11 The War Years

An event in far-off Europe eventually was to affect Alaska in a revolutionary fashion. On September 1, 1939, Germany's armed forces invaded Poland, and on September 3, Great Britain and France declared war on Germany. World War II had begun. In the spring of 1940, Nazi forces invaded Denmark and Norway. For the first time, Congressmen realized that the Scandinavian peninsula was just over the top of the earth from Alaska, and that bombers existed that could fly such a distance. This sudden awareness, Delegate Dimond later believed, brought about a turning point in Alaska's fortunes and history. In fact, in the year 1940, Congress appropriated $39,823,285 for defensive installations in Alaska, ranging from a Sitka navy air base to a Kodiak navy air base, and from a Fairbanks army air base to an Anchorage army air base. Dimond remarked that "at least a fair beginning has been made upon the construction of national-defense works and facilities in Alaska."[1]

The 1941 appropriation for the Alaska Road Commission doubled, from $560,000 in 1940 to $1,130,000 in 1941. Indeed, Dimond believed that much more would be required, including numerous airfields and the long-proposed highway to Alaska.[2] He did not know then how correct his forecast was, because between 1941 and 1945, the federal government spent approximately $2 billion in Alaska, triggering an economic boom far greater than that caused by any of the previous gold rushes.

Construction on Alaska's defense installations had started in a leisurely fashion in 1940. Alaska's governor Ernest Gruening was vitally concerned with the territory's defenses. In the fall of 1940 he urged the Division of Territories and Island Possessions, to whom the Alaska Road Commission now reported, to set aside the commission's normal budget item for its construction season and replace it with a much more extensive program emphasizing routes of particular interest in connection with the national preparedness program. Gruening had been informed that the army would support such a course of action. He therefore recommended that the division confer with army officials and immediately prepare the following estimate for submission to the Bureau of the Budget:

> *A connecting link from the Anchorage road system to the Richardson Highway at a cost of $1,500,000; extension of the road from Seward across Turnagain Arm of Cook Inlet and into Anchorage at a cost of $1,000,000; and improvement of the Richardson Highway at a cost of $2,500,000 for a total of $5,000,000.*[3]

These projects, Gruening claimed, were indispensible from a military standpoint, but also would be of inestimable benefit for Alaska's development. Should these funds be appropriated, the governor stated, they would become available immediately and not lapse, as other appropriated funds did at the end of each fiscal year, until the projects had been completed.[4]

1. Naske, *An Interpretative History*, pp. 56-57; *Cong. Record*, Appendix 76C. 3S., p. 4599.

2. *Ibid.*

3. Gruening to Emerson, September 28, 1940, R. G. 407, Records of the Adjutant General's Office, 611 Alaska 1-1-45, N.A.

4. *Ibid.*

The military quickly responded to Gruening's initiative with its own priorities. Lieutenant General John L. DeWitt, commanding general of the Fourth Army, and General Simon B. Buckner, commander of U.S. forces in Alaska, agreed that the Alaska Railroad route from the deep-water port at Seward to Anchorage had to be shortened and the terminal relocated. They recommended, therefore, that a 14-mile railroad spur be built from Portage, 66 miles north of Seward on the railroad, to Portage Canal on Prince William Sound where the new terminus was to be located. This was a necessary first priority because the troops at Fort Richardson, then under construction near Anchorage, received all of their supplies, munitions, and personnel from Seward by railroad to Anchorage. Should the Seward port facilities or the railroad be damaged or destroyed, this would make the Anchorage garrison completely dependent on water transportation to the town. Valdez was an alternate port, but supplies destined for Anchorage had to be transported via truck north to Fairbanks and then be shipped out to Anchorage by rail.

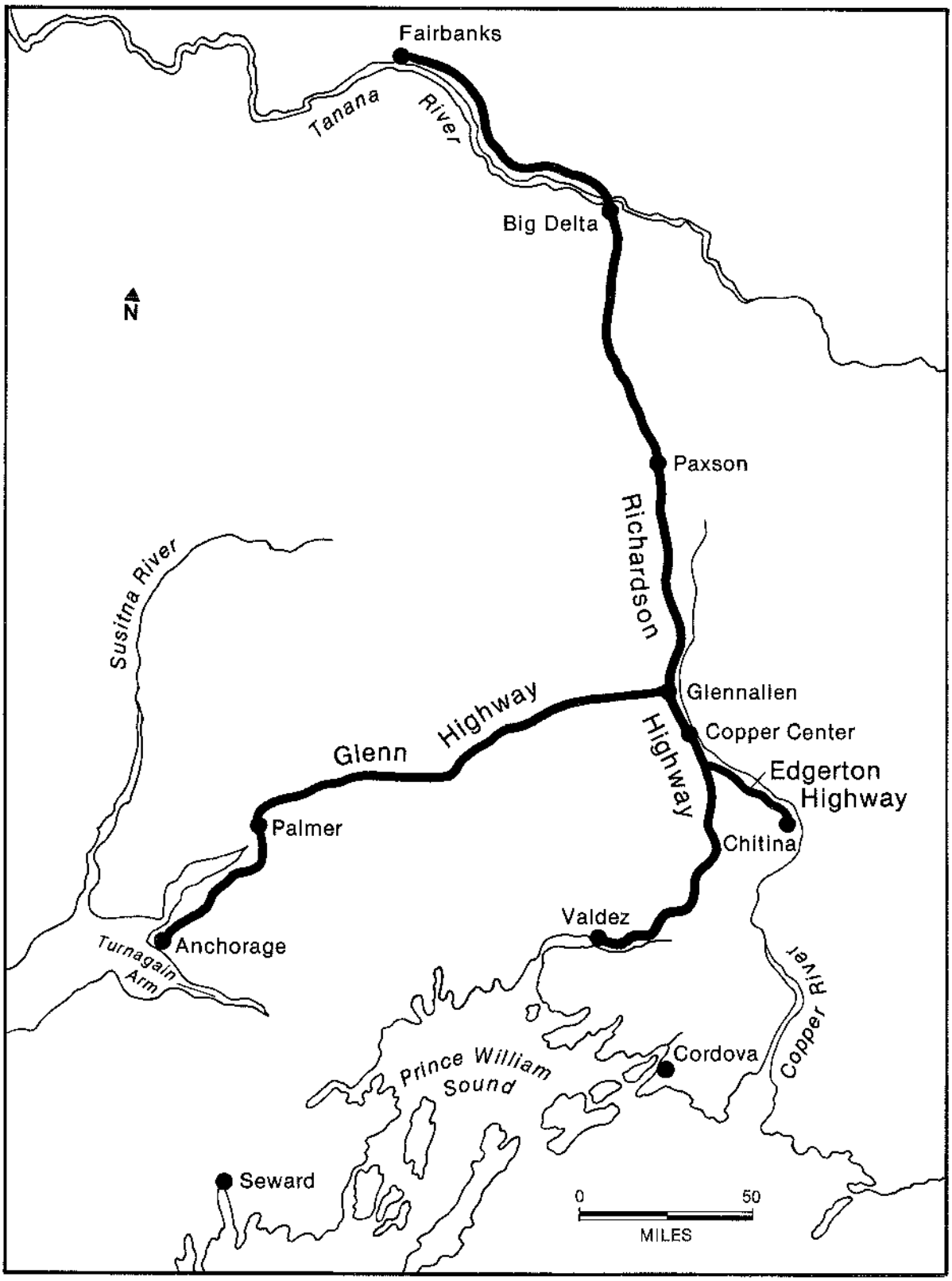
The second priority was the construction of a highway connecting Anchorage and Valdez via the Richardson Highway at the earliest practicable date and by the best route from the standpoint of distance, economy of maintenance, and the ability to keep the road open during the winter. The Secretary of War Henry L. Stimson directed that $5,300,000 be included in the next department budget to cover the estimated cost of relocating the southern terminus of the Alaska Railroad, and requested that Secretary of the Interior Harold L. Ickes include $1,500,000 in his fiscal 1942 estimates for the Alaska Road Commission to cover the cost of building a highway connecting Anchorage and Valdez via the Richardson Highway.[5]

While the War Department had started the preliminary steps to extract the funds for these two projects from Congress, the Alaska Road Commission had another lean year in 1940. Congress had appropriated $560,000; added to that was another $140,000 from the Alaska Fund, while the territorial legislature appropriated $213,085; the National Park Service contributed $50,300; and individuals and corporations helped out with $12,341, for a total of $975,726 for the 1940-1941 fiscal year. Accordingly, commission work was limited mainly to maintenance and some improvement of the existing system. It constructed 19 miles of new roads, chiefly short extensions or branch roads to existing routes, financed mostly by territorial monies. It also built 53 miles of new sled roads. Utilizing National Park Service funds, the commission widened and graveled the highway through Mount McKinley National Park to mile 43.9 and graded the road to mile 51. It continued to extend the Bunker Hill-Kougarok road an additional 3.75 miles to mile 14.25; made passable the new road which was to connect the Takotna and Ophir mining districts with steamboat navigation on the Kuskokwim River to mile 8.75 from the river, and also worked on the 1.50-mile stretch from the Takotna road to the Takotna River, and built a 1.25 mile branch road into Candle Creek. The commission assumed maintenance responsibilities for 60 miles of the abandoned Copper River and Northwestern Railway between Chitina and McCarthy which was used as a tramroad; it maintained the 10-mile branch road from the Anchorage-Palmer road leading to Eklutna Lake, and improved 5 miles of the Eagle-Liberty road leading into the Fortymile mining district for automobile travel. The commission built 3 miles of secondary farm roads at Homer, and dug a 150 by 2,000-foot canal, about 8 feet deep, between Hood and Spenard lakes near Anchorage to create a pontoon landing pond, allowing airplanes 6,100 feet of take-off space; and with territorial funds, the commission built new airfields at Nation, Beaver, Stevens Village, Rampart, Wiseman, and Cliff Mine.[6]

For the 1941 working season, the commission received $570,000 from Congress,

5. General DeWitt to the Adjutant General, "Construction of Roads in Alaska," October 18, 1940, War Plans Division Memorandum to the Chief of Staff, "Construction of Roads in Alaska," November 7, 1940, Stimson to Ickes, November 12, 1940, R. G. 407, Records of the Adjutant General's Office, 611 Alaska 1-1-45, N.A.

6. Alaska Road Commission, *Annual Report, 1940*, pp. 1, 6-7.



The Glenn Highway, connecting Anchorage and Valdez via the Richardson Highway was built in the late 1940s.

another $150,000 from the Alaska Fund, and a $214,798 appropriation from the territorial legislature. Furthermore, War Department endorsement bore fruit in the form of a $1,000,000 appropriation to start the construction of the Glenn Highway, connecting Anchorage and Valdez via the Richardson Highway. The new road was named after Captain (later Major General) Edwin Forbes Glenn, who in 1898 and 1899 explored routes to the Copper and Susitna rivers, and then searched for a way to the Tanana River from Cook Inlet. In April of 1941, the commission started work at both ends of the Glenn Highway, but because of the late arrival of equipment, work had just gotten well under way at the end of June 1941. In the meantime, General Buckner, now the commanding general of the Alaska Defense Command, was convinced that in case of war, troops would have to use the Richardson Highway. He had been over the route and found it insufficient for military purposes. Buckner urged commission members to widen and straighten the highway where needed, strengthen all bridges to accommodate 15-ton loads, and replace the ferry across the Tanana River at Big Delta with a bridge. Thereupon, at Buckner's request, the Department of the Interior included $600,000 for the contemplated bridge improvements, $124,000 for building a bridge across the Tanana River, and $1,400,000 for improving and straightening the Richardson Highway where necessary. The War Department endorsed the request as "necessary from the standpoint of National Defense."[7]

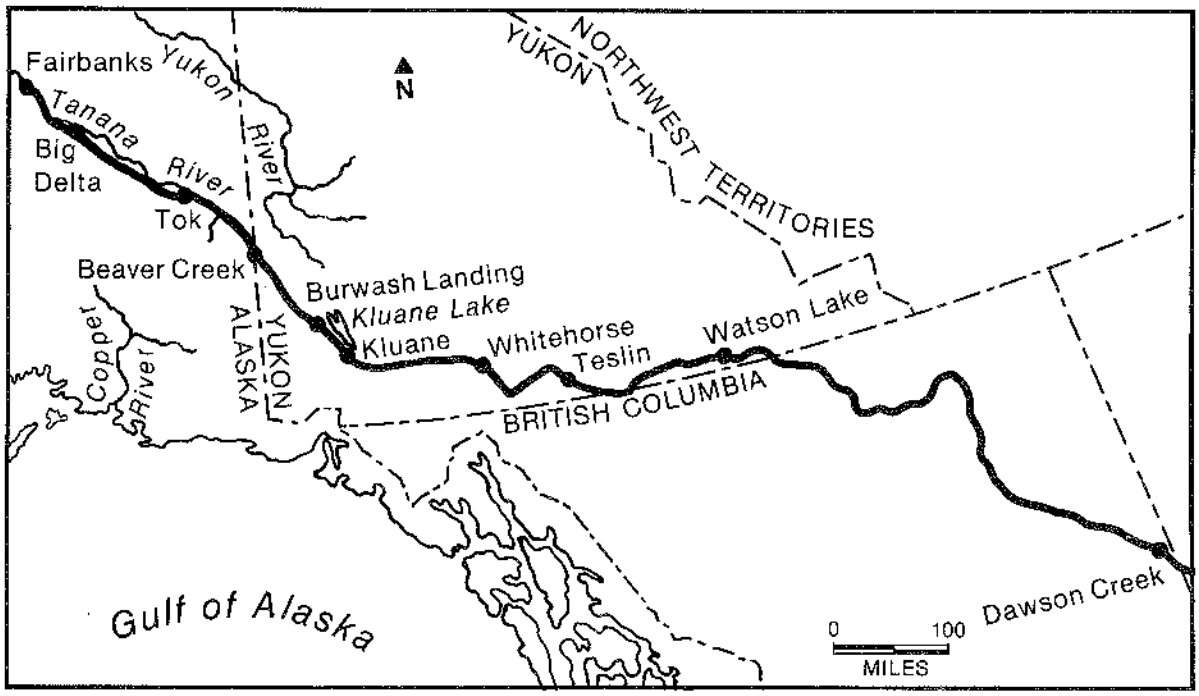
For the 1942 work season, Congress granted the commission $684,500, another $151,000 came from the Alaska Fund, and the territorial legislature contributed a miserly $127,338. There was an allotment of $500,000 for the construction of the Glenn Highway and another $2,200,000 for the strengthening of bridges and the widening and realignment of the Richardson Highway. The Alaska Road Commission discovered that War Department endorsement opened congressional purse strings.[8]

Obviously, the military buildup stimulated the construction industry, revitalized the commission, and brought to fruition long-cherished plans for roads. For example, the navy and army sponsored massive defense construction projects on Kodiak Island and surrounding smaller islands. The army and navy requested that the War Department endorse construction of 70 miles of access roads at an estimated cost of $2,735,500, to be built by the Public Roads Administration. These projects included a patrol road around Nyman Peninsula from the permanent dock to the Buskin River; a road from the north boundary of the naval reservation through Kodiak to Spruce Cape; an access road from the naval station to Broad Point, and one from Broad Point road to Cape Chiniak; an access road from Kaisin Bay to Portage Bay, and another from Buskin Lake to Sharatin Bay. The Public Roads Administration also was to build a road from Anchorage to Potter-Gull Rock-Hope, connecting with the existing Hope-Sunrise-Seward road, and three roads connecting towns with their airports, namely Juneau, Cordova, and Naknek. Alaska finally was on its way to acquiring an integrated transportation network.[9]

7. Alaska Road Commission, *Annual Report, 1941*, pp. 1, 6-7; Adjutant General to Commanding General, Western Defense Command, October 8, 1941, DeWitt to the Adjutant General, October 8, 1941, Stimson to Ickes, November 3, 1941, R. G. 407, Records of the Adjutant General's Office, 611 Alaska 1-1-45, N.A.

8. Alaska Road Commission, *Annual Report, 1942*, p. 1.

9. Martin to Hewes, December 10, 1941, MacDonald to Hewes, December 3, 1941, Cogan to Commandant, Thirteenth Naval District, September 27, 1941, ARC, box 65508, R. G. 30, Federal Records Center, Seattle, Washington.



The route of the ALCAN or Alaska Highway.

A Highway Link to the South: The Alcan

Military expenditures lured thousands of construction workers to Alaska, but to most northerners war seemed far off. That changed suddenly when the Japanese attacked the American naval base at Pearl Harbor on the Hawaiian island of Oahu on December 7, 1941. The next day the United States was at war. At the end of January 1942, Assistant Secretary of State A. A. Berle, Jr. addressed the question of a highway to Alaska. He believed that Canada would agree to the construction of such a highway, provided the United States undertook the job. He pointed out that the Canadians would probably prefer to have the road run from Vancouver to Prince George, British Columbia, and from there to Dawson in the Yukon Territory and thence to Fairbanks. Berle stated, however, that the State Department favored a route from Edmonton, Alberta, to Fort St. John, British Columbia, on to Watson Lake and Whitehorse in the Yukon Territory and from there to Fairbanks. Incidentally, that was the route the War Department preferred as well. On February 13, 1942, Brigadier General L. T. Gerow, the assistant chief of staff, informed Berle that the Permanent Joint Board on Defense, United States and Canada, was making preparations for the construction of a highway along a chain of airfields built close to the preferred route: Fort St. John - Fort Nelson-Watson Lake-Atlin-Whitehorse-Kluane-Big Delta-Fairbanks.[10]

Serious discussions about a highway leading to the North had begun as early as 1929. Foremost among its proponents was Donald MacDonald, a locating engineer for the Alaska Road Commission. In that same year interested individuals established the International Highway Association (IHA) with branches in Fairbanks, Dawson City, Yukon Territory, Vancouver, British Columbia, and

10. A. A. Berle, Jr., Memorandum "Alaska Highway," January 31, 1942, J. D. Hickerson to Berle, Confidential Memorandum, "Alaska Highway," January 31, 1942, R. G. 407, Records of the Adjutant General's Office, 611, Alaska 1-1-45, N.A.

Seattle. Soon many associations, such as chambers of commerce, auto and mining clubs, the American Automobile Association and the U.S. Chamber of Commerce, among others, supported the IHA plan. In 1930, Congress established a commission to cooperate with Canadian representatives in determining the feasibility of such a highway. In its 1933 report the commission found the project to be entirely feasible and recommended that it be built. MacDonald, in fact, already had made a reconnaissance of part of the route between McCarty and the Canadian border.[11]

Alaska's delegate Dimond subsequently introduced a measure for such a highway, but nothing came of it. In 1938 Congress created the Alaska International Highway Commission to make another study. Donald MacDonald was a member of this commission, together with Congressman Warren G. Magnuson (Washington), James W. Carly, a Seattle consulting engineer, Thomas Riggs, former governor of Alaska, and Ernest H. Gruening, then the director of the Division of Territories and Island Possessions of the Department of the Interior. The commission, together with its Canadian counterpart, recommended building the highway, although opinions as to routing differed. As late as August 1940 the Secretary of War told a congressional committee that such a highway had no military value. In November 1940 the Permanent Joint Board on Defense, United States and Canada, considered the highway question at a meeting in Vancouver, but decided not to make any recommendation on the subject. It did conclude, however, that the military value of such a road would be negligible. In the fall of 1941, the War Department altered its position somewhat in view of the uncertainty as to who would ultimately control Siberia—the Soviet Union or Nazi Germany—and because of the construction of numerous army airfields in Alaska. The War Department stated that a highway to Alaska would have some strategic value, but it did not recommend that it be given high construction priority.[12]

On February 5, 1942, Chief of Staff George C. Marshall was informed that the navy "can afford protection to the sea communications between the West Coast and Alaska adequate to ensure the maintenance there of all army garrisons and the civilian population." Admiral Ernest J. "Ernie" King, the navy chief of staff and commander in chief of U.S. Navy operations, told Marshall that he thought it improbable "that the enemy can obtain a foothold in Alaska from which he could render our sea communications dangerous." King therefore disagreed with the thesis that a road to Alaska was necessary because the navy "cannot afford adequate protection to the shipping destined for that region."

Political realities intervened to protect the highway project. Obviously, the American representatives on the Permanent Joint Board on Defense, United States and Canada, could not be allowed to express different opinions because that would raise doubts as to the military necessity for the highway. The navy quickly fell into line. Soon thereafter, the Alaska International Highway Commission and its Canadian counterpart protested the selection of the route linking the airfields, only to be told that military expediency directed the location of the route. In fact, troops already were on their way north, and Secretary Stimson assured the critics that the army would have a pioneer road finished by the end of the 1942 construction season.[13]

On February 11, 1942, President Roosevelt gave the green light to proceed and soon the necessary formalities with the Canadian authorities were satisfactorily concluded. The U.S. Army vanguard arrived in Dawson

11. Lyman L. Woodman, "Building The Alaska Highway: A Saga of the Northland," *The Northern Engineer*, Vol. 8, No. 2. (Summer 1976), pp. 11-15.

12. David A. Remley, *Crooked Road: The Story of the Alaska Highway* (New York: McGraw-Hill Book Company, 1976), pp. 235-237; J. D. Hickerson to Berle, Confidential Memorandum, "Alaska Highway," January 31, 1942, R. G. 407, Records of the Adjutant General's Office, 611 Alaska 1-1-5, N.A.

13. King to Marshall, February 5, 1942, Eubick to Assistant Chief of Staff, February, 1942, Stewart to Riggs, February 20, 1942, Riggs to Stimson, February 24, 1942, Eisenhower to Marshall, March 9, 1942, Stimson to Riggs, March 13, 1942, Gruening to Ickes, February 27, 1942, Ickes to Stimson, February 27, 1942, Stimson to Ickes, March 4, 1942, R. G. 407, Records of the Adjutant General's Office, 611 Alaska 1-1-45, N.A.

