as now constituted, is composed of the following:

Geo. A. Parks, Governor of the Territory.....	Chairman
Karl Thelle, Secretary of the Territory.....	Secretary
Waldstein G. Smith, Territorial Treasurer.....	Member
Robert J. Summers.....	Territorial Highway Engineer

LOCAL COOPERATION.

For a resume of past cooperative agreements, see Part II, Report for 1924, beginning on page 50.

Under the authority of the Territorial Cooperative Road Act, of April 21, 1919, and the Act of Congress approved June 11, 1924, the Commission made additional cooperative agreements for the construction of work supported in part by federal funds and in part by funds appropriated by the Territorial Legislature. In the following sections, Southeastern and Western Alaska.

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respectively. 21 Divisional chairmen were appointed during the past year, all available funds being allotted to cooperative projects. In the other two divisions, superintendents of the Commission were appointed chairmen of the respective territorial commissions.

The President of the Commission continued to serve as Director of Public Works for the Territory and supervised the work of the Divisional Chairmen as well as the other work 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 during the fiscal year:

Cooperative Projects:

Alaska Road Commission Funds	\$105,427.53
Territorial Funds	57,522.82
Miscellaneous Contributions	4,149.77
Total	\$267,100.12

Divisional Projects:

Chairman, Third Division	\$ 21,598.14
Chairman, Fourth Division	9,000.00
Total	\$ 30,598.14

Special Projects:

Shelter Cabins, Territory, 1st Division	\$ 340.95
2d Division	2,637.98
3d Division	1,974.75
4th Division	2,352.90
Seward Peninsula Tramway, A. R. C. Funds	22,519.12
Idlovana Tramroad, Territorial Funds	25.00
Katag Portage Survey, Territorial Funds	312.72
Idlovana Tramroad, A. R. C. Funds	2,588.30
Nizina River Bridge, A. R. C. Funds	46,976.95
Total	\$ 97,535.62
Grand Total	\$395,234.20

For the working season of 1925 (fiscal year 1926) the Territorial Board has allotted to the Department of Agriculture \$16,500 and to the Alaska Road Commission the following amounts:

Cooperative Projects	\$121,600.00
Shelter Cabins	10,000.00
Total	\$131,600.00
Chairman, Third Division	\$ 9,500.00
Chairman, Fourth Division	5,000.00
Grand Total	\$146,100.00

\$2500 has been deposited and the balance is held subject to the call of the Federal Commission. Of the \$2500 the following amounts included in totals above for special projects have been expended for shelter cabins:

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1st Division	\$246.35	
2d Division	475.75	
3d Division	225.00	
4th Division	659.15	\$1,606.25

The existing balance of \$1,373.10 in the contributed fund includes a balance of \$508.25 available for further work in the Nome wharf.

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 anything heretofore possible. Had the Territory attempted to expend its \$30,000 per division under an independent organization, nearly one-third 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 extra charge except for fuel and ordinary running repairs. 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 to secure better prices. Conflicts in plans and complications in operations are avoided. By having funds becoming available all the year round, the difficulties resulting from fiscal year appropriations beginning and terminating about the middle of the open working season are minimized, and the entire organization and conduct of operations, are rendered more flexible.

As an evidence of the importance of the work of the Commission and its standing locally, there is quoted Senate Joint Memorial No. 3, passed unanimously by both houses of the Territorial Legislature in Seventh Session Assembled, on April 21, 1925, as follows:

To the President, the Secretary of War, the Senate, and the House of Representatives, of the United States:

Your memorialists, the Legislature of the Territory of Alaska, in Seventh Regular Session assembled, do most respectfully and humbly represent that:

Whereas, the War Department has always taken a leading part in the development of our frontiers and held together remote and sparsely settled communities in our Great West until such development had taken place that local interests could take over this duty, and the War Department is still performing similar functions in the Territory of Alaska; and

Whereas, the Alaska Road Commission under the supervision of the War Department, has, during the past twenty years, worked out a comprehensive system of roads and trails, which have greatly aided development in all sections of the Territory, and has, since its reorganization in 1926, secured increased funds and more liberal legislation, so that it is now prepared to complete its program in a reasonable time, thereby permitting routes to be utilized throughout without breaking loads; and

Whereas, the officers of the Alaska Road Commission are also charged with handling engineering work for many other Federal and Territorial services, which they are accomplishing most efficiently and economically; and

Whereas, the Territory of Alaska is not in a financial position to take over the road and trail work as a part of its own interior development, nor even to maintain the existing system, but is contributing to the limit of its resources in aid of this work; and