Creek on March 9, 1942, and soon thousands of men, both military and civilian, toiled in the wilderness. They completed the pioneer road on November 20, 1942. Officials estimated that the road had cost $27,745,000, with $17,548,000 being the army portion, and the balance of funds from the Public Road Administration. ByJune 30, 1945, the Public Roads Administration had spent a total of $123,093,443 for the 1,477.5 mile long Alcan Highway, at an average cost of $83,311.97 per mile.[14]

The Alaska Highway, as the road came to be called, joined the Richardson Highway at Big Delta. A branch of the Alaska Highway extended 135 miles from a point near the junction of the Tok and Tanana rivers to Gulkana on that section of the Richardson Highway which provided coastal connections with Valdez and with Anchorage via the Glenn Highway.

Alaska and the War

Alaska certainly was in the news. One contemporary journalist then serving in the army, Richard L. Neuberger, reported early in 1942 that the territory had not been so conspicuous and prominent in the American press since its purchase in 1867. He anticipated that the war would speed Alaskan development and progress significantly. A rash of articles appeared extolling the strategic importance of Alaska in the defense of the western shores of the United States, and Ernest K. Lindley of *Newsweek* reminded his readers early in 1942 that General Billy Mitchell in the mid-1930s had emphatically stated that Alaska was the most important strategic spot on the globe in the age of air power. Nobody had listened then. Americans were shocked when enemy forces invaded and occupied Attu and Kiska on the Aleutian Chain in the summer of 1942. America's pride was hurt, and citizens were united in their determination to drive the enemy from American soil. Thousands of troops poured into Alaska to participate in its defense and prepare for the recapture of the two islands.[15]

The year 1942 had been an eventful one in Alaska, and the events kept the federal funds flowing north. For the 1943 working season, Congress appropriated $999,900 to the Road Commission, another $125,000 came from the Alaska Fund, while the territorial contribution declined $21,035 from 1942 to a mere $106,301. Congress allotted another $500,000 for the completion of the Glenn Highway, which the commission opened for traffic on November 5, 1943. Much work remained on this road for final completion, but at least it was passable—and the commission kept it open throughout the winter. The commission also accomplished much work on the straightening, upgrading and bridge reconstruction on the Richardson Highway. It also replaced a ferry with a new steel bridge of two 300-foot spans across the Tanana River near Big Delta, also constructed heavy-duty bridges at Bear, Sheep, and Stuart creeks, and across the Tsina River. All of this work was connected with the defense effort. The regular work of the commission had to continue, and in 1943 it reported maintenance of 2,158 miles of road, 139 miles of tramway, 304 miles of sled road, 500 miles of permanent trail, and 224 miles of temporary flagged trail.[16]

14. Woodman, "Building the Alaska Highway," pp. 17-25; Theodore A. Huntley and R. E. Royall, *Construction of the Alaska Highway* (Washington, D.C.: Government Printing Office, 1945), p. 96.

15. Naske, *An Interpretative History*, pp. 57-58.

16. Alaska Road Commission, *Annual Report, 1943*, pp. 1, 6-7.

More Road Requests

Alaskans continued to petition the commission for assistance. Rainhardt Bredt of Homer, a homesteader attempting to make a living by farming, had signed a contract with the army to supply Fort Richardson with 425 tons of produce during the 1943 season. His homestead was located 6 miles out of town, and there was no road to town and the shipping dock. Bredt realized that because of the demands of war, the commission was "practically powerless to help us. Nevertheless, I wish to state my request for a road which I feel should go through as it is a direct aid in this war."[17]

Bredt assured the commission that the road would be easy to build, with only a few minor side cuts and no fills. In addition, the road would serve 24 homesteads, comprising more than half the entire cultivated land of Homer. Bredt, for example, farmed 60 acres of potatoes, 40 acres of carrots and 15 acres of rutabagas, while his nearest neighbor cultivated 30 acres. The road alone was not enough, however, because Bredt had to transport his produce to the dock on the Homer Spit for shipment to Anchorage. The Homer Spit road had washed out last fall, but in a show of self-reliance, Homer citizens had practically rebuilt it and constructed a dock. This obviously demonstrated that the residents of Homer were serious about farming.[18]

Bredt complained to Governor Gruening that the commission rendered no help. First he had been told that there was not enough equipment in Homer to do the job. That was not true, since there was an Allis Chalmers D7, two graders, and several trucks in town. Superintendent M. C. Edmunds then told Bredt that the commission did not have the manpower to run the equipment. Bredt pointed out that the homesteaders were all qualified to operate the machinery and would gladly donate their time if they could use this equipment to build the road. Finally, Edmunds stated that the commission did not have enough money for such a project. Bredt was clearly frustrated, because he felt that Edmunds was just "beating around the bush." In the meantime, the equipment sat idle for six months of the year, and during the remainder commission personnel operated it only eight hours a day. "What about the other sixteen hours?" Bredt asked. "Cannot this machinery be put to work two shifts?" He concluded by stating, "I said my say, as I had a right to, and I sincerely wish you [Governor Gruening] would look into this matter."[19]

Superintendent Edmunds heard about the complaint from Chief Engineer Taylor. He agreed that it would be easy to construct a graded road to the Bredt homestead, "but to build a road over which he could haul over 400 tons of vegetables to market during a wet fall would require much additional surfacing" on the new road and also on the old road to which it would connect. In Edmunds' estimation, Bredt, a young man in his mid-twenties, belonged to a group of individuals who had located at Homer during the last ten years, and "some of them have big ideas, they feel they can set the world on fire and show oldtimers how to do things on a large scale."[20]

Edmunds, presumably, was one of these oldtimer sourdoughs, and he visibly resented the cheechakos. Usually, however, "these people last a year or so," he observed, and then, "after having made a failure of their original plans, they leave the country and are not heard of again." Bredt should not be "bragging about his farming exploits," Edmunds advised, because while it was true that he had plowed some land last summer, "a large part of his crop which he hauled to the

17. Bredt to Gruening, April 13, 1943, ARC, box 65479, R. G. 30, Federal Records Center, Seattle, Washington.

18. *Ibid.*

19. *Ibid.*

20. Edmunds to Taylor, May 8, 1943, ARC, box 65479, R. G. 30, Federal Records Center, Seattle, Washington.

Spit had to be thrown into the sea on account of freezing."[21]

Edmunds refuted the assertion that there were a large number of competent dozer and truck drivers at Homer. In fact, he had been unable to recruit even one man for a road project at Red Mountain. Bredt himself was "not much of an operator," Edmunds observed, for last winter he had been unable to start a tractor although he had tinkered with it for months. It took a commission mechanic half an hour to get the machine going. No doubt, the superintendent was annoyed at Bredt's complaints, and doubted the man's competency as a farmer. Rather than spending money on building a road to his homestead, Edmunds insisted the limited funds be used to maintain the road connecting some four and a half miles to the dock at the end of the Homer Spit. It was a necessary chore because area residents needed the dock and the road. The problem was that high tides washed over the Spit, depositing timbers and rubbish, and in particular washing out the road where it joined the mainland at Mud Bay. Ideally, he thought, the commission should build a pile bridge across the Spit which could withstand high tides and storms and solve the washout problems at Mud Bay. Funds had never been available to do that, so the commission had muddled along by building timber and brush dikes which frequently had to be repaired.[22]

Nevertheless, the commission started to construct a road to Bredt's homestead on the high bench above Homer, a road that would also serve other homesteaders. When harvest time came, however, Bredt's crop was a failure and he had nothing to haul over the commission-built road. Bredt and his brother then gave up their homesteads and left Homer. The commission did not finish the road all the way to his homestead after his 1943 crop failure.[23]

Continuing protests about road conditions during the winter months in the Homer area came to Taylor's attention. Mrs. R. W. Edens was dissatisfied that the commission was unable to keep the Homer Heights road plowed during the winter. Residents needed the road to get to town, and so did the school bus. Patsy Myhill and Margaret M. Richardson had attempted to talk with Chief Engineer Taylor about the lack of snow removal during a visit he made to the area. Unfortunately, Taylor had only been able to spare a few minutes with the two women, and the talk had infuriated both. They left the brief meeting with the feeling that to expect any help from you had been just wishful thinking. Taylor's opinion that it required a rotary snowblower, costing approximately $14,000, to keep the roads open was plainly erroneous. All he needed to do was to hire a competent bulldozer operator. Carl Sholin, the commission road boss in Homer, knew little about operating a dozer. Consequently, "the hill folks were isolated for the rest of the winter. It is unfair to a community to make 60 people suffer" because one man was inexperienced. Every winter since 1939-1940 the snow had been removed satisfactorily by experienced dozer operators—except the last season. The Homer area finally attracted families, both women claimed, but they would not stay "unless we have hopes for a solution to the problem of roads."

The whole community keenly felt the loss of a single family, and within the past year six families had moved out because of inadequate transportation facilities. "Alaska homestead life," they stated, "has enough hardships connected with it without adding the unnecessary hardship that isolation brings." Residents needed roads to get children to school, obtain medical aid, conduct business, receive mail, attend church, and maintain social contacts. Perhaps men smiled at the term "social contact," but even the army had recognized that need, and "in Anchorage, social life is so important that roads are kept open to the roadhouses."

Both women demanded that Taylor consider the community's "needs fairly and give our problems unbiased consideration. None

21. *Ibid.*

22. *Ibid.*

23. Edmunds to Taylor, August 28, 1947, ARC, box 65479, R. G. 30, Federal Records Center, Seattle, Washington.

of us feel that this has been done up to this time." For that reason, the little community of Homer Heights had banded together in a united effort to obtain results.[24]

Taylor was sympathetic and diplomatic. Complaints such as these were not new to him. Residents from all sections of Alaska always asked, in fact demanded as a right, many more projects and services than the commission's slender resources could supply. He told the residents that while some snow removal had been performed in the past on some roads, it was impossible to assure "that your roads will be kept open continuously during the winter."

The commission had never been able to provide continuous winter maintenance on all of its roads. "In fact," he stated, "such maintenance has been limited to heavily traveled roads in thickly settled areas around large towns." He promised, however, to do all that was humanly possible to satisfy the requests with the funds and equipment available.[25]

Taylor discussed the situation with Superintendent Edmunds, and advised him to replace Carl Sholin as bulldozer operator because a "unanimity of opinion" regarded his skills as insufficient. In reality, however, these people desired additional commission resources channeled into Homer, but there just were not any, and that was not Sholin's fault. Edmunds thereupon arranged to have the dozer work on a double shift to get the roads plowed out as soon as possible after a storm. He also agreed to replace Sholin with a thoroughly competent operator. Edmunds then hired Robert W. Kranich, the school bus contractor, to keep the roads open. So far, so good.[26]

In February 1944, Kranich reported troubles. He had been unable to keep the road open during all of January because the whole month "was one continuous snowstorm with plenty of wind thrown in. The hill roads drifted level full with three to five feet of snow and a large part of our road work to the dock completely washed away." School bus service had to be discontinued temporarily, and even the school closed during the last week of the month because "the storms were so severe that it was impossible to go even on foot."

Edmunds felt vindicated. The critics had claimed that "it was comparatively simple for some competent man to keep the roads open for traffic." Kranich was such a man, the community had agreed. Now it seemed that the commission's contention that it would be very difficult and expensive to do this work was justified. Edmunds noted that no further complaints had been received. Apparently, the residents of Homer Heights realized how difficult the work really was. "It is very easy to criticize and find fault with government agencies," he concluded, but more often than not "government men are not really at fault as we cannot do impossible things... especially when funds and equipment are limited."[27]

Taylor had handled the criticism well. He had cooperated with residents' wishes and engaged a competent man to keep the roads open. A severe winter had shown the residents that human determination and skills were no match for nature's forces.

In the meantime, the Seward Chamber of Commerce petitioned the commission to build a road from Homer to Cooper's Landing. This was not a new idea, for as early as 1938, Kenai Peninsula residents had appealed to the commission at least to survey a future highway from the Seward-Kenai road, which ended at Russian River, down through the best agricultural areas and terminating at Homer. Locating and marking such a route would encourage settlers to follow it and homestead adjoining lands, thus transforming the whole route "into a beehive of activity. The people would start making their home

24. Elden to Taylor, June 28, 1943, Myhill to Taylor, June 28, 1943, Richardson to Taylor, June 30, 1943, Elliott to Taylor, June 28, 1943, ARC, box 65479, R. G. 30, Federal Records Center, Seattle, Washington.

25. Taylor to Zettle, July 5, 1943, Taylor to Richardson, July 7, 1943, Taylor to Myhill, July 10, 1943, ARC, box 65479, R. G. 30, Federal Records Center, Seattle, Washington.

26. Edmunds to Taylor, September 17, 1943, ARC, box 65479, R. G. 30, Federal Records Center, Seattle, Washington.

27. Kranich to Edmunds, February 6, 1944, Edmunds to Sterling, February 12, 1944, ARC, box 65479, R. G. 30, Federal Records Center, Seattle, Washington.

knowing that by the time they were ready for business the highway would no doubt be well under construction."

Don Carlos Brownell, the mayor of Seward, had strongly supported the petition. Brownell was an Alaska booster, and as such was willing to exaggerate conditions. He claimed "that there are hundreds of people intending to locate farms on the Peninsula," and "all the towns, especially Seward, are receiving increasing demands for information as to [the] advisability of coming now."

The reply he sent always was to wait until the land had become more accessible through roads. Despite these warnings, however, "families are coming in by the dozens," some locating in Homer as well as the various other Kenai Peninsula towns "there to wait until a survey of a road will enable them to locate on land eventually connected by roads to markets."

Brownell reminded the commission that Kenai Peninsula residents had sent a petition with many signatures to Juneau, asking for the immediate start of construction for such a road. This time, however, fearing that the request would not be granted at once, they only asked that a permanent survey be started now.

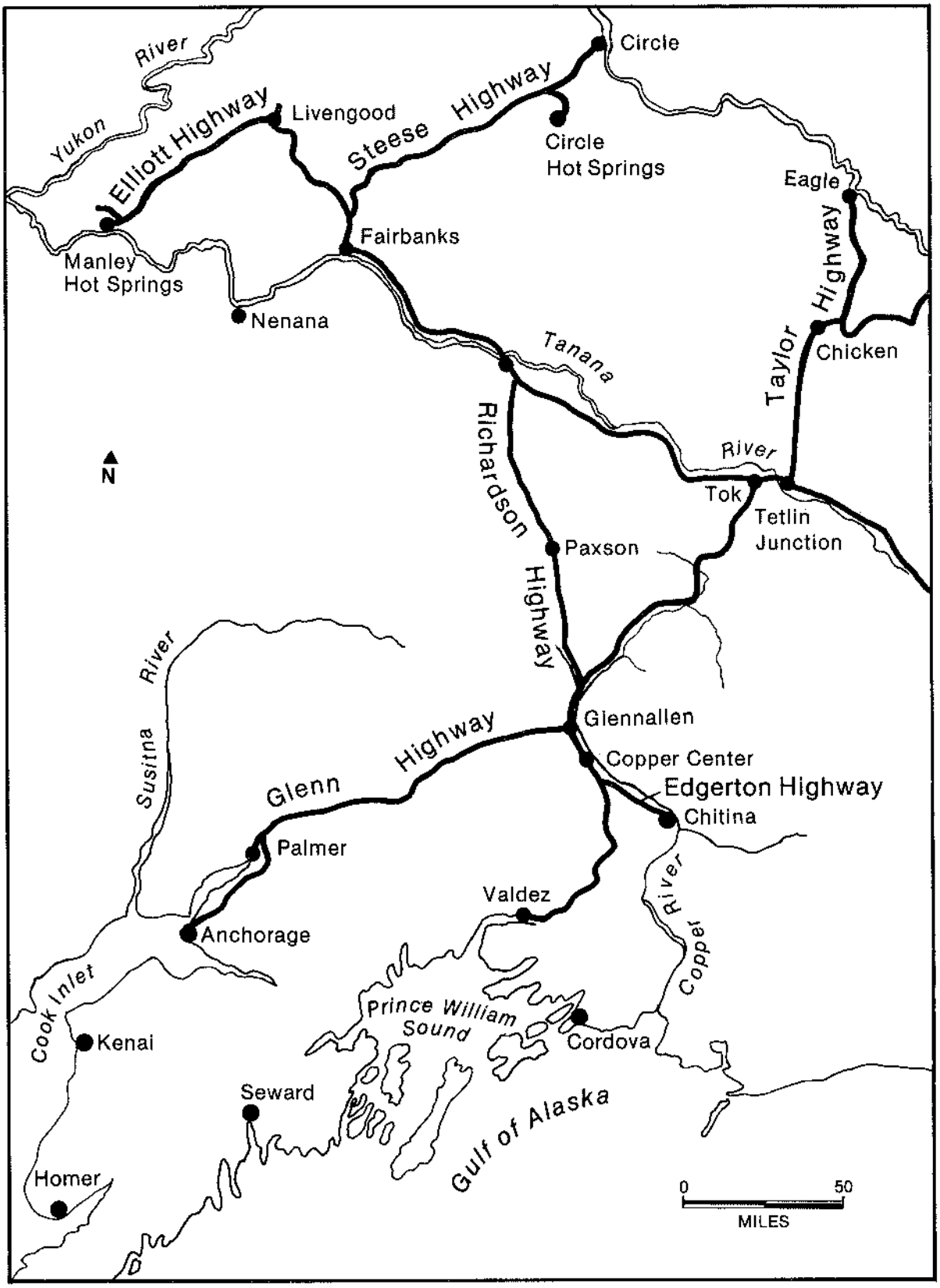
Nothing had come of it. Upon receiving the 1944 petition, Taylor told the citizens that "our experience in obtaining appropriations for road work during the past two years has been that neither the Bureau of the Budget nor the Congress is willing to approve funds for road work in Alaska except that directly connected with army activities in the Territory."

He assured the petitioners, however, that the commission had included the road project in its post war construction program. In June 1945, Hawley Sterling, the assistant chief engineer, finally made a reconnaissance of the proposed road from Kenai Lake to Homer. Sterling estimated that a total of approximately 108 miles of main road would have to be built, with another 22 miles of branch roads. If approved and funded, Sterling believed that the road could be built rapidly because work could start simultaneously from a dozen points, if necessary. Power barges could land heavy equipment at any point along Cook Inlet, and though this would necessitate the construction of spur roads, these would be required in any event for gravel hauling. In 1946, the commission finally put three survey parties to work on the Kenai Peninsula.[28]

In the meantime, following the abandonment of the Copper River and Northwestern Railway and the construction of the Glenn Highway, the Alaska Road Commission moved its shops and warehouses from Chitina to a point on the Glenn Highway near its junction with the Richardson Highway. Since electricity was unavailable, the commission built its own electrical plant on a site set aside by executive order and informally given the name Glennallen; a number of employees built residences in the vicinity. By the end of 1943, they desired to obtain electricity for home use from the commission plant. The commission supported these requests, not only to improve living conditions of the employees but also to avoid fire hazards that had to be expected where the employees used gasoline or coal oil for lighting. In December 1943 Secretary Ickes granted the request to have commission employees at Glennallen hooked up to the electrical plant. They were to be charged at the rate of 10 cents per kilowatt-hour, with a minimum charge of $1 per month for each meter. The fees were to be deducted quarterly from employee paychecks.[29] Although a minor matter, the administrators of the Alaska Road Commission were very careful in obtaining permission from the Secretary of the Interior before furnishing the service requested. They well

28. Petition of Kenai Peninsula residents to Alaska Road Commission, December, 1938, Brownell to Taylor, December 22, 1938, Taylor to Seward Chamber of Commerce, April 21, 1944, Sterling Memorandum for files on Kenai Lake-Homer Reconnaissance, July 25, 1945, ARC, box 65479, R. G. 30, Federal Records Center, Seattle, Washington; Alaska Road Commission, *Annual Report, 1946*, p. 7.

29. Sterling to Alaska Road Commission, July 17, 1943, Skinner to Division of Territories and Island Possessions, October 27, 1943, Sterling to Steward, October 27, 1943, Thoron to Ickes, November 29, 1943, Hampton to Alaska Road Commission, December 4, 1943, ARC, box 65410, R. G. 30, Federal Records Center, Seattle, Washington.



The central territorial highway system in the late 1940s.

remembered the trouble the maintenance and use of the telephone lines along the Richardson Highway had caused a few years earlier. There was to be no repetition of such a situation.

By late 1943, the Alaska Road Commission had prepared a list of 14 projects for a postwar construction program. It had selected those routes which would be most heavily used immediately after completion rather than offering a complete list of all projects the commission and others had recommended from time to time during the last 20 years. The commission believed that homesteaders would expand the farming area and that many tourists would visit Alaska to satisfy curiosities awakened by the wide publicity the territory had received during the war. The commission, furthermore, was convinced that any postwar road program for Alaska would be of military interest. The Second World War conclusively had shown Alaska's strategic military importance. The commission also pointed out that former estimates for the same projects had been far too low in light of recent experiences which had shown that a road, 24 feet in width, would cost between $20,000 and $25,000 per mile to construct. The total cost for the fourteen projects came to $16,070,000, most to be completed by the third year and the remainder by the sixth year:

Kenai Lake to Homer	$2,500,000
Skagway to Dyea	200,000
Farm Roads, Wasilla area	1,200,000
Iliamna Lake to Lake Clark	150,000
Cantwell to Valdez Creek	1,000,000
Valdez Creek to Richardson Highway	2,000,000
Cantwell to McKinley Park Station	600,000
Farm Roads, Homer Area	1,000,000
Farm Roads, Fairbanks Area	800,000
Fairbanks to Chena Hot Springs	1,620,000
Mine Roads, Seward Peninsula	1,000,000
Eagle to Fortymile to Tanacross	2,300,000
Chitina to McCarthy	2,200,000
Leila Lake to Richardson Highway via Maclaren River	2,500,000 [30]

It was a modest program, and only time would reveal whether Congress would appropriate the necessary funds. For the last year of the war, 1945, Congress appropriated $2,250,000 to the commission, another $152,500 came from the Alaska Fund, while the territory contributed a scant $81,892.

The years 1941 to 1945 can perhaps be best summarized by stating that the Alaska Road Commission used its entire congressional appropriation to maintain the central territorial highway system. In the 1944 work season, the funds had been insufficient for even the barest maintenance because of the very heavy military traffic on the Richardson, Glenn, and Steese highways. In fact, the commission had been forced to request a deficiency appropriation only. The commission had used the modest, and unfortunately declining, territorial appropriations for maintaining roads in the outlying districts, which for the most part served mining communities. All of these secondary roads were in poor condition at the end of the war. In fact, some had deteriorated so badly that they required complete reconstruction. G. H. Skinner, the chief clerk of the Alaska Road Commission, put the situation best when he stated that maintenance and rehabilitation on the secondary road system could not begin until the commission either received "large appropriations or traffic on the central system falls off sufficiently to enable us to divert funds now employed on the maintenance of those roads."[31] At that point, nobody could predict what the postwar years would bring.

The Furor Over House Report No. 1705

On July 3, 1945, Congress passed House Resolution 255, directing a subcommittee of the Committee on Roads to inspect the Alaska Highway and its feeder roads, to determine why the highway was constructed, its cost, the manner in which federal funds were

30. Sterling to Division of Territories and Island Possessions, October 22, 1943, R. G. 126, Classified Files, 9-I-55, N.A.

31. Alaska Road Commission, *Annual Report, 1945*, p. 1; Skinner to Williams, May 25, 1945, ARC, box 65432, R. G. 30, Federal Records Center, Seattle, Washington.

expended on the project and its collateral facilities, and also to determine the present and future value of the highway to the United States and Alaska. In conformance with the House resolution, the subcommittee consisted of Representatives J. W. Robinson, (Utah), chairman; W. M. Whitington (Mississippi); Jennings Randolph (West Virginia); Hugh Peterson (Georgia); Jesse P. Wolcott (Michigan); Paul Cunningham (Iowa); and J. Glenn Beal (Maryland). All members of the subcommittee, except Representatives Whittington and Wolcott, spent the greater part of August 1945 in Canada and Alaska, making an on-the-ground inspection of the Alaska Highway, its feeder roads, and the collateral facilities constructed under military supervision to serve the highway and to be served by it.[32]

Subcommittee members traveled by automobile over the entire Alaska Highway except the 98-mile section between Whitehorse, Yukon Territory, and the junction of the Alaska Highway with the Haines lateral highway. Subcommittee members inspected this route from the air at low altitude. In addition to covering the 1,479 miles of the Alaska Highway, the members also drove over 575 miles of the connecting road system in Alaska. At each stop, the representatives inspected highway maintenance and service facilities as well as the many airports along the way. They collected information on the problems of supplying the air route, the nature and condition of the telephone and telegraph system paralleling the highway, and the pipeline distribution system supplying airports between Watson Lake in British Columbia and Fairbanks in Alaska with aviation and motor gasoline and diesel and fuel oil. They also sponsored meetings in various cities and settlements in Canada and Alaska where they listened to comments and discussed highway problems. Subcommittee members also obtained information on the agreement between the United States and Canada on the construction and maintenance of the highway, and they collected and analyzed costs data on the construction of the Alaska Highway. In numerous appendices, the subcommittee members pulled together all of the relevant historical data on the origins and construction of the Alaska Highway, much of it culled from War Department and Public Road Administration files. It was a truly comprehensive undertaking.[33]

Subcommittee members learned that, under the provision of the original exchange of notes between the United States and Canada, those portions of the Alaska Highway and the Haines lateral road located in Canada would become integral parts of the Canadian highway system on April 1, 1946. On that date, Canada agreed to assume maintenance of these roads within its boundaries. The portion of the Alaska Highway located within the territory already had become an integral part of the Alaska road system. The subcommittee members learned that these highways were to be opened for civilian use during the summer of 1946.

After June 1944 the Alaska Department of the Army and the Alaska Road Commission maintained the part of the Alcan located in Alaska. During the war the government had restricted civilian use to strictly military functions. Civilian employees of the army moved, when necessary, up and down the highway, and various civilian investigative bodies as well as the occasional photographer or journalist all traveled by special permit. During the first week of April 1946 the Royal Canadian Army officially took over the main stretch of the Alaska Highway, the 1,220 or so miles from Dawson Creek to the Alaska border. General A. G. L. McNaughton, Canadian chairman of the Permanent Joint Board on Defense, stressed that the highway would continue to operate essentially as a military road, and that civilian travel would still need to be strictly limited because of the lack of such facilities as restaurants, overnight stops, and gas stations. The Royal Canadian Army also was to maintain the 200 miles of

32. U.S. Congress, House, 79C., 2S. *The Alaska Highway* (An Interim Report From The Committee on Roads Pursuant to H. Res. 255), H. Rept. No. 1705 (Washington, D.C.: Government Printing Office, 1946), pp. 1-2.

33. *Ibid.*, p. 2.

connecting roads to the airfields, the 120 miles of the Haines Highway in Canada, and the landline communications systems to the border.[34]

By 1946, however, civilian travelers started to use the road. There was a gate across the highway north of Fort St. John where the RCMP and civilians employed by them stopped every car heading north. Cars were required to carry spare tires, wheels, carburetors and spare cans of gas. Cars had to be in good shape, and drivers were required to carry a certain amount of money. They had to have proper clothing, an axe and shovel, and sleeping bags. The army ran filling stations for the private cars. Still, in 1946 and 1947 civilian travel restrictions on the highway were enforced. In early 1948, the government lifted them for a time, but had to reimpose them because so many vehicles broke down enroute to Alaska. Drivers were poorly prepared for the rugged journey. Canadian customs thereupon imposed a cash deposit or guarantee of bond for export upon every old-model car or upon any vehicle in poor condition. This deposit had to be made at the border and could be returned only when the driver crossed the border again or could show proof that the vehicle had been exported.[35]

In 1946, when the subcommittee members of the congressional Committee on Roads turned their attention to the maintenance of the highway system in Alaska, they observed, "it would be incorrect to say that the committee was impressed favorably with the manner in which the Alaska Road Commission handles its assignment for maintenance and new construction."[36]

After carefully surveying work performed by the commission in maintaining, repairing, and undertaking new construction on the Richardson Highway between Valdez and Gulkana, their observations, "especially in the vicinity of Keystone Canyon, left the committee with the impression that the government is not receiving adequate value for funds appropriated by the Congress for work to be done under the supervision of the Alaska Road Commission." The subcommittee members particularly criticized the "inadequate engineering knowledge...exhibited by officials of the Alaska Road Commission in constructing a new section of the Richardson Highway along the floor of Keystone Canyon." Commission engineers had "overlooked the simple engineering fact that rock cut out of the canyon wall and dumped into the adjoining river bed would block the channel and raise the water level in the canyon higher than its previous level." At the first high water, the road was under water.[37]

Subcommittee members found evidences of "inefficiency and employment on a political rather than a businesslike basis." For this reason, they recommended that Alaska be included in the provisions of the Federal-Aid Highway Act (P.L. 521) to cover road-building operations. Since most of the territory's land surface was a part of the public domain, however, Congress should make an exception so that the territory would not be assessed more for its share of the cost of these improvements than it could equitably bear. Futhermore, the responsibility for road construction should be transferred to the Public Roads Administration, which had a proven management record, so that the federal government would receive more value from its highway investments in the future.[38]

Donald MacDonald, a former locating engineer for the Alaska Road Commission and an ardent advocate of a highway to Alaska, immediately took exception to the criticism leveled at the commission. He briefly summarized the history of the commission and the history of the Alaskan labors of the Public Roads Administration in Alaska. The

34. Remley, *Crooked Road*, p. 183.

35. *Ibid.*, pp. 185-187.

36. U.S. Congress, *The Alaska Highway*, 1946, p. 62.

37. *Ibid.*

38. *Ibid.*, pp. 62, 71.

original agency, the Board of Road Commissioners for Alaska, had employed a day labor system, as a result of trial-and-error in searching for what procedure would work in the territory. The commission had adopted the system because the contractor method required imported labor, heavy equipment, and supervision. All of this would come with a high cost. In addition, the contractor system required an elaborate engineering staff for the measurement and cost estimation of every step in the construction process. This demanded a big overhead expense, all out of proportion to the jobs performed. The commission, with extremely limited funding, very early decided to build the many miles of light pioneer roads required by the residents. To build heavy-duty roads, as the Public Roads Administration had done in Alaska's national forests, would have been unwise for the Alaska Road Commission.

The commission had always attempted to build the maximum mileage with every available dollar, and had tried to eliminate every possible dollar of management and engineering overhead. As a result, the district superintendents had to be engineers, as far as possible, because they had to perform whatever engineering was required. The commission only used locating engineers, topographers, draftsmen, chainmen, calculators and rodmen on long jobs of road location. In short, MacDonald stated, a commission engineer was "a man who could do with one dollar what any bungler could do with ten."[39] In contrast, MacDonald pointed out, the Public Roads Administration of the Department of Agriculture was one of "the most powerful organizations in Washington," and supervised the expenditure of greater sums than any other but the Departments of War and Navy . It directed the expenditure of huge sums of money for road construction in all the states and Hawaii under the provisions of the Federal-Aid Highway Act. As a result, it had built great engineering and administrative offices in Washington and throughout the United States. This staffing was necessary and commensurate with its responsibilities. MacDonald argued that such a sophisticated organization was totally unsuited for the construction of the lightly gravelled pioneer roads through Alaska's vast wilderness.[40]

MacDonald was not the only one to defend the commission. The editor of *Jessen's Weekly* of Fairbanks remarked that the congressional subcommittee assigned to investigate the alleged extravagance and waste on the Alcan Highway came north chaperoned by the head of the Public Roads Administration and the office who had directed the construction. Under those circumstances it was no wonder that they found no evidence of extravagance or waste, and indeed "whitewashed" the whole project. In the editor's opinion, the subcommittee then stepped "out of its way to slap down the defenseless little Alaska Road Commission" with unwarranted and harsh criticism. Under those circumstances, he advised, the time had come for resident Alaskans to oil "the old gun and start...looking for smelly varmints."[41] The editor disputed the subcommittee's assertion that it had carefully surveyed the commission's work on the Richardson Highway. That was impossible, because the work was scattered along the whole length of the highway's 370 miles. In fact, the members of the subcommittee had not requested any facts and figures on the yardage of dirt moved, length and number of the many wooden bridges replaced by steel ones, labor costs, and weather conditions, among others. Furthermore, the editor asked why did the subcommittee ignore the Glenn Highway constructed by the commission? The total cost of the project, including two years' maintenance, came to $19,484 per mile. Knowledgeable engineers claimed that the commission built the highway through more difficult terrain than the Alcan Highway in

39. *Jessen's Weekly*, December 28, 1945.

40. *Ibid.*

41. Clipping, no date, *Jessen's Weekly*, in Anthony J. Dimond Papers, folder Roads, A, box 32, University of Alaska Archives, Fairbanks.

Alaska, yet its cost amounted to just one-fifth as much per mile.[42]

The editor, old Ernie Jessen who knew Alaska well, also refuted the subcommittee's statement that "there was no precedent in road construction in a remote and virtually unexplored wilderness."

That just was not true, for the Alaska Road Commission had accumulated over forty years of experience, and constructed thousands of miles of roads and trails in Alaska's wilderness, "an incomparable record of achievement." Strangely, however, "neither the Army nor the P.R.A. in their infallibility ever consulted this demonstrable rich source of information. They knew it all from birth."

Some members of Congress now wished to transfer all Alaska road work to the Public Roads Administration in Washington, the editor complained, resulting in the complete loss of local control. In conclusion, the "little A.R.C. is involved in the ambitions of a great Bureau seeking instinctively to extend its powers."[43]

Federal District Court Judge and former congressional delegate Anthony J. Dimond protested to the chairman of the subcommittee, Congressman J. W. Robinson, that more than forty years residency in the territory had given him ample opportunity to become familiar with the work of the Alaska Road Commission. In his judgment, shared by 95 percent of his fellow citizens, "the Alaska Road Commission has been, and is, one of the most efficient and competent of all government agencies." It had given the North better roads for the little money it had to work with "than anyone had a right to expect." Naturally, these roads were not of the "highest type, but they are eminently suited to the primitive conditions existing in Alaska," where the prime need still was for pioneer roads. Judge Dimond stated that he grieved "over the injustice" done by the committee's report "to the honorable, hard-working and intelligent men who, in the past, have served, as well as those who are at present serving in the Alaska Road Commission."[44]

Alaska's present congressional delegate E. L. "Bob" Bartlett likewise defended the commission. He complained that, although a member of the Committee on Roads, he had not been given an opportunity to examine the report before its publication. Bartlett resented the "highly derogatory" comments in the report pertaining to the commission. These statements had been widely publicized in the territory, he continued, and had "done irreparable harm to a group of men whose loyalty, ability and efficiency are bywords in Alaska." These comments were, in fact, without merit.

Chairman Robinson quickly assured both men that "our committee had no thought of doing an injury" to the Alaska Road Commission, which had done some good work. Every member of the subcommittee, however, shared the feeling "that too many engineering mistakes had been made." Robinson noted that any statement made was not intended to criticize but merely call these facts to the attention of the Alaska Road Commission. He concluded that if the reputation of the commission had been damaged, "we will do what we can to rectify it."[45]

In the meantime, the Division of Territories and Island Possessions in the Department of the Interior, which supervised the work of the Alaska Road Commission, analyzed House Report No. 1705 and found it wanting. In fact, it "definitely" was a "whitewash" of the construction activities of the War Department, and more particularly, of the Public Roads Administration. Despite all of this, the division admitted, it did contain

42. *Ibid.*

43. *Ibid.*

44. Dimond to Robinson, April 6, 1946, Anthony J. Dimond Papers, folder Roads, A, box 32, University of Alaska Archives, Fairbanks.

45. Bartlett to Robinson, April 9, 1946, Robinson to Dimond, April 12, 1946, Anthony J. Dimond Papers, folder Roads, A, box 32, University of Alaska Archives, Fairbanks.

much valuable data related to the construction of the Alaska Highway—but that was a minor benefit in comparison to the report's negative results. Division personnel were disheartened and disillusioned "to see what unfair and unwarranted conclusions can be adopted by a presumably open-minded committee of the Congress."[46]

Not a word had been uttered on the excellent job the commission had done in building the Glenn Highway, a fact the editor of *Jessen's Weekly* also had pointed out. The Keystone Canyon job criticized so bitterly was only approximately five miles long. Even if mistakes were made, it was "a fly speck compared to expenditures written off on the Alaska Highway job so uncritically."

The subcommittee made no attempt to learn the facts for either the division or the commission, "although it is evident throughout the whole report that a sympathetic ear was lent to both the PRA and the War Department for explanations of every conceivable kind which would tend to throw the most favorable light on the Alaska Highway job."

The accusation concerning politics within the commission was groundless. In fact, the Public Roads Administration probably played more politics to get this report out of the Subcommittee on Public Roads than had been played in the whole history of the Alaska Road Commission.[47]

Chief Engineer Taylor took time to refute every one of the statements made by the subcommittee about the commission's work in a letter to Alaska's governor Ernest Gruening. He concluded that the "indictment of the Alaska Road Commission in the report is decidedly unfair as no real investigation of our work was made and available cost records were not examined or requested." Governor Gruening was blunt in his evaluation of the report. He called it thoroughly unfair and unfounded, and further observed, "it arises from nothing more than the desire of Thomas MacDonald [the head of the P.R.A.] to take over road construction in Alaska bag and baggage." Gruening recalled that a group of officials from the Division of Territories and Island Possessions visited MacDonald late in the fall of 1944 to discuss Alaska's possible inclusion in the Federal-Aid Highway Act and the chance of receiving some federal funds for territorial road construction. MacDonald, Gruening remarked, expressed his attitude virtually as an ultimatum. In essence, he had stated: "I can get you some money provided the Public Roads Administration builds all the roads and is put in charge." If not, there would be no funds.

The governor did not regard the commission as perfect, for it had made mistakes, but "there is no evidence that any such were demonstrated to the House Roads Committee." Gruening thought it "a grim jest" that the same report which condemned the Alaska Road Commission accorded unqualified praise to the army engineers. "More major bungling, the evidence of which is visible on every hand, was performed by the army engineers than was ever seen before in the Territory."

Gruening cited the Haines lateral road as an excellent example, although there were plenty of others. The Alaska Road Commission had built the first 42-mile stretch, extending from Haines to the boundary with British Columbia, in the 1920s. It had always been a very satisfactory road. Then the army engineers came in and extended the road to link up with the Alaska Highway. They went ahead and "improved" and straightened the Haines road, locating it along the Chilkat and Klehini rivers. Commission personnel warned that the new location would wash out, "but no one could tell the Army Engineers anything."

So the road washed out, not once but four times, and each time they rebuilt it at greater expense on the same location along the river bed. Finally, after more than a mile had been completely washed out, the army engineers went back to the Alaska Road Commission location. Gruening knew many other examples of such incompetency, and "while it is not pleasant to bring up the errors of other

46. Flakne to Arnold, April 4, 1946, R. G. 126, Central Classified Files, 9-1-55, N.A.

47. *Ibid.*

government agencies," it was mandatory in this instance in order to point out how unfairly the Alaska Road Commission had been treated in the report.[48]

The fury over the derogatory remarks about the commission contained in House Report No. 1705 soon subsided. The comments by subcommittee members about the performance of the Alaska Road Commission demonstrated the vulnerability of the organization. Alaskans were practically united in their defense of the commission, but long-term loyal and effective service in the territory did not necessarily impress members of Congress. The whole affair also demonstrated that the Division of Territories and Island Possessions had not represented the commission adequately in budget hearings before Congress. This was a cumulative failure, going back to the day the commission was transferred from the War Department to the Department of the Interior in 1932. Between 1932 and 1936, the department failed to lobby Congress effectively on behalf of the commission, and when the Division of Territories and Island Possessions became responsible for the commission in 1936, it also neglected to represent Alaska's transportation needs before Congress effectively.

Subcommittee members had urged that Alaska be included in the Federal-Aid Highway Act. That was not a unique recommendation, for various territorial legislatures had memorialized Congress on the same subject, and Alaska's delegates to Congress from time to time had introduced measures designed to achieve the same purpose—always unsuccessfully. After 1946, Alaskan politicians and administrators realized that sooner or later Congress would include the territory in the Federal-Aid Highway Act. When that happened, the Alaska Road Commission would cease to exist. This prospect must have made some members of the commission uneasy.

In the wake of this controversy, T. W. Taylor, the administrative officer of the Division of Territories and Island Possessions, visited Alaska with the purpose of discovering in what fashion the division could be of more help to the commission. Taylor noted that there seemed to be no general plan for Alaskan development. For example, the exact potentialities of the various mining districts were not known. The Valdez Creek mining district furnished a good example. A pamphlet dealing with the area stated that placer mining had been conducted in this district since the first discovery of gold there in 1903. Considerable placer gold had been produced, and would continue to be produced for many years because many of the creeks had not yet been thoroughly prospected. Miners had also discovered some hard-rock properties, but these had as yet produced very little gold. Conditions for substantial gold production were favorable, however, and therefore further prospecting and exploration were well justified. Taylor pointed out that these generalities were inadequate for supporting budget estimates before Congress. The same was true for farm lands. Nobody knew quite how much suitable farm land there was in Alaska. No precise data were available for the Kenai Peninsula where the commission had a road under construction. There was a need for farmers, he claimed, because most foodstuffs were imported. Perhaps Alaskan farmers could supply a part of the food demand. In short, much information was necessary to decide where to build roads in Alaska. Taylor acknowledged that roads under construction and those proposed for the future were in areas known to be promising. The lack of specific data, however, made it difficult to "make a real case for such roads" before Congress on the basis of economic value.[49]

The Bureau of the Budget had repeatedly told the Alaska Road Commission that its justifications for fund requests had not been specific enough, but Chief Engineer Ike Taylor had largely overcome this objection for the fiscal year 1948. He also had requested survey money, which, if granted two years in advance of construction, would enable him to base his estimates on specific projects. Administrative officer T. W. Taylor pointed out, however, that the chief engineer simply

48. Taylor to Gruening, April 8, 1946, Gruening to Arnold, April 9, 1946, R. G. 126, Central Classified Files, 9-1-55, N.A.

49. Taylor to Arnold, August 26, 1946, R. G. 16, Central Classified Files, 9-1-55, N.A.

did not have the staff to prepare the kind of estimates and specifications which were customary for the Public Roads Administration. The Bureau of the Budget also complained that the Alaska Road Commission always "over-played maintenance difficulties due to weather." Obviously, the Bureau of the Budget had no idea what Alaska's climate was like, and officer Taylor therefore decided to collect photographs that would graphically demonstrate these difficulties.[50]

Army Proposes Massive Road Construction

The Division of Territories and Island Possessions obviously intended to represent the Alaska Road Commission more adequately before Congress. Before the division could formulate its plans, however, the Department of the Army intervened on behalf of improved transportation in the territory. On October 28, 1947, Kenneth C. Royall, the secretary of the army, told Secretary of the Interior Julius A. "Cap" Krug that the limited capacity of the Alaska Railroad and the deficiencies of "the road system in mainland Alaska jeopardize the mission of National Defense."

The army considered the support of its bases in the North and the development of new sources of strategic raw materials vital necessities for effective national defense. These two requirements depended on the existence of a road and railroad system "not only adequate for peacetime use but capable of sustaining the increased traffic which an emergency would impose."

Royall stated that Alaska had to be defended for its own security as well as to protect the contiguous states against an attack. Any planned operation needed to be put into action rapidly and completely. Therefore, any Alaskan economic development, particularly if it made the territory self-sufficient, would materially aid the national defense mission. Adequate transportation routes from the contiguous states to Alaska and within the territory were of utmost importance for the logistics support of the military. Specifically, Royall suggested improvements to all-year, all-weather standards of the main routes, namely the Alaska Highway, the Haines Cutoff, the Richardson, the Glenn, the Seward Highway, and the Tok extension of these main routes northward and westward. If extended, these should connect existing and planned military installations. The Fairbanks area north of the Alaska Range was the most important of those that needed to be served by an adequate road system, followed closely by Anchorage. Royall pointed out that the dependence on the Alaska Railroad for the transportation of goods and supplies to the armed forces in the Fairbanks area constituted a weak link in Alaska's defense system which had to be remedied by building adequate roads to Fairbanks, consisting ideally of alternate all-weather roads. In addition, the army intended to construct a petroleum pipeline to Fairbanks, and it urged the surfacing of the main road system.[51]

Within a year, Congress approved a massive six-year road development program for Alaska blessed by the army. This program was to continue the social and economic revolution started by World War II.