Whereas, Section 201 (c) of S. 3445 and H. R. 5629 reported at the last session of the last Congress by the Joint Committee on the Reorganization of the Executive Branch of the Government, would abolish the Alaska Road Commission, without creating another agency to take its place, but transfers direct control of the road and trail work to a Department in Washington, D. C., without providing for the other activities handled under its direction; and

Whereas, the proposed legislation is objectionable, in that it abolishes a going concern, which was specially created for the work at hand, has grown up with the country, and has justified itself by its accomplishments; is inefficient in that it transfers direction of the work from a Board resident in the Territory, with full authority "of its own motion" to meet emergencies and to handle its business on the ground without reference to Washington, to a Department in Washington, with all the attendant delays and unbusinesslike methods that are such a conspicuous feature of the usual handling of Alaskan affairs; and is uneconomical in that it recreates in Alaska the very condition it purports to relieve in the United States, by requiring the creation of at least one new organization, under a different Department, to handle only part of the work now being handled by the Alaska Road Commission, its other functions still remaining in the War Department.

Now, therefore, be it Resolved, That the Legislature of the Territory of Alaska heartily endorse the work of the Alaska Road Commission and pray that it may continue to have the support of the War Department and of Congress to the end that its appropriations may continue to be increased, its powers broadened, and construction on its excellent and comprehensive program of road and trail building speeded up.

Be it Further Resolved, That it is the earnest desire of the Legislature of the Territory of Alaska that the Alaska Road Commission shall continue to be composed of Officers of the Corps of Engineers of the Army serving under the supervision of the War Department, and that Section 361 (c), shall be stricken from S. 422 and H. R. 5223, or any similar provision in any new legislation proposed during the next session of Congress.

And your memorialists will ever pray.

ADDITIONAL OPERATIONS OF THE COMMISSION OR OF ITS MEMBERS.

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

1. By par. 3, S. O. No. 506, War Department, Washington, D. C. March 9, 1921, and under the provisions of Acts of Congress approved June 17, 1916, and June 15, 1917, the 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.) He reported by letter to the Secretary of Commerce. In 1922 he served as a member of a special Commission, headed by the Assistant Secretary of Commerce, to investigate conditions on the Russian, Japanese, and American fur-seal rookeries of the North Pacific.

Effective April 1st, 1921, the Juneau, Alaska engineer District was created by G. O. 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 does not form a part of the Northern Division; the District Engineer reports direct to

the Chief of Engineers. Detailed report of the operations of the Alaska District will be found in the Annual Report, C. of E.

- (c) Effective November 14, 1921, the President of the Commission was appointed Consulting Engineer for the Territory and assumed direct charge of all Territorial public works. Effective May 10, 1922, he was appointed Director of Public Works for the Territory.
- (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) By direction of the President, War Department and Interior Department orders were issued on February 18, 1923, detailing the President of the Commission, in addition to his other duties, to duty with the Government railroad in Alaska under the provisions of an Act of Congress approved March 12, 1914.

He was appointed Chairman and Chief Engineer of the Alaskan Engineering Commission. He took over the management of The Alaska Railroad and allied activities of the Alaskan Engineering Commission as of March 24, 1923.

The Alaskan Engineering Commission was abolished on August 15, 1923, upon the recommendation of the Chairman thereof, and the designation "The Alaska Railroad" substituted therefor.

On October 1, 1923, the joint management of the roads and railroad was terminated. The President of the Alaska Road Commission remained Chairman of The Alaska Railroad until March 17, 1924, to handle estimates, Congressional hearings, and other matters in Washington, D. C. He had no railway operating functions or responsibilities in Alaska after October 1, 1923.

- (f) 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.

- (g) At the request of the Quartermaster General of the Army, the Commission has agreed to assume charge of the administration of the Sitka National Cemetery created by Executive Order of June 12, 1924.
- (h) At the request of the Quartermaster General of the Army, the Commission submitted a special report upon the water supply system of Chilkoot Barracks, Alaska, and has assumed charge of the construction of a million gallon concrete reservoir and repairs to the pipe line crossing Chilkat Inlet.

CONSOLIDATED ENGINEERING ORGANIZATION.

The practical result of the foregoing orders has been the development, without legislation, but through executive order or inter-departmental or inter-bureau 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.

The result has been an immediate speeding up of development work upon a unified plan based upon a careful survey of the situation, a thorough knowledge of the entire Territory and its problems, and a coordination of all the various conflicting interests after full hearings before all parties at issue. Instead of interminable references between different bureaus which formerly sometimes required papers to travel to Washington and back several times, matters are handled promptly upon the ground, or where the approval of Washington is required, such approval has usually been obtained by a single telegram covering the various angles or the views of the bureaus concerned.