50. *Ibid.*

51. Royall to Krug, October 28, 1947, R. G. 126, Central Classified Files, 9-1-55, N.A.

12 Post War Reorganization and a Proposed Ferry System

Events in distant places have always determined Alaska's fate. That had been the case when Alaska was Russia's colony, and continued when the United States took Russia's place. World War II, where the most significant events took place thousands of miles from Alaska, was a spectacular example of that pattern. The territory had experienced an economic boom during World War II as thousands of construction workers moved north to build military installations. The armed forces arrived in Alaska, and by 1943, about 150,000 troops defended the territory. On May 11, 1943, American and Canadian troops began their amphibious assault on the Japanese-occupied Aleutian Island of Attu. At the end of that month, the island fell into American hands after fierce fighting. Subsequently, on August 15, 1943, an amphibious force containing 29,126 American and 5,300 Canadian combat troops landed on Kiska. They discovered, however, that the enemy had evacuated the island at the end of July under the protection of heavy fogs. Following this action, the military command reduced ground forces in Alaska, and by March 1945, only 50,000 troops were left. Forts were closed, bases were dismantled, and airfields were turned over to the Civil Aeronautics Administration.[1]

Many Alaskans regretted the departure of the military, for without the heavy federal wartime expenditures, Alaska's economy threatened a return to its traditional seasonal character, dependent on mining and fishing.

After the Allies defeated Germany in May 1945, and Japan's surrender in August, the nation celebrated the victories. There was much to be thankful for. It had been a costly conflict which had brought suffering and death to millions on both sides. In the early summer of 1945, most Americans admired the gallant Russian allies who had helped defeat the Nazis. In fact, seven out of ten Americans liked the Soviets so well that they endorsed the idea of sending German males to Russia to help rebuild the cities devastated by war. By the middle of 1946, disillusionment with the Soviet Union had begun. Almost six of ten Americans felt that the Soviet Union's actions in Eastern Europe and elsewhere expressed their desire to rule the entire world, and about one in four was ready to go to war immediately to stop these ambitions. Alvin Richman, a public opinion specialist who had studied American attitudes, concluded that the negative trend toward the Soviet Union had been unusually steep from September 1945 to March 1948. He concluded that by early 1948 about 70 percent of the American public viewed the Soviet Union unfavorably.[2]

1. Naske, *An Interpretative History*, pp. 58-59.

2. Joseph C. Goulden, *The Best Years: 1945-1950* (New York: Atheneum, 1976), p. 249.

The Cold War Revives Alaska's Economy

The collapse of good feelings and the start of the Cold War rescued Alaska from the economic doldrums. Not only did it revive Alaska's economy, but military necessity gave Alaska's lagging road construction program a tremendous boost. Increased defense preparedness in Alaska meant the building of major military installations throughout the territory; the interconnection of these bases with paved highways seemed urgently needed. The Congress of the United States authorized a 6-year road program costing in excess of $125,000,000.

Since 1906 the Board of Road Commissioners for Alaska, and later the Alaska Road Commission as the board was renamed, had appealed to Congress for funds to provide Alaska with an integrated road system, but to little avail. As late as 1941, congressional appropriations were under $800,000 annually, and that was a good year, for in 1940 it had been only $410,541. The demands of war led to an appropriation of $1,892,925 in 1942, and rose to over $2 million from 1943 to 1946. In 1948, Congress appropriated $3,936,842 and also approved the massive 6-year road construction program for Alaska. In 1949 Congress appropriated $15,352,935; in 1950 that climbed to $23,633,376 and in 1951 rose still higher to $29,389,476. Between 1905 and 1948, Congress appropriated $38,696,545 for Alaskan road, trail, and bridge construction and maintenance. In contrast, between 1949 and 1955, it appropriated $135,395,031. In other words, in the short span of 6 years, Congress appropriated more than three times as much as it had in the previous 43 years put together.[3]

There also had been structural changes over the years. When the army gave up responsibility for Alaska's transportation system, first the Secretary of the Interior had designated the ex-officio commissioner for Alaska, namely the governor, to administer the duties relating to the road functions officially transferred to the department on June 30, 1932. On December 3, 1932, the secretary issued Departmental Order No. 605 which provided that the Board of Road Commissioners for Alaska officially become the Alaska Road Commission. (Actually, that name had already been used since the mid-1920s, but the order legitimized it.) Under the order, the commission form of organization ceased, and primary responsibility for its function was placed with one individual: the chief engineer now became the chief operating official. This arrangement lasted until July 31, 1948.

Coincidental with the vastly increased congressional road construction program for Alaska, the Department of the Interior reorganized the Alaska Road Commission. On July 19, 1948 the acting Secretary of the Interior issued Departmental Order No. 2448 which created the position of a Commissioner of Roads for Alaska. The order did not change the name of the organization, but simply replaced the chief engineer as operating official with a Commissioner of Roads for Alaska. This individual now exercised the authority conferred upon the Secretary of the Interior in the transfer act of June 30, 1932. The commissioner reported to the secretary through the director of the Division of Territories and Island Possessions. In part this simply formalized existing procedure, for the chief engineer, a position Ike P. Taylor still retained, already had utilized this organizational structure since 1936.

On January 3, 1949, commission headquarters in Juneau announced that Angelo F. Ghiglione would take Taylor's place effective February 1, 1950. Ghiglione had a long Alaskan background. He had started work for the old board in 1929 as an instrument man on harbor work in southeastern Alaska. A few years later the commission promoted him to the position of resident engineer in charge of the Juneau-Douglas bridge construction. Ghiglione continued his employment with the commission as assistant superintendent of the Anchorage district until he was assigned to the main office in Juneau as assistant chief

3. Alaska Road Commission, *Annual Report, 1955*, pp. 46-47.

engineer in April 1948. In August of that year he became the chief of the construction division of the Juneau office. A graduate of the University of Washington with a bachelor's degree in civil engineering, Ghiglione received a Master of Civil Engineering degree from the Massachusetts Institute of Technology—which he had attended on a competitive scholarship. During the Second World War, Ghiglione, as a commander in the U.S. Navy Civil Engineers Corps, served as a contract superintendent for the Thirteenth Naval District, overseeing approximately $100,000,000 worth of naval construction in the Northwest.[4]

On August 1, 1948, the Secretary of the Interior, Julius A. Krug, chose Colonel John R. Noyes as the Commissioner of Roads for Alaska. Noyes was no stranger to the North. A 1923 graduate of the U.S. Military Academy at West Point, and with a civil engineering degree from Cornell University, Noyes had begun the practice of his profession as a young officer for the old Board of Road Commissioners for Alaska in 1926. Subsequently, he held a position with the U.S. Army Corps of Engineers in Alaska from 1932 to 1934. During World War II, Noyes served in Europe, and accepted the new position in 1948 on loan from the U.S. Army.[5]

Increased appropriations also demanded a moderate expansion of the headquarters personnel of the commission in Juneau. The Department of the Interior created four divisions, together with their required staff: administrative, engineering, contracts, and construction.[6]

Colonel Noyes assumed his new responsibilities immediately. The prospects for vastly increased funding must have pleased him, particularly since he represented a link with the past. He remembered when the headquarters staff in Juneau consisted of three army officers, a president, engineer officer, and a secretary and disbursing officer, together with a handful of civilian employees. In those days, civilian superintendents located at Anchorage, Fairbanks, Valdez, Chitina, Nome, and a couple of subdistrict offices performed the field operations. When Noyes started his work in 1926, some of the road work was still performed by hand, although much mechanical equipment had already been acquired. In the 1920s the organization still cut much brush and flagged trails used during the winter by dog teams and horse sleighs. For years, the Alaska Road Commission maintained this extensive trail system, but started to discontinue its maintenance in the 1930s when air travel had become common. In fact, in its 1947 annual report the Alaska Road Commission made its changes explicit. The figures below show that the commission had practically discontinued maintenance of the system of sled roads, trails, and flagged trails:

	Road*	Sled Road	Trail	Flagged Trail	Grand Total
June 30, 1946	2813.1	1238.4	4110.8	161.0	8323.3
Fiscal year 1947: New mileage	30.7	—	—	—	30.7
Reclassified, abandoned, and transferred	– 59.0	– 11.0		-59.0	-129.0
Total	2784.8	1227.4	4110.8	102.0	8225.0
No work of either maintenance or improvement during fiscal year 1947	131.9	1033.4	3958.8	—	5124.1[7]

*Includes 80 miles tramroad.

4. Alaska Road Commission Press Release, January 3, 1949, ARC, R. G. 30, Federal Records Center, Seattle, Washington.

5. Evangeline Atwood and Robert N. De Armond, *Who's Who in Alaskan Politics: A Biographical Dictionary of Political Personalities, 1884-1974* (Portland, Oregon: Binford and Mort, 1977), p. 73.

6. Alaska Road Commission Press Release, April 3, 1949, ARC, R. G. 30, Federal Records Center, Seattle, Washington.

7. Alaska Road Commission, *Annual Report, 1947*, p. 8.

The mileage of roads consisted of the following systems:

Local Systems

	Miles
Nabesna Branch	44
Feeder Roads, Richardson Highway	72
McCarthy Tram and Road System	31
Feeder Roads to Steese Highway	134
Livengood Road and Branches	87
Anchorage Local Roads	56
Fairbanks Local Roads	46
Palmer System	200
Nome System	167
Seward Peninsula Mine Roads	94
Seward Peninsula Tramway	80
Takotna System	71
Flat System	36
Manley Hot Springs System	48
Ruby System	66
Haines System	65
Kenai Peninsula System	47
Feeders to the Alaska Railroad	94
Eagle System	32
Iliamna System	26
Fortymile Road System	29
Isolated Roads connecting with river or ocean transportation	104
Mount McKinley Park Roads	91
Total	1720

Principal Connected Road System

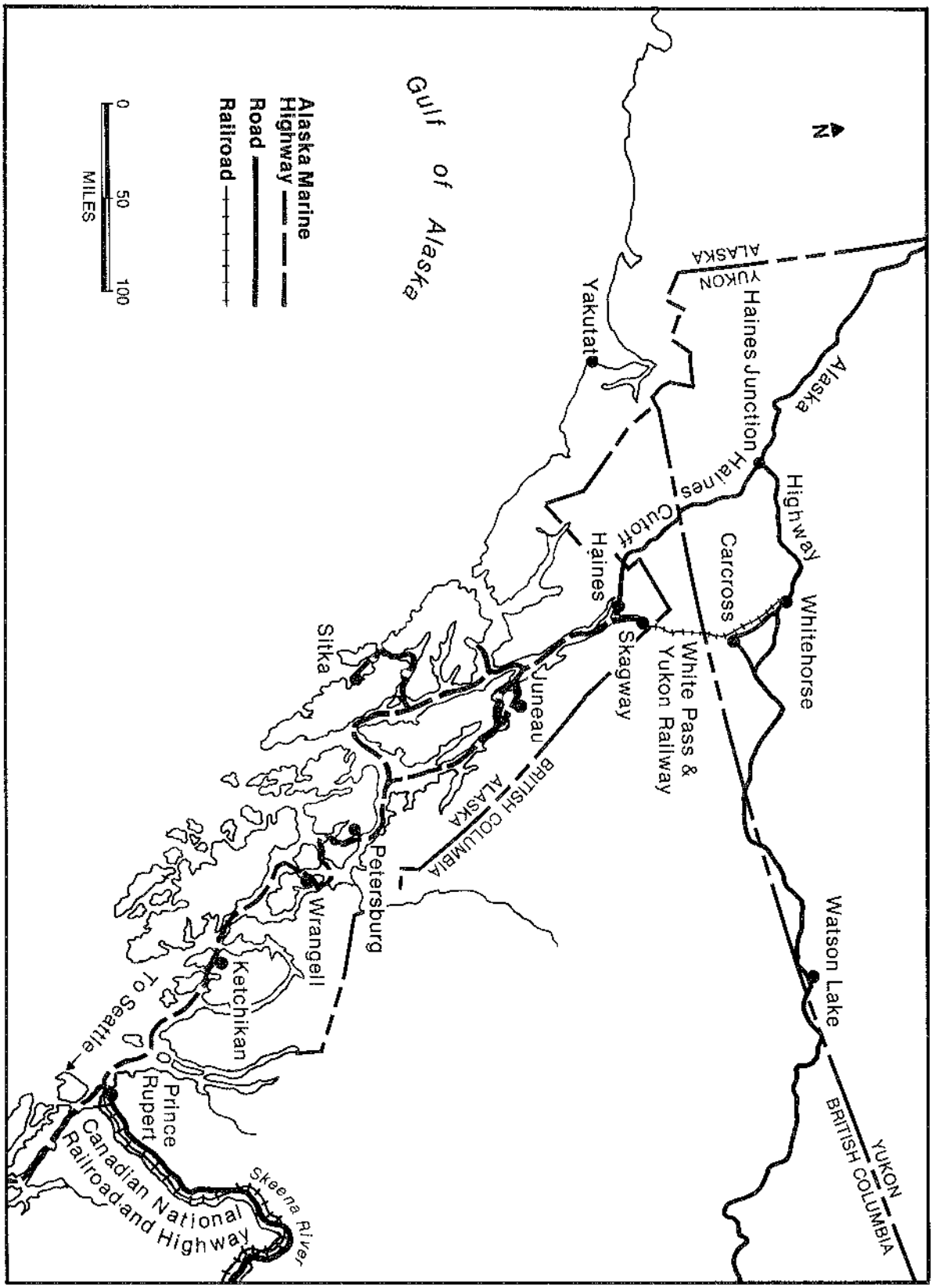
	Miles
Richardson Highway	368
Glenn Highway	189
Steese Highway	162
Tok Cutoff	136
Alaska Highway and Branches	210
Total	1065
Total Road Systems	2785[8]

Colonel Noyes had helped construct the Richardson Highway, the first main route connecting Valdez with Fairbanks. By 1948, a network of main roads existed besides the Richardson Highway, linking the ice-free ports of Seward and Haines with the cities of Anchorage and Fairbanks as well as with the contiguous states via the Alcan, the Alaska-Canada military highway. Better yet, when Noyes took over, the paving of the principal connected road system began, making travel speedier, easier, and above all, dust-free. The remaining mileage, consisting of the local systems, served approximately three-fourths of Alaska's land area. Not only did the commission maintain this mileage, but it also continued to pioneer additional routes, meant to connect developing resource and population regions with other modes of transportation, such as river and ocean navigation and airfields.

Planning for a Ferry System

Soon, planners for the six-year road construction program maintained that any truly integrated system of highway transportation in the North had to be joined with an appropriate water transportation system for southeastern Alaska. On March 1, 1949, James P. Davis, the director of the Division of Territories and Island Possessions in the Department of the Interior, and therefore the official to whom the Alaska Road Commission reported, suggested to Interior Secretary Julius A. Krug that he authorize a feasibility study for a system of car ferries. Davis argued that southeastern Alaska contained one-third of the territory's population and resources. The region had a difficult geography, composed of many islands separated from each other and from the rest of the territory by deep fjords and steep mountains. Given this topography, it was impossible to develop an effective highway system. Southeastern Alaska, however, was connected with the outside world by a highway extending from Haines through Canada to Haines Junction where it met the Alcan Highway; by the White Pass and Yukon Railway, extending inland from Skagway to the Alcan Highway at Whitehorse, Yukon Territory; and finally by a railroad and highway

8. *Ibid.*, pp. 8-9.



Southeastern Alaska Marine Highway and connecting links.

connecting Prince Rupert in Canada's province of British Columbia, with Washington State. Davis argued that car ferry service connecting Prince Rupert, Ketchikan, Juneau, Haines and Skagway would connect southeastern Alaska with the various roads and railroads, attract tourists, and most important, promote the national defense. Davis recommended that the Alaska Road Commission hire a competent marine engineer familiar with car ferry operations to make a feasibility study. If the proposal appeared sound, Davis intended to ask Congress to fund construction of such a system. Secretary Krug approved the Davis proposal a few days later.[9]

Noyes accepted the charge with alacrity. He immediately contacted a number of friends with the request to help him find "the right man to make a feasibility study this summer."

For example, he contacted General Robert H. Wylie, the manager of the Board of State Harbor Commissioners, Port of San Francisco, and asked him to find a suitable transportation expert to conduct the study. Anticipating criticism, Noyes told Wylie, "You may laugh at this if you want, but I would remind you that various highway departments do operate car ferries and, therefore, the idea is not as farfetched as it sounds."

Noyes appeared anxious to hire a consultant from San Francisco rather than from the Seattle area, home of the Alaska Steamship Company, which served the territory. He believed that Seattle experts, with a substantial interest in the Alaska trade, would be unable to render an "independent judgment" on the feasibility of such a system.[10]

Within a very short period, Noyes hired John T. Danaher, the assistant vice president for passenger traffic of the American President Lines, of San Francisco, California, to undertake the study. Danaher delivered the finished product on June 4, 1949. Danaher pointed out that he had carefully reviewed a preliminary study of this project, written by Susannah Mirick, James C. Rettie, George Sundborg, and Charles McKinley of the North Pacific Planning Project, and published in June 1944, entitled *Feasibility of Automobile Ferry Service Connecting Southeastern Alaska with the Canadian Highway System at Prince Rupert and with the Alaska Highway via Haines*. In addition, Danaher had also consulted a number of articles that had appeared on the subject from time to time.[11]

Danaher traveled through southeastern Alaska in company with Noyes. His first impression was that a ferry service, extending the Alcan Highway from Haines Cutoff to Haines and thence by ferry via Juneau to Prince Rupert "not only was a practical operation, but would so favorably affect the economy of the area through which the traffic would move that it should receive favorable consideration" and be put into operation at the earliest possible time. Later reflection did not change his mind.[12]

Specifically, Danaher recommended the establishment of a daily ferry service between Tee Harbor and Haines, Alaska. This service was to consist of two sections. The first and larger operation was to serve the ports of Ketchikan, Wrangell, Petersburg, and Juneau. Two steam turbine ferries, each capable of a speed of 18.5 knots, would complete a sailing from either Prince Rupert or

9. Noyes to Zeusler, January 14, 1949, Davis to Krug, March 1, 1949, ARC, box 65426, R. G. 30, Federal Records Center, Seattle, Washington.

10. Noyes to Lowry, March 19, 1949, Noyes to Wylie, March 19, 1949, ARC, box 65426, R. G. 30, Federal Records Center, Seattle, Washington.

11. B. Frank Heintzleman, "Auto Ferry to Alaska," *Alaska Life*, December, 1943, Bob Callan, "The Chilkat Gateway, Water-road Route from Seattle to the Interior," *Alaska Life*, July 1946, William E. Warne, "Alaska—Far From Forgotten Land," *The Reclamation Era*, January, 1949.

12. John T. Danaher, "A Study of the Feasibility and the Effect on the Economy of Alaska, British Columbia, and the Yukon, of the Operation of an Automobile, Truck, Trailer and Passenger Ferry Service between Haines, Alaska, and Prince Rupert, British Columbia, thus Extending the Alaska Highway System through Southeastern Alaska," June 4, 1949, ARC, box 65426, R. G. 30, Federal Records Center, Seattle, Washington. The subsequent discussion of the ferry scheme is based on Danaher's study.

Juneau every 24 hours. The second operation was to be undertaken by a ferry of the type of the *San Leandro,* a former San Francisco Bay ferry with landing slips fore and aft, operating across Lynn Canal over the distance of about 50 miles between Tee Harbor and Haines. This ferry was to operate continuously throughout the 24-hour period, Danaher suggested, for this type of bay ferry vessel might not always be capable of accommodating all the traffic from the Prince Rupert-Juneau ferry on a single trip. Furthermore, continuous operation would assure southbound traffic a connection to Juneau.

Danaher pointed out that the success of any transportation operation, particularly water service, depended upon the available and potential traffic. The consultant was convinced that the potential was extremely attractive, including both civilian and military travelers and vehicles. Danaher argued that the greatest possible travel would occur within a ninety-day tourist season from mid-June to mid-September. He was convinced that the ferries would earn enough revenues during this period to permit a daily service throughout the year without the necessity for a subsidy. In addition, he expected the trucking traffic during the winter months to contribute to the daily operating costs outside of the ninety-day tourist season, thus permitting rapid amortization of the cost of the facilities.

Danaher predicted that the greatest single source of tourist traffic, approximately 72,000 individuals, would be passengers without automobiles who came to Prince Rupert by railroad and bus. The year-round sustaining traffic would consist of trucks or trailers destined for Anchorage and Fairbanks. He estimated that these would transport 400 to 500 tons of freight daily and occupy 750 linear feet per day per vessel, with an average of a driver and one occupant.

Danaher had discovered that the Canadian National Railway was vitally interested in the establishment of this ferry system, because they hoped that it would place their railroad line between Jasper and Prince Rupert on a profitable basis. The Southern Pacific Railway also was intrigued in a daily ferry service at attractive low fares. Officials of the railway hoped that this Alaskan ferry service would help support their new "Cascade Daylight" train, which they were planning at this time to put into operation between San Francisco and Portland. California experienced a substantial population increase during the war. Many of these people, the railroad executives pointed out, would find Alaska an attractive destination, if they could be offered a low-cost railroad and bus package-tour arrangement. Danaher also had ascertained the interest of the Western Canadian Greyhound Lines, Ltd., of Calgary, Alberta in an Alaskan ferry service. Greyhound operated buses between Vancouver and Prince George over the Caribou Highway. With daily ferry service from Prince Rupert, the Greyhound executive with whom Danaher discussed the scheme promised that his line would extend its route into that city, in the process producing a substantial number of Canadian tourists bound for Alaska.

Danaher estimated that through trucks from Prince Rupert to Haines, both north- and southbound, would generate an annual revenue of $1,525,182; private automobiles would bring in $1,166,832; while tourists during the ninety-day season would produce another $910,080, for an annual revenue of $3,602,094 to offset the cost of the ferry service.

The consultant suggested that the Alaska Road Commission ask Congress for funds to construct two steam-turbine propelled vessels, 320 feet in length, with a 57-foot beam, making 18.5 knots per hour and having no more than a 13.5-foot draft in order to navigate the Wrangell Narrows at low tides. He urged that the design eliminate passenger staterooms and instead cater to deck passengers who would be provided with modern, reclining seats similar to those on the streamlined rail coaches and overseas airlines. Vessels should be able to carry about 850 passengers each. A snack bar concession was to provide the food, and there also might be a liquor bar concession. Danaher estimated that each ferry would cost approximately $3 million to build.

Danaher proposed that the Alaska Road Commission ask the War Shipping Administration to surplus the *San Leandro*, then under charter to the army. The *San Leandro*

was a steel-hulled, double-ended ferry with turbo-electric drive and a speed of about 12 knots. Danaher pointed out that the ship would need modifications costing about $200,000 to handle the standard height of a 35-foot trailer.

Danaher calculated the annual operating expenditures of the three ferries at $1,187,170. Subtracting this expense from the estimated revenue of $3,602,094 left a net income, to be applied against depreciation, amortization, and surplus, of $2,414,924. The consultant also pointed out that port facilities would have to be constructed, but asserted that these would be fairly inexpensive because most locations already possessed docks, ramps, and piers which, he admitted, in some instances needed modifications. In summary, Danaher estimated that Congress would have to appropriate approximately $8,500,000 to construct the ferries, and suitable port and dock facilities. He was convinced that the resulting traffic would greatly stimulate the economies, not only of Alaska, but of British Columbia and the Yukon Territory as well. The Alaska Steamship Company, the chief carrier in the Alaska trade, quickly criticized the Danaher report. The company had looked at the ferry proposition "based on private development," and concluded that the present volume of traffic "could not begin to support the investment" necessary to launch the ferry system. Furthermore, Danaher's estimate of $8,500,000 was rather moderate, considering the necessity to construct two ocean-going ferries, buy a third one and rebuild it, and build and adapt seven essential terminals.[13]

F. A. Zeusler, a retired admiral and spokesman for the Alaska Steamship Company, pointed out that the feasibility of the whole plan depended on a broad, comprehensive highway development program in Alaska and Canada. This would include year-round maintenance and asphalt surfacing at a minimum to afford the degree of comfort to which American and Canadian automobile tourists had become accustomed.

The Alaska Steamship Company favored such a highway improvement program because it would benefit the North. The company was convinced, however, that "it would be impossible for private enterprise to underwrite" the ferry scheme. In fact, Danaher agreed with this assessment, because he specifically recommended that the army and the Department of the Interior share the cost of building the project, and the ferry system was to be operated by the Alaska Road Commission. The Alaska Steamship Company, however, was "unalterably opposed to any branch of the United States Government running the ferry system in competition with private enterprise." Steamship service undertaken by the unsubsidized American entrepreneur to Alaska was already "in critical straits," Zeusler pointed out, and government competition "could have a most disastrous effect."[14]

If the federal government insisted on establishing the ferry operation, Zeusler continued, it should do so in cooperation with private enterprise and not in competition with it. Finally, Zeusler came to the core of his company's concern. He concluded that "since the Alaska Steamship Company is the sole American operator offering general service to all of Alaska, we feel that we should be the logical carrier to be considered in such an arrangement."[15] In short, the Alaska Steamship Company wanted to make certain that its nearly monopolistic control of the Alaskan market would not only be reaffirmed but also be strengthened.

Colonel Noyes perhaps was a bit surprised at the criticism. He told Zeusler that the commission had approached the whole matter from the standpoint of the development and use of the highways in connection with the 6-year Alaskan road development program Congress had approved. He assured Zeusler that his organization was fully aware of the many difficulties faced in maintaining and keeping open the roads in Alaska and Canada to connect with the car ferries. He

13. Zeusler to Noyes, June 25, 1949, ARC, box 65426, R. G. 30, Federal Records Center, Seattle, Washington. The subsequent discussion is based on Zeusler's statement.

14. *Ibid.*

15. *Ibid.*

reassured Zeusler "that you and I are in substantial agreement as to the desirability of private operation of the car ferries." Above all, Noyes protested that he was "not interested in running them [the ferries] and would do so only if a suitable private operator could not be found."[16]

Noyes had no reply to an old friend from the U.S. Army Corps of Engineers who warned him that the ferry might well ruin his reputation as an engineer. "The fascination that the Inside Passage has for some engineering minds is beyond me," this friend asserted. "I hope for your sake anyway that you are not successful in putting it [the ferry project] over." It was not a clean engineering problem that could be accomplished through the application of logic. Instead, his friend's warning seemed to imply, it was a project burdened with politics, and potentially dangerous for Noyes' reputation.[17]

Noyes listened to the advice but did not accept it. Instead, he pressed ahead with the ferry plans. He was pleased when told that the Division of Territories and Island Possessions had been very pleased with Danaher's study. If the Secretary of the Interior approved the plan, the division intended to include money for the project in the commission's 1951 budget estimates. Noyes assured the division that the ferry service would "attract an entirely new type of traffic to Alaska which will supplement, but not seriously compete with, the existing traffic."[18]

Commissioner Noyes did not believe that the ferries would pose a serious threat to the operation of the Alaska Steamship Company nor the scheduled airlines. Noyes, however, was concerned about the Coast Guard restrictions, which insisted that full passenger vessels required lifeboats, a stewards' department, and staterooms, among other requirements that would increase costs substantially. Noyes had told the Coast Guard that the vessels would be designed to allow the elimination of the stewards' department and part of the lifeboat facilities, substituting liferafts for most passengers. So far, however, the Coast Guard had not relented in its opposition to this plan.[19]

By the late fall of 1949, the secretary had approved the ferry project and it had been forwarded to the Bureau of the Budget as a part of the estimates of the Department of the Interior for fiscal year 1951. Noyes, however, had developed some doubts about the proposed project. For example, he had discovered that the approach roads in Canada leading to Prince Rupert and Haines were in poor condition. He had negotiated with the Canadians, asking for improvements to these routes, but so far the Canadians had shown only a lively interest and had promised no "actual performance." Furthermore, recent detailed looks at the blueprints for the two big ferries had revealed that certain technical details needed further study. This was particularly true for the projected use of the ferries to carry railroad cars as well as motor vehicles. Design changes would probably be needed, Noyes stated, and therefore it appeared premature to ask Congress for ferry boat construction funds in fiscal year 1951.[20]

In the end nothing came of the commission's ferry scheme. A private company, the Chilkoot Motorship Lines, Inc., operated a small ferry between Juneau, Haines and Skagway. When it ran into financial troubles, the territory purchased the vessel and operated it.

Late in 1947, entrepreneurs experimented in freighting on large barges towed by tugs from Puget Sound to the railbelt. It proved feasible, and the terminal port for these barges could be either Seward or the wartime port of Whittier at Portage Bay on Prince William Sound. Most of the barging operations were short-lived, but eventually Al

16. Noyes to Zeusler, July 6, 1949, ARC, box 65426, R. G. 30, Federal Records Center, Seattle, Washington.

17. Mac to Noyes, June 5, 1949, ARC, box 65426, R. G. 30, Federal Records Center, Seattle, Washington.

18. Noyes to Gruening, August 11, 1949, ARC, box 65426, R. G. 30, Federal Records Center, Seattle, Washington.

19. *Ibid.*

20. Noyes to Davis, October 14, 1949, ARC, box 65426, R. G. 30, Federal Records Center, Seattle, Washington.

Ghezzi, a Fairbanks resident and teamster, developed a barge and trucking operation under the name of Alaska Freight Lines. Ghezzi had driven freight over the Alcan Highway when the military had made it available to civilian traffic after the war. This overland operation proved unprofitable, and gradually Ghezzi worked out a method by which he drove trucks from the Seattle or Tacoma warehouses to the docks of these cities. Once there, he disconnected motor and chassis, and had the truck body containing the freight lifted onto the barge which then was towed to the Alaska terminals of Haines or Valdez, and later, when the highway connecting Seward to Anchorage had been completed, to Seward. At these ports, the truck bodies would be swung onto wheels, hitched to the motive power and driven to Anchorage, Fairbanks, or intermediate points.[21]

Not until after statehood, however, did the new state government inaugurate the ferry system Colonel Noyes had dreamed about. Accomplished then without federal subsidy, it brought a partial solution to one of the hitherto-unsolved transportation problems.

The Flush Years

In early November 1948, Colonel Noyes announced that he would hold a public hearing in Fairbanks on December 15 for the purpose of receiving and discussing information from all interested individuals about the use that would be made of highways if the commission kept additional routes open during the winter.[22] As already stated, Congress had approved a major 6-year road construction program for the territory which was to get underway in 1949. Inspired by military considerations, Noyes knew that the main roadways would have to be kept open anyway. Which additional ones warranted year-round maintenance? The hearing was to provide data on which to base decisions.

The mere mention that highways might be kept open during the winter months delighted northern residents. G. H. Gilson, the manager of the Gilson Mercantile Co. of Valdez, was one of these. Although the Valdez Chamber of Commerce intended to send a representative to the Fairbanks meeting, Gilson was eager to tell Noyes about the future plans of his own company should the Richardson Highway be kept open. In July of 1948, Gilson recounted, he had inaugurated a weekly wholesale delivery service out of Valdez designed to supply the major needs of the small roadhouses and trading posts all the way to Eureka on the Glenn Highway; to Paxson on the Richardson Highway; and beyond Tok to Nell Kelly's trading post. The response to the new service had been very good, and within a month his firm supplied 26 businesses with fresh frozen meats, fresh produce, groceries, beer, clothing, and hardware. About the first of September, he reported, his customers inquired whether the road was to be kept open during the winter, and when it became known that it would not, many put in a winter supply of goods to hold them over until "we should show up again in the spring." Gilson argued that Valdez was the logical distribution center for the part of central Alaska his business served. In fact, he had competed very successfully with Anchorage and Fairbanks in supplying the various roadhouses. Despite the fact that he got a late start, many of the roadhouse owners had already laid in a large stock of supplies, and although he only operated for three months, he still did a gross volume of business worth $48,000.

21. Ernest Gruening, *The State of Alaska* (New York: Random House, 1968), pp. 423, 506.

22. "Notice of Public Hearing To Be Held At Fairbanks, Alaska on 15 December 1948, To Discuss Winter Maintenance of Highways In Alaska," ARC, box 65415, R. G. 30, Federal Records Center, Seattle, Washington.

Territorial Representative William A. Egan from Valdez likewise supported the winter maintenance of the Richardson Highway. Egan believed that as much freight would be hauled over the route in the winter as in the summer, and R. D. Kelsey, the manager of the Valdez Dock Company, promised to spend several thousand dollars to construct a warm storage facility to care for winter freight properly. Representative Egan, good politician that he was, added that winter maintenance not only benefited Valdez, but that the highway had to be kept open for reasons of national defense. Any difficulties could be solved during the first season, and if "any nation should attack us, we would already have established a vital permanent, speedy supply line to our troops at Interior bases. We should not then, after the trouble had started, have to wonder and theorize how best to establish an overland route from the coast to our northern outposts."[23]

Robert Atwood, the president of the Anchorage Chamber of Commerce and the editor and publisher of the *Anchorage Daily Times*, told Noyes that the chamber endorsed winter maintenance of the Richardson Highway on a one-year trial basis. This would certainly determine if the funds required warranted continued operation. In any event, such a move would certainly aid not only the Valdez economy but all of the cities of the interior. The Whitehorse Board of Trade firmly backed the idea of keeping open the various roads between the Yukon Territory and Alaska, but it was particularly interested in winter maintenance of the Haines road, a sentiment echoed by the Port Chilkoot Terminal Company, the Haines Chamber of Commerce, and the Veterans' Alaska Cooperative Company. Like the other supporters, the groups from Haines stressed that Alaska's transportation network was the key to economic development and also a vital, "perhaps deciding factor in the defense of our Territory, the Dominion of Canada, and the United States." In fact, the more alternate routes were available, the easier it would be to supply and move an adequate fighting force.

John Berdahl, the proprietor of Circle Hot Springs, was more modest in his request. He merely asked that the commission make an effort to keep the Steese Highway open until October 15, two weeks longer than at present, and also have the road open for traffic by May 15 of each year. He did not claim national defense necessities, but merely pointed out that the highway served the historic Circle district where miners had produced gold since 1894. Although only a dozen placer mines operated in 1948, improved transportation undoubtedly would stimulate others to re-open mines, and best of all, the region, together with Circle Hot Springs, offered splendid recreational opportunities for residents and tourists alike.[24]

Some eighteen organizations and individuals had furnished Noyes with information on the desirability of winter maintenance for various Alaskan roads. Twenty-three individuals, representing as many organizations, attended the public hearings in Fairbanks.

Colonel Noyes opened the hearing by remarking that the meeting was not designed to formulate a policy, but rather to collect information on which a policy could be based. Noyes also asked whether those favoring the opening of the main passes would be willing to make a cash contribution to help the commission. Of those testifying, only three declared themselves willing to contribute funds for winter maintenance, but all urged the Alaska Road Commission to keep the highways open on a year-round basis, and if that was not possible, then at least extend the open season in the fall and clear the roads earlier in the spring. Major Allan Nesbitt of the 925th Engineer Aviation Group at Fort Richardson urged that the Richardson Highway be kept open for military purposes, a statement Noyes particularly appreciated

23. Gilson to Noyes, November 27, 1948, Kelsey to Noyes, October 6, 1948, Egan to Noyes, December 8, 1948, ARC, box 65415, R. G. 30, Federal Records Center, Seattle, Washington.

24. Atwood to Noyes, December 13, 1948, Whitehorse Board of Trade to Noyes, December 14, 1948, Port Chilkoot Terminal Company to Noyes, December 1948, Berdahl to Noyes, December 1948, ARC, box 65415, R. G. 30, Federal Records Center, Seattle, Washington.

because armed services support was essential for obtaining the additional funds needed.[25]

The hearing made it clear that Alaskans desired winter maintenance of their roads, but it also showed that they were unwilling, and often unable, to contribute funds for this purpose. Congress already had appropriated the first installment of the 6-year road development program for the 1949 working season, consisting of $15,352,935.21. Thereafter, talk about local contributions subsided.

The year 1949 also was a turning point for the Alaska Road Commission. With the infusion of millions of dollars, it quickly ceased to be the pioneer road constructing agency it had been for all of its existence since 1905 and rapidly developed into a modern highway construction and maintenance agency. As a consequence of this development, commission procedures became more formal and bureaucratic. Many of the commission employees who had shaped the policies for so many years were close to the end of their careers. Chief Engineer Taylor, replaced as head of the Alaska Road Commission in 1948 by Noyes, completed his 28th consecutive year of service with the commission on June 1, 1949. G. H. Skinner, the chief of the administrative division, topped Taylor's record with his 31 years of service. Wayne C. Richie from Washington, D.C. became the chief of the accounts section, while George M. Tapley, a 17-year veteran of the Corps of Engineers, became the chief of the commission's engineering division; Eugene J. White joined the engineering division as the chief of surveys and investigation section. He formerly had worked for the General Tire and Rubber Company of Pasadena, California. Harold B. Schultz, previously bridge engineer with the Iowa State Highway Commission, joined the commission in charge of all bridge and structural design. F. E. Baxter, a former employee of the Nevada State Highway Department, joined the commission as chief engineer of the drafting section, while his colleague Hamilton A. Higbi from Nevada became a draftsman for the commission. Harry R. Bates transferred to the commission as safety engineer, from the Bureau of Reclamation at Ephrata, Washington, and Walter H. Daub, chief of the contracts division, had come to Alaska directly after having served 2 years in Korea as chief construction engineer for the Department of Transportation, U.S. Army, while Guy E. Carter, chief of the contract analysis section, came to Alaska from the Idaho Bureau of Highways. Scores of new employees joined the Alaska Road Commission, rapidly changing its character.[26]

One of the pioneers of the commission, Hawley W. Sterling, died in Seattle in September 1948. For 16 years he had served as assistant chief engineer of the commission. He had supervised the construction of the Steese Highway from Fairbanks northeastward to the Yukon River at Circle; he had laid out and generally supervised the construction of the Glenn Highway connecting Anchorage with the Richardson and Alaska highways; and he had laid out and started construction of the 120-mile-long highway extending down the Kenai Peninsula from the western boundary of the Chugach National Forest to Kenai, Kasilof, Ninilchik, and Homer. In December 1949, the Secretary of the Interior, with the approval of Alaska's governor, honored this pioneer road builder by designating the Kenai Peninsula road the Sterling Highway. Already open to limited traffic, it was slated for completion in the summer of 1950.

At the end of December 1949, Chief Engineer Taylor announced his retirement, effective February 1, 1950. He had spent 36 years in federal service, all but 2 in Alaska. Taylor had come north in 1916 and gone to work as a young engineer for the Alaska Engineering Commission which built the Alaska Railroad. In 1921, he started working for the Alaska Road Commission as superintendent for the Fairbanks district. He was promoted to

25. Summary of Public Hearing, Fairbanks, Alaska, December 15, 1948, ARC, box 65415, R. G. 30, Federal Records Center, Seattle, Washington.

26. Alaska Road Commission Press Release, April 3, 1949, ARC, box 65414, R. G. 30, Federal Records Center, Seattle, Washington.

assistant chief engineer in 1923, and to chief engineer in 1932, assuming complete responsibility, under the governor of Alaska, for the operations of the Alaska Road Commission. An industrious and efficient man, he had utilized the small congressional appropriations to the utmost. It must have pleased Taylor to be able to participate in the paving of the main roads, a process which began a year or so before his retirement.[27]

A year later, in October 1950, the commission announced the impending retirement of Frank Nash, the district engineer for Fairbanks. Nash had started his career with the commission on June 1, 1924, serving as a surveyor, foreman, and engineer until 1929 when he assumed the duties of acting superintendent for the Fairbanks district, a job later reclassified to district engineer. When Nash started his career with the commission, Fairbanks still was a raw little pioneer community, and much of the travel in the interior was still by dog team. He was an expert dog musher, and had made many long and often arduous journeys by dog team for the commission exploring the Tanana and Yukon River basins before there were any roads.[28] In short, the sourdough employees were retiring to be replaced by professional engineers and road builders with university degrees.

At the end of 1949, the Alaska Road Commission proudly announced in a press release that it had accomplished much road work in the territory, including the hard-surfacing of the main highways, major improvements in existing roads, and much new construction. Since 1905, the commission had built, and now maintained, 2,981 miles of automobile roads. Of this mileage, 934 miles of through-roads included the northern end of the Alaska Highway and its main extensions to Anchorage, Valdez, and Haines. Connected to this system of through-roads were 356 miles of feeder or secondary roads, and 564 miles of local or third-class roads, for a total of 1,854 miles of automobile highway connected through the Alaska Highway with Canada and the contiguous states. Additional mileage in Canada included 1,221 miles of the Alaska Highway and 108 miles of the Haines Highway, which the Canadian government maintained through the northwest highway system and the Canadian army. Within Alaska, the commission had built and maintained another 1,000 miles of secondary and third-class roads serving isolated communities and mining centers, which were not connected to the main highway system. During 1949, the commission had paved 149 miles of roads extending eastward from Anchorage and Fairbanks with a light bituminous surface. It had another 150 miles for paving under contract, slated for completion in 1950. It planned to pave the entire through-road system at a cost of approximately $45,000,000.[29]

To provide asphalt for the surfacing work, the commission had installed two large asphalt storage plants at the ports of Valdez and Anchorage, permitting bulk delivery of asphalt in ocean tankers. Kept hot in storage tanks, the material was carried in contractors' trucks to the work sites, often several hundred miles inland.