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 9,000 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; Nizina River Bridge; Nome-Shelton Tramway (57 miles operated by cars drawn by dogs); Tolovana Tramway; Improvement of Nome Harbor; Improvement of Wrangell Harbor;

Improvement of Wrangell Narrows; the preliminary examination or survey of Tolovana River, Gastineau Channel and adjacent waters, Ketchikan Creek, Hyder Harbor, Saxman Harbor, Port Alexander, Wrangell Harbor, Seward Harbor, Yukon River at Fort Yukon, and Yukon River at Holy Cross; the investigation of port facilities; the survey and design for a Government wharf at Juneau; the issuance of permits for fish traps and other structures in the navigable waters along the Territory's 23,000 mile coast line; miscellaneous inspections, public hearings and contingencies of Rivers and Harbors; improvement of Sitka National Monument; development of Mt. McKinley National Park; Improvement Chilkoot Barracks Water Supply; administration of Sitka National Cemetery; Lowell Creek Survey; and Nome-Shelton-Kee-wahik Reconnaissance.

ALASKA TRANSPORTATION PROBLEMS.

In order that the difficulties of transportation within Alaska may be fully appreciated it is necessary for one to visit the Territory and to traverse parts of it not yet provided with roads or trails. To one gifted with a good imagination the following brief description will indicate the difficulties in part.

Alaska is a frontier country of vast area, about one-fifth that of the United States proper. With its population of about 27,000 whites and an equal number of natives it is in about the same stage of development as was our great western frontier at the time just preceding the Civil War. There are many reasons why Alaska will not develop so rapidly, however, one of the most important of which is the great difficulty encountered in transportation.

This is essentially a country of very bold relief. Along the entire southern coast line, from Portland Canal east of Ketchikan to False Pass at the southwest extremity of the Alaska Peninsula mountain ranges rise abrupt and rugged, direct from the sea. This continuous chain of mountains along the coast has done much to retard the development of Alaska since it presents to the visitor a forbidding and discouraging aspect and it has always greatly increased the difficulties of access to the interior.

Beyond these mountains there lies a broad stretch of rolling upland country comprising the valleys of the Copper, Susitna and Nushagak Rivers. The two first named are the only rivers of any size that break through the continuous chain of coast ranges to drain into the Pacific Ocean. The Nushagak flows parallel to the coast range and drains into Bering Sea. Within the valleys of the Copper and Susitna rivers rise two very rugged mountain groups, the Wrangell and Chilkootna ranges.

Beyond the valleys of the Copper and Susitna rivers the Alaska Range which may be called the backbone of Alaska, rises to great

Mountains. It includes Mt. McKinley, the highest mountain of North America and the highest in the world in relation to the territory immediately surrounding it. The Alaska Range is broken by numerous narrow but excellent passes and has had no such ill effect on the territory as have the somewhat less high mountains which fringe the coast.

Beyond the Alaska Range there is a vast country, rolling and almost mountainous, which comprises the valleys of the Kuskokwim and of the Yukon with its two main tributaries, the Tanana and the Koyukuk. The lower valleys of the Kuskokwim and Yukon are flat delta.

The Brooks Range, consisting of mountains that are neither especially high nor very rugged, separates the valleys above mentioned from a vast stretch of rolling tundra which stretches to the Arctic Ocean.

The subsoil of the vast interior of Alaska is permanently frozen. This is a condition handed down from a preceding period when the climate of Alaska was much colder than at present. For about three months during the summer the average temperature is about 50° while the temperatures above 60° are not rare. The sun, the snow and the warmth, together with the long hours of daylight, causes vegetation to grow very rapidly. The resultant thick carpet of moss and dead vegetation prevents the ground from thawing to any great depth. Where this layer of moss and dead vegetation is removed thawing does continue to bed rock or at least to very considerable depths.

The frozen condition of the subsoil prevents the draining of the surface by seepage while the accumulated moss and dead vegetation greatly retards 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 protrusion of bunches of grass root growth known locally as "niggerheads."

The above condition, varied only in degree, exists all over Alaska with the exception of the narrow fringe along the southern coast. Movement across country is further complicated, except on the Seward Peninsula and on the Arctic slope, by the presence of fallen timber, much of which is fallen and which must be cleared to permit ready passage.

Movement of a wheeled vehicle without a prepared roadway is possible everywhere except along a sand or gravel beach or along the gravel beds of the smaller streams.