The commission also completed and reconstructed to all-weather gravel standard the road extending 85 miles northwestward from Fairbanks to Livengood. The Livengood road represented the furthest northward and westward extension of the main highway system, and was intended to be the start of any extension of the road system toward Nome on the Seward Peninsula or to the Arctic.[30]

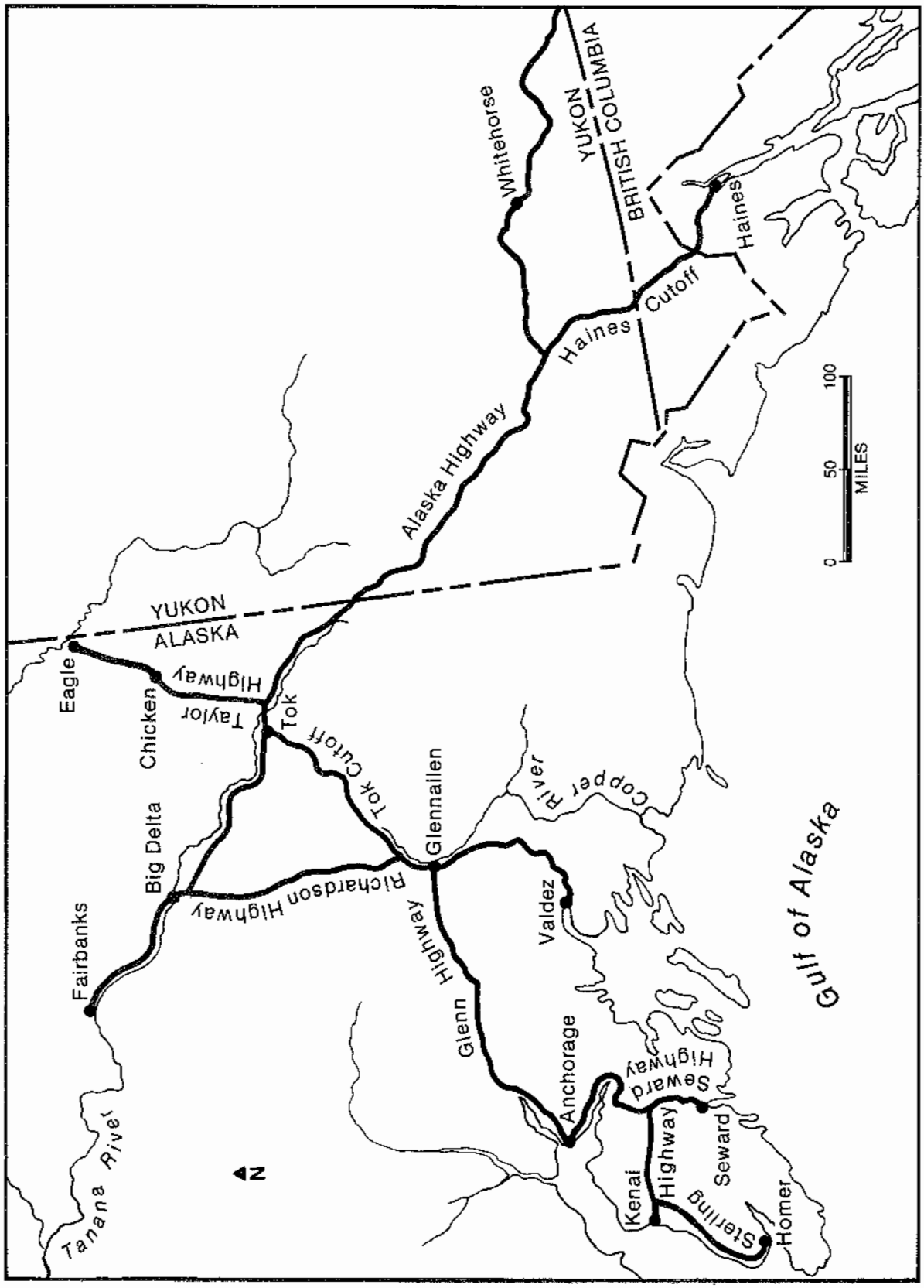
Among the new 1949 projects was the 71-mile-long Turnagain road which was to connect Seward and the Kenai Peninsula with

27. Alaska Road Commission, Press Releases, December 11, 28, 1949, ARC, box 65414, R. G. 30, Federal Records Center, Seattle, Washington.

28. Alaska Road Commission, Press Release, October 3, 1950, ARC, box 65414, R. G. 30, Federal Records Center, Seattle, Washington.

29. Alaska Road Commission, Press Release, December 21, 1949, ARC, box 65414, R. G. 30, Federal Records Center, Seattle Washington.

30. *Ibid.*



The Alaska Highway and its connecting roads.

Anchorage and the main highway system. The Alaska Road Commission, the Bureau of Public Roads, and the Alaska Railroad had undertaken the project under the terms of a cooperative agreement, with completion scheduled for the summer of 1951. The commission hoped that after it was finished, the road would open the scenic Kenai Peninsula to tourists from the contiguous states, assist in the settlement of good agricultural lands on the western side of the peninsula, and provide an alternative access to the port of Seward.[31]

The Sterling Highway, stretching 120 miles down the west side of the Kenai Peninsula, was already open for traffic and planned for completion by the summer of 1950. Part of the main Kenai Peninsula road system, it was to link with Anchorage by the completion of the road along Turnagain Arm. Still another new road branched off northward from the Alaska Highway to the gold mining district on the Fortymile River. About 70 miles of the road had been completed, almost reaching Jack Wade. There it was to be connected with a road that lay largely in Canada, connecting to Dawson in the Yukon Territory. The commission planned to complete this route to the Canadian border by the summer of 1950, and then continue it through Alaska another 40 miles to Eagle on the Yukon River.[32]

The commission intended to begin construction in 1950 of a 150-mile-long road from Paxson Lake to Mount McKinley National Park. Expected to require several years for completion, the Denali Highway eventually was to connect to Cantwell on the Alaska Railroad as well as to the 95 miles of existing automobile road that started at McKinley Park Station. This would enable residents and visitors alike to drive across the national park to within 30 miles of the famous mountain.[33]

Already underway was a program of local farm and industrial road construction, which included approximately 30 miles of secondary and third-class roads in the Fairbanks, Anchorage, Palmer, and Homer areas. Progressively extended year by year, these roads were to serve settler's needs. The commission stated that the 275-mile road system radiating out from Nome on the Seward Peninsula and serving that city as well as Solomon, Council, and the Kougarok mining district was the most isolated one. Connected, but not included in the mileage, was the Seward Peninsula tramway, some 80 miles of railroad with a 3-foot gauge, which the commission maintained as a common highway. Small, gasoline-powered motor vehicles and cars drawn by dog teams used the tramway. In addition to the Nome system, the commission had built isolated local roads in years past to serve the mining areas around Ruby, Takotna, Flat, Manley Hot Springs, Eureka, Wiseman, and many other locations.[34]

During summer 1949 the commission carried out routine maintenance chores, including regrading, gravelling where necessary, placing signs and aids to motorists, and repairing damage caused by spring break-up. Winter maintenance, however, was a serious problem, and the mountain passes between Valdez and Fairbanks had never been kept open during the winters. For the 1949-1950 winter, the commission had decided to keep open Thompson Pass through the coastal mountain range as an experiment, enabling use of the port of Valdez throughout the cold season. The commission already cleared snow from the territorial segment of the Alaska Highway, the Glenn Highway, and the Tok Cutoff, connecting both Fairbanks and Anchorage to the Alaska Highway and thence to the contiguous states. The commission also cleared snow from local roads around major cities, enabling school buses, mail carriers, and private automobiles to operate.[35]

The Alaska Road Commission had included plans for the future improvement and extension of the territorial road system in the 6-year plan that Congress had approved.

31. *Ibid.*

32. *Ibid.*

33. *Ibid.*

34. *Ibid.*

35. *Ibid.*

Revised annually, it was to keep pace with Alaska's general development as well as local needs. This plan included the following principal elements:

1. *Improvement to a hard-surfaced standard of the through roads of Alaska, including the Alaska Highway, Richardson Highway, Glenn Highway, Tok Cutoff, Haines Highway, Anchorage-Seward road, and certain short, heavy-traffic roads around Fairbanks and Anchorage*

2. *Extension and improvement of feeder roads to serve all principal inhabited localities in Alaska.*

3. *Provision of local farm and industrial roads adequate to serve all communities.*

4. *Completion of a road along Turnagain Arm, connecting Anchorage with the Kenai Peninsula and Seward.*[36]

Slowly the dreams of the pioneers of the Alaska Road Commission neared realization. There were other dreams. For example, commission personnel learned in the fall of 1950 that the navy had discovered oil on Petroleum Reserve No. 4 on Alaska's Arctic Slope. Chief Engineer A. F. Ghiglione discussed the discovery with the navy officer in charge of the project, and learned that the navy did not plan highway access but only had considered the construction of a pipeline. The navy agreed, however, that the route of any pipeline would definitely be made to approximate any highway location into the area. Ghiglione and the navy officer agreed that the logical route for both a pipeline and highway would be via Anaktuvuk Pass in the Brooks Range, down the John River valley through Bettles and then to the Yukon River near Stevens Village. This route, Ghiglione observed, would then tie in to the commission-completed survey of a route between Livengood and the Yukon River.[37] It was a premature plan, and a haul road to the North Slope was not built until the mid-1970s, in conjunction with the development of the Prudhoe Bay oil field.

In the meantime, the commission started conversion to winter operations in the late fall of 1950, preparing for snow removal and all the other duties cold weather brought. It had been a hectic summer. Congress had appropriated $23,622,376.10 for the commission's work, the Alaska Fund had added another $216,620.09, and $431,019.44 had come from other sources. The commission had built 25 miles of new access roads in the Anchorage area, which opened considerable acreage for settlement east of the city in the foothills of the Chugach Mountains. The massive paving program of the main arterial system had progressed smoothly, and the Sterling Highway had been completed. An editorial in the *Anchorage Daily Times* lauded the achievements of the commission, stating that for employees it may have been just another year in the long history of the agency, but actually was "a bigger year because of the millions of dollars invested in roads."[38]

The activities of the agency had been of the same high caliber that had "made the ARC one of the pillars of the Alaska development program." In fact, the editorial continued, "through the fine leadership of its executives and the high caliber of its employees out on the job, it has made itself one of the most popular and respected agencies in the territory." Commission employees had often gone beyond the call of duty by towing cars of drivers who ventured where only tractors could move; taken stranded drivers to road camps and offered them food and warmth in emergencies; politely guided and assisted motorists in bad spots; employees at remote camps had been roused at odd hours of the night to assist those in distress, and "instead of dwelling on the foolish line of events that led up to the crisis, the men have consistently concentrated on rendering whatever 'first aid'

36. Alaska Road Commission, "Six-Year Plan," January 17, 1950, ARC, box 65414, R. G. 30, Federal Records Center, Seattle, Washington.

37. Flakne to Noyes, September 27, 1950, Ghiglione to Flakne, October 4, 1950, ARC, box 65412, R. G. 30, Federal Records Center, Seattle, Washington.

38. Alaska Road Commission, *Annual Report, 1955*, p. 47; *Anchorage Daily Times*, November 8, 1950.

is needed, even though it is to their own inconvenience."[39]

The editor concluded that this was a unique record, extending many years back into Alaska's history. The agency earned its reputation in the early days by making itself an integral part of territorial life and taking a personal interest in the welfare of travelers. Better yet, even with the great growth the agency experienced during the last few years, it has "perpetuated the customs and traditions that made it great in the eyes of Alaskans."[40]

The praise pleased the administrators and employees of the Alaska Road Commission. Although many of the veterans of the commission had retired, the professional managers were proud of this historical record and the continuity of their agency. By 1951, the commission also had far outdistanced the Bureau of Public Roads, which since 1922 had maintained its own organization in the territory and performed all road construction in the Tongass and Chugach National Forests. In the summer of 1951, Governor Ernest Gruening told the Secretary of the Interior that the Bureau of Public Roads applied methods and standards of road construction in its area of exclusive jurisdiction that, although long applied and accepted in the contiguous states, were wholly inappropriate and unacceptable in Alaska. The Tongass and Chugach National Forests embraced southeastern Alaska and the Kenai Peninsula-Prince William Sound area, respectively. These were regions of relatively dense population and economic importance. They contained the three largest of Alaska's five principal towns, Juneau, Ketchikan, and Sitka, as well as five of the seven towns next in importance, namely Petersburg, Wrangell, Cordova, Valdez, and Seward. For years new road construction in these areas had been practically negligible, evoking much discontent among residents. From each of these towns except Valdez, it was possible to drive only a short distance. Yet the limited road system was heavily used. Southeastern Alaska, for example, an area of 34,391 square miles and thus larger than the combined areas of New Hampshire, Vermont, Massachusetts, Connecticut, and Rhode Island, had only 124.8 miles of highway.[41]

Gruening charged that the bureau had never shown much energy nor enterprise in securing federal appropriations for road construction in Alaska. In fact, for the decade preceding 1950, it had passively assented to drastic reductions in the appropriations it was entitled to under a formula originally devised by Congress. The bureau also refused to heed the wishes of the population which also wanted the road mileage extended. Instead, it had persisted in using its funds in improving, widening, and straightening the small mileage, "a largely unnecessary and wasteful performance." Indeed, the common sentiment was that "never have so many dollars built so few miles."

Additionally, the Bureau of Public Roads was extravagant in its road building and reconstruction activities. There was no need to eliminate curves on short stretches of scenic roads, yet "they move hillsides and blast vast masses of rock to straighten out a curve which not only needs no straightening out but is actually preferable on a short stretch of road which is obviously not part of a trunk highway."

Finally, a comparison between commission and bureau projects showed that the commission built roads at a cost of about $45,000 per mile, while the bureau, for merely reconstructing and surfacing 6.9 miles of existing Tongass Highway, had budgeted $1,890,000, or some $270,000 per mile. Congress had appropriated $7,000,000 for the Bureau of Public Roads and the Forest Service. Gruening had discovered that half of that sum was to produce only 2.7 miles of new construction. That clearly was intolerable. Gruening therefore requested that Secretary

39. *Ibid.*

40. *Ibid.*

41. Noyes to Davis, April 10, 1951, Gruening to Chapman, June 13, 1951, ARC, box 65415, R. G. 30, Federal Records Center, Seattle, Washington.

of the Interior Oscar L. Chapman investigate the situation and follow it by transferring the functions of the Bureau of Public Roads to the Alaska Road Commission. Gruening asserted that there was no valid reason that the territory should have three road constructing agencies, namely the Alaska Road Commission, the Bureau of Public Roads, and the Alaska Territorial Board of Road Commissioners. (The territorial board contracted with the Alaska Road Commission, since it did not have an independent construction division.)

Some individuals within the Office of Territories had suggested that Alaska should wait until it attained statehood before initiating any changes. Statehood, however, was not likely to come for a number of years. Gruening urged that "we cannot afford to wait. The need for stopping waste is immediate." He suggested that the transfer be made by executive order.

The desired change did not occur, and when the consolidation finally came in 1956, the Bureau of Public Roads absorbed the Alaska Road Commission.

Robert N. De Armond, a conservative columnist, disputed Gruening's criticism of the Bureau of Public Roads. He pointed out that the commission had received its large appropriations because it was engaged in national defense work, and it had been "much easier for a number of years to secure an appropriation carrying a defense tag than almost any other kind of appropriation." The Bureau of Public Roads had not enjoyed this advantage. In fact, most of its work occurred in southeastern Alaska, an area of little military interest. The bureau, therefore, had to justify its road program for the development of natural resources, building access roads particularly to pulp mill sites that were close to town. Contemplated road improvements were between towns and potential pulp mill sites. The bureau had learned from long experience that rebuilding roads time and again was very expensive. Why not build for the faster and heavier traffic in the first place? In De Armond's opinion, the bureau seemed to have a well-planned program of road development for southeastern Alaska, and it was "carrying out that program with the funds allotted to it, rather than spreading the funds around by the rule of political expediency."[42] What De Armond had missed entirely was that the bureau had expended millions of dollars over the years and had built precious few miles of roads.

Commission Accomplishments

While the struggle over pre-eminence between the Alaska Road Commission and the Bureau of Public Roads continued, the commission accomplished much during the 1951 season. By the late fall of 1951, the Glenn Highway between Anchorage and the Richardson Highway had been completely hard-surfaced except for a 16-mile section in the vicinity of Sheep Mountain. The commission also reconstructed the remaining portion of the Glenn Highway between Big Timber and Tok Junction, informally known as the Tok Cutoff, eliminating most of the sharp curves and also substantially widening the road bed. Included in the work was a relocation of the road around the east side of Mentasta Lake which shortened the cutoff by about nine miles.

Between Valdez and Big Delta on the Richardson Highway, the commission supervised work under four contracts let for grading. Three of these included hard-surfacing. McLaughlin Incorporated did the work between Valdez and mile 36; their crews had nearly completed the grading between Valdez and Thompson Pass, widened and paved the tunnel in Keystone Canyon, and eliminated many steep grades and sharp curves.

42. *Fairbanks Daily News-Miner*, September 22, 1951.

C. F. Lytle and Green Construction Company worked between miles 82 and 130. They completed all grading and hard surfacing from mile 82 to mile 120. The A. J. Hooper Corporation had contracted the section from Big Timber to Paxson for grading only. It completed the work to about 15 miles south of Paxson, and prepared the remainder for rebuilding in 1952.[43]

C. F. Lytle and Green Construction Company held the fourth contract, for both grading and paving between Rapids and Big Delta. The companies constructed a line change designed to eliminate flood damage by the Delta River between Rapids and Donnelly. They hoped to complete all grading and hard surfacing in the 1952 season.

In an impressive ceremony on October 19, 1951 at Girdwood, the commission formally dedicated and opened the new 128-mile Seward Highway, another link in the main arterial system. Portions of the old Seward-Hope road, between Seward and mile 58, were still under reconstruction preparatory to paving, while the commission had placed the section from Girdwood to Anchorage under contract for hard-surfacing. The commission intended to award additional paving contracts for the 1952 season for the Seward Highway. These were to be administered by the Bureau of Public Roads under a cooperative agreement with the Alaska Road Commission.[44]

Under a similar agreement, the Bureau of Public Roads administered a regrading and paving contract for the Alaska Highway eastward toward Johnson River. The Rogers Construction Company and Babler Brothers were the contractors. They had a line change near Halfway House under construction which, when finished, would eliminate much winding road with dangerous blind curves. It was to be completed in the summer of 1952.

The Taylor Highway, named after retired Chief Engineer Ike P. Taylor, extended northward to Eagle from the Alaska Highway, and included a branch connecting at Boundary with the road to Dawson. The road had almost been completed during the 1951 season; two more bridges and bridge approaches remained to be built. When these were finished, travel to Eagle would be possible in the summer of 1952. On August 16, 1951, the commission held a ceremony at the Alaska-Canada boundary which officially opened the branch road to Boundary and Dawson.[45]

The commission continued work on the Richardson Highway-McKinley Park Road, concentrating efforts at the west end. It pushed a pioneer road from Cantwell to McKinley Park Station. Only the construction of bridges across the Nenana River remained before travel between these points was possible. The commission also completed paving of the Alaska portion of the Haines Highway, and widened and improved the Sterling Highway from its junction with the Seward Highway to Homer—in addition to maintaining almost 3,000 miles of road.

As much as funds would permit, the commission also extended the farm and industrial road system, building approximately 20 new miles, and reconstructing and surfacing 30 miles of low-standard roads. At the request of various governmental bodies, the commission built an additional 20 miles of road on the basis of cooperative agreements. In order to handle the enlarged highway program, the commission also had to erect several new buildings, including a new warehouse at Fairbanks, a warm storage building and a dormitory at Glennallen, and had to set up twenty 30-foot house trailers at Valdez to provide housing for engineering personnel employed on the many contracts in that area. And finally, the commission once again prepared to keep the Richardson Highway over Thompson Pass open for the third consecutive winter. The army had made funds available for this undertaking, and as a result Valdez had

43. Alaska Road Commission, Press Release, December 19, 1951, ARC, box 65414, R. G. 30, Federal Records Center, Seattle, Washington.

44. *Ibid.*

45. *Ibid.*

become a valuable all-season seaport through which large volumes of military and civilian freight moved to Anchorage and Fairbanks.[46]

By the end of 1951, the beneficial effects of the Cold War on Alaska were apparent everywhere, particularly from the road-paving program that enabled northern residents for the first time to drive long stretches without choking on dust.

46. *Ibid.*

13 Specific Alaskan Problems: The Weather, Geography and People

The winter of 1951-1952 was a very cold one in Alaska's interior, with temperatures dipping below minus 50 °F and staying there for days on end. In mid-January the Alaska Road Commission announced that all construction activities had ceased for the season and all operations were entirely on a maintenance basis. The commission warned travelers to make certain that their vehicles were in first-class shape, and urged that proper clothing be worn and carried along when traveling. Perhaps nothing could make more clear that postwar Alaska was not quite on a highway par with the contiguous U.S. than the announcement to the motoring public that the Richardson Highway, Route No. 1, was open from Valdez to Big Timber Junction at mile 130, and from Big Delta Junction at mile 268 to Fairbanks at mile 365. The highway between Big Timber Junction and Big Delta Junction was closed for the winter, and all Fairbanks traffic from Valdez and Anchorage was directed over the Glenn Highway, Route No. 3, to Tok Junction, the Alaska Highway to Big Delta Junction and thence to Fairbanks. Route No. 2, the Alaska Highway, was open and in good condition from the Canadian border at mile 1221 to Fairbanks. The Taylor Highway from Tetlin to Eagle was closed for the winter, but Route No. 4, the Seward Highway, was open, as was Route No. 5, the Sterling Highway, from its junction with the Seward Highway at mile 39 to its terminus at Homer, including the branch road to Kenai. Closed for the winter were Routes Nos. 6 to 9, the Steese and Elliott highways, the McKinley Park Road, and the Haines Highway.[1] Tacitly, the commission was admitting that some of the major roadways in the territory were seasonal routes only; Alaskans were not surprised.

Maintaining Roads through the Seasons

Northern residents, probably more than any other people on earth, welcome the spring after a long, cold and dark winter. By February the days are getting noticeably longer, and in March the sun feels warm even in interior Alaska. By April spring break-up has arrived, and mud replaces snow. This period was always hazardous for the roads, and the Commission once again announced that weight and speed limits were necessary. But by April, 1952, contractors were back working on the Richardson Highway out of Valdez, and construction also was underway from mile 120, the Gulkana airfield, to mile 199, Paxson, and again from mile 237 at Rapids to mile 268 at Big Delta. In short, construction activities were in full swing by the end of April.

Obviously, in a country with such wide temperature extremes and so much permafrost, extraordinary care had to be taken when

1. Alaska Road Commission, "Condition of Alaska Highways, Quarterly Report," January 15, 1952, ARC, box 65415, R. G. 30, Federal Records Center, Seattle, Washington.

building roads. The Alaska Road Commission had accumulated much useful information on construction problems in northern climates since 1905, and it was willing to report on what it had gained by 1952. For example, it had found that paved roads had to be of the flexible mat type (asphalt-bonded, as opposed to rigid concrete). Flexibility was necessary because of the continued surface movement caused by seasonal frost or by deformation of the underlying permafrost. Commission engineers had discovered that "asphaltic pavements of either road-mix penetration or hot plant-mix type" were successful. Contractors were paving Alaska's major highways with a 20-foot wide, 2-inch-thick mat of hot plant-mix laid over a 4-inch crushed rock base. The latter was primed with a medium-curing cutback asphalt, that is, asphalt diluted with a solvent such as naphtha so that it could be mixed while cold instead of being heated first to around 300°F as was normal asphalt; rapid-curing cutback asphalt was used in the plant-mix.[2]

"The principal gravel roads are surfaced with crushed gravel," the commission noted, "while low-standard roads are surfaced with an all-weather pit-run gravel layer. Fortunately good gravel is plentiful along most of the Alaskan highways; therefore, very few roads are limited by adverse weather conditions... Bridges on through-highways are designed for H-20 loading and have a roadway width of 24 feet. Bridges on secondary roads are designed for H-15 loading with 20-foot roadway width. Steel, concrete, and treated-timber bridges are used, and replacement of all native timber structures is now nearing completion."[3]

Alaska's construction season was short, generally lasting no longer than six months. This necessitated the seasonal employment of crews, long periods of idle equipment and increased unit costs. The commission often scheduled bridge work for the winter because it permitted longer periods of employment for key personnel and the more efficient utilization of equipment. The commission also had learned that the winter transportation of supplies and materials to advanced construction sites reduced costs; winter camp preparation and equipment overhaul also saved money.

One of the biggest problems confronting Alaskan construction was permafrost; another, sometimes accompanying, phenomenon was called "icing." (This occurred after the ground froze. Surface water, unable to drain off, froze in successive layers, eventually forming a mass of ice. Thick and localized ice was called "icing mound," and when it survived the summer it was known as "taryn.") Stripping the insulating moss cover off ground underlain with permafrost led to thawing. Where the frozen ground had contained much ice, this thawing practically suspended the soil particles in water, creating an impenetrable mire which greatly hindered the operation of roadbuilding equipment. On these types of soils, the commission employed what it called "stage type construction," with slow excavation as the thawing progressed, and subsequent reshaping of the grade as differential settlement occurred. The type of soil encountered in thawing permafrost greatly affected the difficulties encountered. Porous, granular, gravelly soils gave little trouble since water easily drained away, and then the soil became stable. Silty, kaolin or water-susceptible soils were avoided whenever possible because of their instability.

Long experience had shown that it was best to construct new roads without disturbing the protective ground cover. This reduced the rate of settlement, and icing did not develop as often. Such construction consisted of placing borrowed fill material over the natural ground as carefully as possible so as not to disturb the mat of plant matter. In fact, "even the location parties and tote road equipment are required to detour and travel off the final line whenever possible in order to

2. Alaska Road Commission, "Alaska Road Construction and Maintenance Techniques," June, 1952, ARC, box 65415, R. G. 30, Federal Records Center, Seattle, Washington. The subsequent discussion is based on this paper.

3. *Ibid*; H-15 and H-20 were truck weight and axle load configurations used in bridge designs, as described in The American Association of State Highway Officials, *Standard Specifications for Highway Bridges*, Washington, D.C., 1953.

avoid disturbing the natural ground cover." Still, while roads built without disturbing the natural ground cover were less subject to icing and settlement, they needed to be reshaped repeatedly until a new equilibrium had been established among the various factors inherent in the permafrost areas.

Careful observance of location criteria for roads and airfields could minimize construction problems, the commission had learned. For example, wherever possible, locations should be developed on the south rather than the north slopes of hills and mountain ranges. Southerly exposures received the greatest heating effects from the sun, normally had lighter snowfalls and less permafrost, and therefore reduced subsequent maintenance problems caused by early freezing, late thawing, and icing. To be avoided were wet hillsides or slopes with water seepages, since crumbling of the slopes and major mud slides were likely and ground icing was to be expected.

Bridge builders had to consider permafrost foundations, winter icing dangers, stream ice breakup and flow—termed "debacle" by commission crews—and major channel shifting so common in Alaska's glacier-fed streams. Additionally, many glacier streams and rivers had extreme flash floods, caused by the bursting of glacier-dammed lakes or streams. These flash floods irregularly raised such rivers as the Nizina, Knik, and Kenai by as much as 20 feet and caused heavy ice flows, bank erosion and drift problems. This sort of flood could occur at any season, and if one struck in the winter, it could cause considerable damage by carrying heavy broken lake and river ice against the bridges. During the spring these floods carried ice down from the glaciers along with much ordinary drift material such as broken river ice, trees, stumps and debris, all lodging against—and sometimes damaging—bridges.

Experience had shown that bridges with mid-channel piers were very undesirable, since special icebreakers and other expensive protective structures always had to be built for such bridges to survive. On wide, flat streams most subject to icing, it often was uneconomical to utilize clear spans. Since "debacle" was not an important factor in these streams, the use of steel piling trestle bents had proved very practical. The steel bents were designed without bracing in order to avoid hanging ice. While several feet of ice often did build up and cling to the steel pilings, no actual loads resulted. Thawing temperatures had to prevail before the stream cut under the ice, and during a thaw the heat conducting ability of the steel piles let them warm up, releasing the ice mass and permitting gradual settling.

In 1934, the Alaska Road Commission had developed bridge piers which were mostly of the bent type steel "H" piling and which proved to be highly successful. They equalled concrete piers in permanence, and were practical particularly in isolated locations because of the comparatively simple handling and erection facilities required. They cost relatively little since they required no expensive excavation, form work, cofferdam or caisson construction, or underwater work commonly demanded by concrete piers. The steel piers also were well adapted for use in frozen ground; they could be installed as easily in the dead of winter as in the summer, an important factor in Alaska because much bridge work was performed in the winter when concrete pouring would require costly heating measures.

In more recent times, the Alaska Road Commission adopted a modification of the steel "H" piling so salvaged railroad rails could be used. Commission employees fabricated piling by welding three rails together ball to ball. Using a 70-pound rail, this piling provided a hollow-triangle section structurally superior to the 10-inch H piling used previously. The ease with which these pilings could be manufactured and driven had saved over a dollar per foot.

Summer maintenance of Alaska roads was very similar to that performed in the midwestern states. After the spring thaw, roads dried out and gravel sections became very dusty even though permafrost might exist only a few feet below the grade. Regardless of the stability of the road foundation, underlying permafrost usually caused deformations over a period of years. Such uncontrollable forces as seasonal weather

changes and annual fluctuations in weather averages affected the thermal balance within the permafrost. Changes in the permafrost showed in subsidence or heaving of road sections. Under those circumstances, the flexible-type pavements suffered the least damage from such deformations, although extensive crack sealing, spot paving, and occasional leveling were still necessary to reestablish uniform vertical alignment. Chores such as brush cutting, ditch and culvert cleaning, spot graveling, and other maintenance jobs had to be performed during the summers. In addition, road crews also prepared for winter maintenance during the summers by placing culvert and snow stakes, erecting snow and ice fences, and flattening the gravel road crown in the fall to minimize the dangers of sliding off icy roads into ditches. They also created stockpiles of sand and cinders for winter surface sanding.

Of necessity, the Alaska Road Commission developed methods of preventing and coping with the winter ground-ice formations that endangered highways and highway structures. Most of Alaska's roads had ice problems caused by seeping groundwater, while river or stream icing was prevalent only in the interior. Therefore, maintenance crews most often had to cope with ground ice. It normally formed on sidehill cuts, producing a sloping ice surface and crowding vehicles to the outer edge of the roads. Often this type of icing built to many feet in depth, and formed slopes prohibiting the passage of any traffic. The fairly inexpensive and workable method that the commission had developed for controlling icing was "ice fencing;" it dammed off the seepage and controlled its freezing before it reached the roads. Since the actual head of water to be diverted was never more than the depth of the seepage film, the fence used could be of temporary light construction. The commission placed this fence between the seep and the road, controlling the water by diverting its flow to parallel the road until it froze. The resulting vertical wall of ice could and did build up considerably, and often required a second and sometimes even a third raising of the fence during the winter. Vertical sheets of ice as much as twenty feet high had formed parallel to some roads but had required only occasional lifting of the lightly constructed barrier.

Ice fences had considerably simplified the control of icing, but sometimes it was possible to avoid the problem entirely by constructing interception ditches graded to pick up the seepage before it reached the road and thereby divert it into other drainage channels. This method was particularly effective where the ground water flowed near the surface and could be intercepted some distance away from the road.

Similar interception ditches had been very effective where the water preserved sufficient latent heat to keep from freezing until it had passed through the road drainage structures. Icing still occurred, but it was below the road and therefore posed no danger to the traffic. At times, the commission had covered or insulated these diversion ditches to protect the chanelled flow against rapid freezing, further delaying icing. Drainage structures and ditches in icing areas, therefore, had to be deep and narrow rather than shallow and wide open.

Where roads were not maintained during the winter and icing had been allowed to build up uncontrolled, many problems occurred during the spring opening for traffic. In very bad cases, ice covered sections of road several thousand feet long to depths exceeding twenty feet. Removing it required blasting, cutting with tractor and bulldozer, ripping it up with heavy ice rooters, and repeated blading as the surface thawed during the spring. Sprinkling dirt or ashes to accelerate the sun's thawing effect worked well, and scattering rock salt speeded the ice removal.

Most roads in Alaska's connected highway system were maintained on a year-round basis, and so required snow removal operations six months of each year. Commission crews removed snow with light one-way throw blades, mounted on three- and five-yard capacity trucks. These trucks traveled at about 30 to 35 miles per hour when blading snow. At that speed, the blade threw the snow a considerable distance from the road ditch.

Very deep snow conditions occurred in Alaska's mountain passes. The Alaska Road Commission's most spectacular winter

maintenance operation was that of keeping open Thompson Pass through the Chugach Mountains. Less than 3,000 feet above sea level, the pass lies 2,000 feet above the timber line. Snowfall averages about 350 inches a year, and gale force winds often rake the pass. Sub-zero temperatures are normal, with extremes as low as minus 60°F. Snow removal equipment for Thompson Pass was huge. The commission converted four large Kenworth trucks, each with a gross weight of 106,000 pounds, into rotary and V-type plows. The rotary plows were equipped with the largest rotary heads manufactured, Bros. Model M-9s, powered with twin General Motors Corporation diesel units with a total of 400 horsepower. The commission modified these rotary plows by extending the main plow cutting edges to provide sufficient clearance for the extra wide trucks. Specially designed V-plows and wing blades manufactured for mounting on these large trucks could clear a 20-foot-wide swath of road at one pass. Additionally, commission crews used standard road maintenance equipment on Thompson Pass—a fleet of heavy tractor-dozers, several large motor graders with 12-foot blades, and 5-yard dump trucks equipped with one-way front snow blades.

Despite this array of equipment, the commission had found it impossible to keep Thompson Pass open during severe storms, and it was normal to discontinue operations and halt traffic during such inclement weather. Single closures could last as long as five days, but the total time the road was closed in any one winter did not exceed 15 days. The commission monitored traffic over the pass with shortwave radio stations on both ends and at the maintenance camp in the center of the pass. When conditions were unsafe for travel, commission crews erected roadblocks at strategic control spots, and they also advised the various roadhouses situated along the approach to Thompson Pass of weather conditions. Good road markers were also necessary for locating the road after severe storms. Equipment had to be winterized in a special fashion and the commission had built warm storage facilities at the critical points in order to keep the plows, graders and dozers in ready condition.

In short, winter maintenance was very expensive, and Alaska posed many problems for road construction and maintenance not found in the contiguous United States. Through trial and error the Alaska Road Commission had devised many techniques uniquely suitable for operations in Alaska's climate.

The same methods had to be used as the commission devised ways to deal with Alaska's people—who were sometimes as challenging to the federal sense of orderly behavior as was the weather. And like the weather, they showed no signs of mellowing over the years. Commission adventures in one isolated mining community were exemplary in that regard.

The Wiseman Controversy

The Alaska Road Commission operated in many remote locations. Wiseman, one of these, is located in the southern foothills of the Brooks Range on the middle fork of the Koyukuk River north of the Arctic Circle.

Lieutenant Henry T. Allen and Private Fred W.Fickett of the United States Army were the first white men to enter the Koyukuk River valley in 1885. During the course of a 2,200-mile wilderness journey the two men reached a place about 5 miles above the mouth of the John River in August of that year. Upon his return to civilization, Allen made a very accurate map of the Koyukuk River. In March 1886, Lieutenant George M. Stoney of the United States Navy crossed the drainage of the Alatna River. Through these two expeditions the outside world received its first knowledge of the upper Koyukuk.[4]

During subsequent years, adventuresome prospectors found some gold in the region. In 1898, about two hundred

4. Robert Marshall, *Arctic Village* (New York: The Literary Guild, 1933), pp. 29-30.

prospectors staked claims on the south and middle forks of the Koyukuk and Alatna drainages. Caught by an early freeze-up, the men spent a miserable winter on these cold rivers where they built clusters of cabins which they optimistically named Arctic City, Beaver, Rapid and Union cities, Peavey, Seaforth, Soo City, and Jimtown. As soon as the rivers opened in the spring, the men left the region for the Yukon River and escaped to the "outside." But other prospectors came in 1899, and one Knute Ellingson struck paydirt on Myrtle Creek. That fall Gordon Bettles opened the first store at the mouth of the John River; around the store a small settlement grew up, which soon was named in his honor.[5]

There were several rushes to the area, and prospectors discovered gold on Nolan Creek and its tributaries and on the Hammond River. Supplies for these mining activities were unloaded at the site of Wright's old roadhouse at the mouth of Wiseman Creek. A new settlement there first called itself Wrights, then Nolan, and finally Wiseman. The peak year of the second boom was 1915, when the traders unloaded over 400 tons of freight for the 300 non-Natives and approximately 75 Natives living in the region. Robert Marshall, a forester and writer who made Wiseman famous in his 1933 book *Arctic Village*, wrote that "sixty tons of booze alone came into the Koyukuk that year" [1915], and "since this could not legally be sold to the Natives, it made 400 pounds (including bottles and packing) for every white man, woman, and child. In some years, there was as much whiskey as food brought in."[6]

In fact, some of the oldtimers of those days estimated that "at least half of the money taken out of the ground went for booze and prostitutes." In 1915, the region had a population of 300 souls and gold production stood at $290,000 for the year. By 1931, the permanent white population had declined to 71 persons, but by then the little settlement had quite a few buildings.[7]

In 1900 the Alaska Road Commission began the construction of a trail from the Yukon River to the Chandalar and Koyukuk rivers. The trail left Beaver, about 100 miles below Fort Yukon, and followed a general northwesterly direction toward the Chandalar. The Koyukuk branch of the trail continued across the south fork of that river and down Slate Creek to Coldfoot. The other trail crossed the Chandalar River and continued northeastward up the middle of it.[8]

In 1925, the federal government established a wireless station in Wiseman, ending the settlement's isolation. The wireless was used for sending weather reports, and ordering supplies from Fairbanks, Tanana, and Fort Yukon.

In that same year famed pioneer bush aviator Noel Wien made twelve flights beyond the Arctic Circle, thereby inaugurating the era of arctic aviation. One of these flights was to Wiseman, where Wien landed on May 5, 1925. Marshall hailed the flight, stating that "civilization was no longer three weeks to three months away, but only a matter of two or three hours...." The elated Wiseman residents put on a feast for Wien in Martin Slisco's roadhouse, and also convened a special meeting of Igloo No. 8 of the Pioneers of Alaska to make the pilot an honorary member of this northernmost chapter.[9] Worried about the weather, Wien finally escaped the hospitality. He bought 20 gallons of fuel for his Hisso Standard airplane at $1.60 per gallon. This gasoline, packed 10 gallons to the wooden case, had been transported to Wiseman by dogsled over the Alaska Road Commission trail. The only other means of transportation

5. *Ibid.*, pp. 30-32.

6. *Ibid.*, pp. 41-43.

7. *Ibid.*, pp. 43, 37-38.

8. Linda Kay Thompson, "Wiseman: A Study of the Wiseman Historical District," unpublished paper prepared for the Bureau of Land Management, May 1, 1972, in files of the Fairbanks District Office of the Bureau of Land Management, p. 14.

9. Marshall, *Arctic Village*, pp. 132-34; Harkey, *Pioneer Bush Pilot*, pp. 113-115.

transportation to Wiseman (beside the winter trail) before the airplane was by poling boat the last 50 miles up the Koyukuk River from Bettles or by horse-drawn scows for the same distance, or simply by backpacking.[10]

In the winter of 1929-1930, the store owner bought a Caterpillar tractor and brought it into Wiseman. He planned to use it to freight supplies from Bettles to the little settlement, but during the first winter it seldom ran. During the second winter, however, the Cat became a tremendous success because by then the owner knew how to operate it properly. Freight rates declined from 8 cents to 6 cents a pound. This saving of 2 cents per pound was significant for bulk items. Unfortunately, however, this saving in transportation costs adversely affected the area, because formerly all of the 8 cents a pound paid for hauling freight was expended right in the region, going directly to the teamsters who did the work. With the Cat operational, 4 of the 6 cents charged for each pound of freight now went outside for the purchase of gasoline, oil, and spare parts. That only left 2 cents per pound profit for the Cat operator to spend locally.[11]

In the summer of 1931 an old automobile reached Wiseman. The wireless operator bought the vehicle and paid $140 in freight charges to have it shipped in by boat. Before it would run properly almost every important old part had to be replaced. By that time, however, the commission had constructed 6 miles of road to Nolan Creek and Hammond River, built an aviation field and connected it with a quarter-mile road to town. These roads, however, could only be used by a car in the few summer months.[12]

Robert Marshall returned to Wiseman for another visit in August 1938. He was shocked to see the changes that had occurred since his stay in 1930-1931. Only ten airplanes had arrived in the settlement during his 13-month stay; now two or three arrived weekly. Then, only one tourist visited the Koyukuk in thirteen months. In 1937, he learned, a hundred and fifty did, stopping for just a few hours and then going back. Wiseman no longer was the isolated community of 1930-1931, "uniquely beyond the end of the world."[13]

There were other changes as well. In 1931 there had been only the wireless station with code reception. Now there were six radios, and the automobile that had arrived in 1931 now hauled men and supplies all summer long to the mines out on Nolan Creek and Hammond River. In fact, "the rattling around the dirt streets of town never stopped now."[14]

Even more startling was the change in the population. In 1931, 62 of the 77 non-Natives in the entire upper Koyukuk had come to the North no later than 1911. By August 1938, 28 of these 77 people had left the country or died and been replaced by 42 newcomers of whom only 5 had come to Alaska in the early days. Therefore, the population of the Koyukuk, instead of being more than 80 percent old-timers, now had as half of its white residents people who were fairly recent arrivals, and who therefore lacked much of the tradition of the gold rushes of the 1890s.[15]

With the increased air traffic, the old 1,600-foot airstrip no longer was adequate, and the territory in 1941 agreed to pay for the construction of a new field if the residents agreed to pay the cost of freighting the Cat and dump truck from Fairbanks to Wiseman. During the summer the equipment was shipped to Bettles by boat, and in the winter the two pieces of equipment were driven to the

10. *Ibid.*, p. 115.

11. Marshall, *Arctic Village*, pp. 135-136.

12. *Ibid.*, p. 136.

13. Robert Marshall, *Alaska Wilderness: Exploring the Central Brooks Range*, ed., with introduction by George Marshall, Second Edition (Berkeley, California: University of California Press, 1970), p. 113.

14. *Ibid.*

15. *Ibid.*, pp. 113-114.

settlement. The Alaska Road Commission then built the new airfield. With the new equipment in the settlement, the commission no longer needed to use the old horse-pulled grader to keep the limited road system in shape.[16]

After the outbreak of the war in 1941, many of the able-bodied young men left the settlement to join the armed forces. Soon gold mining was declared non-essential for the war effort, and the economy collapsed. Thereafter, many of Wiseman's residents moved to Fairbanks to find work. By 1944 the store had become so unprofitable that it closed down, as did the school. Wiseman did not revive in the postwar years. By 1952 there were only 18 people living in Wiseman and another 3 in the surrounding area. Harry Leonard, the oldest miner, had arrived in Wiseman in 1924.[17]

The few people who remained were highly individualistic, often suspicious of one another, and occasionally also quarreled among themselves. One of these quarrels involved the Alaska Road Commission. In the fall of 1951, Leonard informed the commission that "a graded road is being built to Vermont Creek, for the benefit of one person," and perhaps worse, that after the commission had worked on it for three seasons it was still impassable. That project consumed half of the maintenance money appropriated for Wiseman. The road was so poorly constructed, he charged, that every time it rained "it will wash out and slide in," and in the meantime the residents of the settlement "can crawl through the brush to their homes." In fact, Leonard stated, it appeared that the road work only benefited Erling Nesland and Joe Ulen. Furthermore, Leonard accused Ulen of using the commission truck for delivery service in Wiseman and to Vermont Creek. This practice would have been stopped long ago, he stated, "if Ulen did not have his finger in the pie." Leonard also believed that "Nesland has got fuel oil from the Road Commission" to run his Cat.[18]

These were serious charges, if substantiated. The commission told Leonard that the road construction to Vermont Creek was under the direction of the district engineer and the road was designed to serve the miners in that area. It so happened that Nesland was the most active entrepreneur there. Furthermore, building a road along a side-hill through permafrost was always "both expensive and slow and costs a great deal of money to maintain." The commission had been in business long enough to know that Alaskans held widely varying opinions "where and how a road should be built" and Leonard certainly was "welcome" to his opinion and the commission appreciated the expression of his beliefs. All of Leonard's charges required substantiation, but if he could supply the facts, the commission was prepared to make formal charges and ask the U.S. Marshal for an investigation.[19]

In fact, Leonard seemed to be unacquainted with the commission's work. In August of 1950, District Engineer Frank Nash had come from Fairbanks to Wiseman to determine where roads should be built. He discovered that 12 men were working on Nolan Creek, 5 on Vermont Creek, but none on the Hammond River, and several more at Big Lake, Bettles River, Porcupine and Myrtle creeks. Under those circumstances Nash decided that the extension of the Wiseman-Hammond road to Vermont Creek was warranted and authorized construction to start in the fall. The commission had used funds to maintain and improve several roads and trails in the area: (a) Nolan Branch road, 5.5 miles; (b) Wiseman-Hammond road, 7.5 miles, extended to Vermont Creek making a total of approximately 12.0 miles; (c) Wiseman-Coldfoot sled road, 11.0 miles;

16. Thompson, "Wiseman," p. 20.

17. *Ibid.*, pp. 21-22.

18. Leonard to Superintendent, Alaska Road Commission, September 1, 1951, ARC, box 65415, R. G. 30, Federal Records Center, Seattle, Washington.

19. K. F. Goodson to Leonard, September 5, 1951, ARC, box 65415, R. G. 30, Federal Records Center, Seattle, Washington.

(d) Jim Pup trail, 26.5 miles; (e) Myrtle Creek trail, 7.0 miles; and (f) Wiseman-Porcupine Creek trail, 15.0 miles. The commission spent the larger part of the allotted funds on the Wiseman-Nolan and Wiseman-Hammond-Vermont Creek roads, thereby—they believed—benefitting the entire settlement.[20]

Nothing was heard from Leonard for more than a year. Then on December 14, 1952, Nesland's Cat broke down midway between Wiseman and Vermont Creek. The spot was a bad one, on the narrow part of the hillside road in a very windy and cold location. Nesland decided that he had to pull the engine and overhaul it. But how to get his piece of equipment to Wiseman where he could work on it in a warm place? He asked for permission to use the commission Cat to tow his disabled equipment to Wiseman. Nesland reminded the commission that on four different occasions in the last two summers he had pulled its equipment "out of bad places or spots." He assured the commission that he was familiar with its D-7 Cat "as I guided and helped drive it to the Koyukuk from Fairbanks for the former owners in the winter of '47."

The commission granted Nesland the permission to use its Cat to pull his disabled piece of equipment into Wiseman, but cautioned him to: "(1) fill the radiator with Prestone; (2) check all gear cases for correct oil levels; (3) check crankcases on main and starting motors; and (4) if extremely cold, to dilute the oil in the final drives and transmission with kerosene."

The commission also asked Nesland to tell them when he had completed his work and note the number of hours the Cat had been used. A few days later, Leonard protested Nesland's use of the commission Cat "in competition with private equipment in Wiseman. It is understood that Erling Nesland has been given the use of the tractor here, with three private tractors here this is hard to understand." He also informed the commission that a copy of his letter would go to the Department of the Interior in Washington, D.C.[21]

Leonard made good on his threat and told the Secretary of the Interior that for the past two years a private individual, not employed by the commission, had been using its equipment and supplies from time to time. There had been no emergency, and private equipment had always been available. In short, during "the past two years there have been many irregularities in the use of supplies and equipment."

Obviously, Leonard did not like Nesland, for at the same time he complained to the secretary, he told the commission that "you are a pretty rotten layout, to knowingly turn government equipment and oil over to Erling Nesland, to be used in direct competition with private equipment; not only this, but you built him a five-mile highway, and he does not even have a car or truck, run a delivery service, furnish him with gasoline and fuel oil [sic]." Leonard concluded that Nesland had started to use the Cat on January 5, 1953. He suggested that under the circumstances the commission should put Nesland on the payroll as well, for "it would seem a shame that he should not be paid for using this equipment and oil."[22]

The Department of the Interior responded quickly. It wanted to know if Leonard's charges that Nesland used commission equipment were correct. A. F. Ghiglione, the commissioner of roads for Alaska, readily admitted that Nesland had used commission equipment for private purposes. Circumstances, however, justified this use, Ghiglione explained, because during the past season the commission had borrowed a tractor belonging to Nesland because its own Cat was down for repairs. After the commission Cat was operable again, it was loaned to Nesland to compensate for the use of his tractor. Furthermore, Wiseman, like many small

20. Zimmerman to Niemi, March 3, 1953, ARC, box 65415, R. G. 30, Federal Records Center, Seattle, Washington.

21. Nesland to Morton, December 15, 1952, Zimmerman to Nesland, December 22, 1952, Leonard to Alaska Road Commission, January 1, 1953, ARC, box 65415, R. G. 30, Federal Records Center, Seattle, Washington.

22. Leonard to Department of the Interior, January 5, 1953, Leonard to Alaska Road Commission, January 6, 1953, ARC, box 65415, R. G. 30, Federal Records Center, Seattle, Washington.

Alaskan settlements, presented special problems. Wiseman had a road system totaling 17.5 miles, isolated approximately 200 miles north of Fairbanks in an area with a population of only 27. Maintaining this short mileage did not warrant stationing a permanent crew in Wiseman. The commission, therefore, contracted with a local resident to accomplish the needed work on a part-time basis. Ghiglione felt that this arrangement was the most economical one under the circumstances.[23]

While this explanation satisfied the Department of the Interior, nine Wiseman residents rejected it. They directed a long list of complaints to the department, most of it familiar. The men reiterated their accusation that the commission had built a 5-mile road for Nesland, a small-scale gold miner who did not even own a car or truck. In short, the commission favored Nesland above all others, most conspicuously by granting permission for him to use government equipment. Above all, the commission did not spend funds for the benefit of the community as a whole. In fact, the dissatisfied residents claimed, the small population and limited mileage did not justify any expenditures at all.[24]

The Department of Interior once again referred the complaints from Wiseman to the commission headquarters in Juneau. William J. Niemi, the chief engineer, thereupon contacted M. C. Zimmerman, the commission district engineer for the Fairbanks area, and asked for clarification. Niemi was surprised that the commission had constructed a road to Vermont Creek, stating that headquarters was under the impression that only necessary maintenance was performed. Instead of 27 residents, as assumed, the Wiseman region contained only 14 non-Natives and 10 Natives. Only one jeep and one pickup truck used the roads, and Niemi wondered if a continuation of the maintenance program was warranted. In any event, he urged Zimmerman, who was responsible for any work in the Wiseman area, to give the matter some thought.[25]

Zimmerman quickly pointed out that the complaints were wholly unwarranted. It appeared that Wiseman contained two cliques, each extremely jealous "that one is getting more road improvement benefits than the other." It almost had become a game to vent their bitter feelings by writing critical letters to the commission. During each of the past three years, the commission had stationed a different foreman in Wiseman. It did "not seem possible that all three could be guilty of charges enumerated." Additionally, the general foreman from Fairbanks visited Wiseman twice during the past summer. He had talked with many of the residents, and none had complained—in fact, they "seemed entirely pleased" with the activities of the commission. Zimmerman admitted that Alaska Road Commission employees traveling to and from work probably had occasionally hauled supplies for various individuals along the routes and trails. In this remote area, nobody but a malcontent would label this activity a delivery service rather than a neighborly deed. Furthermore, Nesland had permitted commission employees time and again to use his welding equipment for necessary repairs, and generally he had proven to be a good neighbor. Zimmerman concluded that there appeared to be considerable mining activity in the Wiseman area, and he recommended that the commission continue its maintenance program "on roads, trails, trolleys, and other items for at least another year."[26]

Chief Engineer Niemi personally responded to Leonard's complaints. He readily admitted that Nesland had been permitted to use Alaska Road Commission equipment on several occasions. He explained that in

23. Nucker to Ghiglione, January 13, 1953, Ghiglione to Nucker, January 19, 1953, ARC, box 65415, R. G. 30, Federal Records Center, Seattle, Washington.

24. Miller et al., to Department of the Interior, January 24, 1953, ARC, box 65415, R. G. 30, Federal Records Center, Seattle, Washington.

25. Niemi to Zimmerman, February 10, 1953, ARC, box 65415, R. G. 30, Federal Records Center, Seattle, Washington.

26. Zimmerman to Niemi, March 3, 1953, ARC, box 65415, R. G. 30, Federal Records Center, Seattle, Washington.

isolated areas such as Wiseman it is "a policy of our organization to lend a helping hand to anyone who may be in need of such temporary assistance." It was an old Alaskan custom "to haul mail and other small items for anyone along a route where no commercial transportation exists." The commission considered this "to be a public service" and extended it to all who resided in remote locations. Niemi explained that the commission intended to hold a public hearing at Wiseman in the near future about the operations of the Alaska Road Commission in the area. At that time, the commission would receive sworn statements regarding misappropriations of government supplies and equipment, the only fair method to obtain facts about this perennial discontent and finally to place responsibility where it belonged.[27]

Leonard responded immediately and suggested that such a hearing be held between the middle and last part of April. Leonard had his reasons for suggesting this early hearing date because it would exclude the miners who did not winter in Wiseman but only came for the summer working season. He knew that those people were satisfied with commission work, and then would probably outnumber the malcontents. Indeed, the commission recognized this as well and told Leonard that the hearing would be held during the latter part of July, for an April date would not "be representative of those who may be interested in our road problems."[28]

A few days later, Leonard and six of his fellow malcontents requested that the Alaska Road Commission suspend its operations for the following reasons:

1. that the work performed in the past was valueless to the community at large and was merely a waste of money;

2. that the commission relied on so many services from miner Nesland that it had become so indebted to the man as to allow him to use its tractor for private use for 35 days the past season;

3. that the commission apparently had decided to continue to rely on Nesland; and

4. finally, that commission work benefitted at most two individuals.[29]

Nesland was unaware of the request that the Alaska Road Commission abandon its work in the Wiseman region until he heard about it on a radio broadcast from Fairbanks. A few days later an employee of the commission visited Nesland and told him that "it's possible the road equipment will be moved out of the Wiseman district," and no work was to be performed on the Wiseman-Emma Creek and Porcupine trails as had been planned. Furthermore, the commission had decided not to repair the last 5 miles of the road to Nesland's operations. Nesland asserted that Leonard's effort to have commission work suspended was "directed at my wife and myself and was instigated as spite work and to make it increasingly difficult for us to operate in a businesslike manner." Nesland then wrote Secretary of the Interior Douglas McKay about the long period of conflict between himself and Leonard. It appeared that the latter, a cranky man, had taken a strong dislike to Nesland and tried to make his life difficult for several years. Nesland refuted the charge that the road only benefitted his mining operations, and pointed out that each claim along the 5 miles leading to his operations was held by miners and absentee owners. In short, Leonard's charges were absurd, and Nesland hoped that the secretary would intervene and direct the commission to continue its work program in the Wiseman area because it was sorely needed, and additionally "we pay our taxes and should have some return on them".[30]

27. Niemi to Leonard, March 10, 1953, Niemi to Nucker, March 10, 1953, ARC, box 65415, R. G. 30, Federal Records Center, Seattle, Washington.

28. Leonard to Niemi, March 31, 1953, Niemi to Leonard, April 3, 1953, ARC, box 65415, R. G. 30, Federal Records Center, Seattle, Washington.

29. Leonard et al., to Secretary of the Interior Douglas McKay, ARC, box 65415, R. G. 30, Federal Records Center, Seattle, Washington.

30. Nesland to McKay, July 31, 1953, ARC, box 65415, R. G. 30, Federal Records Center, Seattle, Washington.

Other Wiseman residents were as distressed as Nesland about Leonard's petition. E. J. Ulen pointed out that within a 30-mile radius of Wiseman there lived only approximately 35 white people, including women and children, 6 Eskimos who could neither read nor write, and one white man "who does not vote or sign any petitions about anything." Ulen related that he had talked to 12 individuals who denied ever having signed a petition, and neither had he. Yet Leonard claimed to have 25 signatures. Something obviously was fishy, and there were indications that "some names must be forged." He urged that all the names on Leonard's petition be carefully examined and authenticated at the forthcoming public hearing.[31]

Because of unavoidable delays, the hearing was not held until September 4, 1953. Several weeks in advance George H. Parker, the commission foreman, alerted residents to the upcoming hearing. Radio station KFAR of Fairbanks announced the final date through its "Tundra Topics," a broadcast program covering items of general interest to rural Alaskans. Since the residents of the Wiseman area were widely scattered, this method of final notification proved very effective. Eight witnesses testified; seven favored a continuation and expansion of commission activities. Two more, unable to attend, left word that they appreciated the work of the Alaska Road Commission and urged that it improve the Wiseman-Porcupine Creek trail. George Magalso arrived late at the meeting and left after only a few minutes. Asked if he would like to make a statement, he replied that he "could not stay with such a rotten crowd." Harry Leonard, the chief malcontent, did not even bother to appear. Notified of the hearing, he merely remarked that he "could not attend a meeting where Ulen was present."

During the course of the hearing it came to light that three out of the nine signatures were invalid on the January 24, 1953, petition that had alleged numerous irregularities. Frank J. Miller lived in Fairbanks, Frank Theisen had not resided in Wiseman for several years, and Ed Marsan had left the settlement in 1943. In short, the hearing did not accomplish its desired purpose, since those persons voicing opposition to commission operations did not attend and testify. None of the allegations were substantiated. Commission members were again reminded that people in small communities in Alaska often find themselves at odds with their neighbors through long and continued close association and tend to magnify each other's faults. Several bush pilots serving the area informed Chief Engineer Niemi that this sort of quarrel had been going on in the locality for a number of years.[32]

The commission decided to continue to maintain and improve the 17.5 miles of road, 11 miles of sled road, and 48.5 miles of trails. The operations, performed each year during July and August with a D-7 Cat tractor, a tow grader with a 10-foot blade, a 1½-cubic-yard Ford dump truck of 1939 vintage, and an almost worn out Allis-Chalmers HD-5 tractor, were inexpensive enough. In recent years the commission had employed one working foreman who hired local help only when absolutely necessary, and then only on a day-to-day basis. The entire program had cost $7,000 in 1952 and $4,800 in 1953. When justified by increased mining activity, the commission even contemplated construction of new projects, but decided that for the time being annual expenditures should not exceed $5,000 per season.[33]

The hearing settled the controversy. Mining, however, did not revive, and throughout the 1950s the population of Wiseman continued to decline. In the mid-1970s, a mere 6 persons resided in the little settlement. Harry Leonard was one of them, and he still had his feuds with the few individuals left.

31. Ulen to Alaska Road Commission, August 10, 1953, ARC, box 65415, R. G. 30, Federal Records Center, Seattle, Washington.

32. Memo for Files, Public Hearing at Wiseman, Alaska, September 14, 1953, "Report of Public Hearing at Wiseman, Alaska, September 4, 1953," September 18, 1953, ARC, box 65415, R. G. 30, Federal Records Center, Seattle, Washington.

33. *Ibid.*

14 The Last Years of the Alaska Road Commission

While the Alaska Road Commission coped with weather, Alaskans, and the vastly expanded road construction program in the territory, President Harry S. Truman requested a report on the desirability of having the commission perform some or all of the activities of the Bureau of Public Roads in Alaska. The bureau response was swift and negative. Here was a large, powerful, and growing bureaucracy which had no intention of allowing the Alaska Road Commission to absorb its functions in the territory. The result was a complicated bureacratic power struggle between the Interior and Commerce departments to determine which agency, the Alaska Road Commission or the Bureau of Public Roads, would assume total responsibility for road construction and maintenance in Alaska.

Early in 1953 the director of the Bureau of the Budget reported to President Truman on the bureaucratic deadlock. Since neither Interior nor Commerce would compromise, he recommended that both agencies in Alaska be continued. Should Alaska be admitted to statehood, the director stated, "it would be desirable to have the Alaska Road Commission available for use by the new state as a highway department, and it would also be essential to have Bureau of Public Roads' assistance in Alaska." Therefore, it would be unwise to "liquidate the Alaska Road Commission or to displace the Bureau of Public Roads for Alaska," although it was somewhat wasteful to have two federal agencies performing work that could well be accomplished by one. The President heeded Budget's advice and informed the secretaries of Interior and Commerce that no major organizational changes were to be made. Truman hoped, however, that the two agencies, together with territorial officials, would prepare a program for future road construction in Alaska. Such a program, Truman emphasized, should meet both civilian and military needs for the next five years.[1] Unquestionably, the two agencies were under pressure to work out their jurisdictional problems.

The Bureau of Public Roads States Its Case

The Bureau of Public Roads stated that the proposal to give the Alaska Road Commission some or all of their Alaskan duties conflicted with legislation under which it was charged with the responsibility of administering the Forest Highway Program in Alaska. The bureau, however, claimed that such a proposal would be contrary to the congressional intent reflected in legislation and hearings, all directing that the Bureau of Public Roads maintain an adequate organization in Alaska to administer its own functions and also to

1. Lawton to Truman, January 9, 1953, Truman to Secretaries of the Interior and Commerce, January 17, 1953, Truman Papers, OF-65, OFG-BB Alaska Road Commission, Harry S. Truman Library, Independence, Missouri.

perform engineering and supervisory functions for the Alaska Road Commission on some of its major construction projects.[2]

In fact, the bureau felt very strongly that the Department of the Interior must have given misleading information to the President and the Bureau of the Budget concerning the nature and scope of the bureau's Alaskan activities. Above all, Congress recognized the Bureau of Public Roads as the principal road planning and construction agency of the federal government. The bureau reminded the President and the Bureau of the Budget that the Bipartisan Commission on the Organization of the Executive Branch of the government, commonly referred to as the Hoover Commission, had also recommended that federal transportation activities, then located in the various executive departments, be concentrated in the Department of Commerce. The Hoover Commission had recommended the transfer of the Bureau of Public Roads to the Department of Commerce, and this had happened in 1949. One of the major functions of Commerce as expressed in its organic act was to "foster, promote, and develop the transportation facilities of the United States." For this reason the road-building functions of the federal government were transferred to the Bureau of Public Roads.

That was not all. In addition to administering the Federal-Aid Highway Act which involved the expenditure of about $1 billion annually of federal and state funds, the bureau, by law, was responsible for the administration of major highway programs in cooperation with other federal agencies. This included, for example, highways in national forests and parks, Indian reservation roads, public lands highways, defense access roads, and Bureau of Land Management roads. Additionally, it had taken an important part in major projects such as the Alaska Highway and the Inter-American Highway, and rendered technical assistance, advice and services to numerous other nations under various foreign assistance programs. The bureau also cooperated in conducting research in highway planning, financing, administration, construction, operation, and maintenance in order to maximize benefits from the expenditure of public funds.

The foregoing made it clear that Congress had wanted to center all highway construction activities in one agency, and that was the Bureau of Public Roads. Legislation over a period of years had confirmed congressional intent. These enactments related exclusively to the Bureau of Public Roads and specifically authorized it to perform services for other federal agencies in connection with the construction of roads and bridges, including the preparation of plans, designs, specifications and estimates, the execution of contracts, supervision of the work, and the payment for such work involving the transfer of funds.

Finally, the bureau zeroed in on the Alaska Road Commission. Before 1948, it reminded President Truman and the Bureau of the Budget, the activities of the Alaska Road Commission had been largely confined to maintenance and force-account work under very limited appropriations. When funds for vastly expanded Alaska road construction became available in 1949, the commission concluded several agreements with the bureau which provided that the survey and construction of major road projects would be handled under the engineering direction of the bureau.

During the past several years, Alaska's delegate to Congress and the territorial legislature had asked Congress to extend the Federal-Aid Highway Act to Alaska. If it was so extended, the functions and duties of the Alaska Road Commission would be transferred to the Bureau of Public Roads. In 1946, two congressional committees had recommended that the transfer take place, and in 1947 the Department of the Interior supported the proposal.

2. Statement of the Department of Commerce Regarding Performance of Road Construction and Maintenance Activities in Alaska, July, 1952, ARC, box 65509, R. G. 30, Federal Records Center, Seattle, Washington. The subsequent discussion is based on this memorandum. Bureau of the Budget to Administrative Assistant Secretary of the Interior, November 18, 1952, Miller, Memorandum "ARC-BPR relationship in Alaska, November 20, 1952, Miller memorandum to Files." Study of ARC-BPR operations on roads in Alaska, November 21, 1952, ARC, box 65418, R. G. 30, Federal Records Center, Seattle, Washington.

Taking all of the above into consideration, the Bureau of Public Roads recommended that it be given the responsibility of supervising all highway work in Alaska, at least until Alaska attained statehood. At that point, the bureau would supply leadership and key personnel in helping the new state establish a highway department. The bureau also would lend the new Alaska highway department a nucleus of personnel thoroughly trained in federal aid procedures and also intimately familiar with Alaska highway problems.

On November 20, 1952, the Bureau of the Budget called officials of the Interior and Commerce Departments to a meeting designed to resolve the conflict over which agency should handle road construction and maintenance responsibilities in Alaska. At the meeting, recriminations abounded. Bureau officials accused the commission of having wasted funds through its concept of stage construction in cases where the pioneer road had to be abandoned when Congress authorized major improvements. The commission charged that the bureau had built preciously few miles in Alaska's forests for all the funds it had received over the years. Interior officials pointed out the territorial officials had not been dissatisfied with the performance of the commission, while they had been critical of the work performed by the bureau. In fact, the commission always had developed its construction programs with community recommendation and advice received from territorial officials. In the final analysis, there was no resolution of the conflict, and the Department of the Interior decided to leave conditions as they were—if that was at all possible.[3]

The General Accounting Office Review

While the struggle between the bureau and the commission went on, the General Accounting Office (GAO) had reviewed commission operations. It issued its report in the summer of 1952. Although lauding the commission for the progress made in road construction, the General Accounting Office was highly critical of the methods and procedures through which it obtained, controlled, and expended appropriated funds. It also noted that the construction standards of the commission and the bureau differed substantially. Moreover, each agency maintained a complete and distinct organization in Alaska, and each considered that it should have the responsibility for administering federal funds appropriated for territorial highway construction.[4]

The General Accounting Office also noted the relationship of the territorial Board of Road Commissioners to the commission. The board did not maintain its own organization, but through annual cooperative agreements with the commission had performed construction and maintenance of territorial local roads. These projects were financed by contributions from the commission and the board. Unhappily, however, commission contributions had increased each year since 1948, while territorial appropriations had decreased significantly. For example, in 1952 $1,060,350 had been expended under this agreement, of which the commission contributed $810,350 and $250,000 came from the territorial legislature. In 1948, of the $688,000 spent, the commission had contributed $347,000 and the territory $341,000. The territory collected these funds from a part of the proceeds of the Alaska motor fuel tax and operators' registration fees. The General Accounting Office criticized the gasoline tax of two cents a gallon, lower than in any state except Missouri. Motor vehicle license taxes went into the territory's general fund and were

3. Miller, Memorandum, "ARC-BPR Relationship in Alaska," November 20, 1952, ARC, box 65418, R. G. 30, Federal Records Center, Seattle, Washington.

4. General Accounting Office, "Report on Survey and Review of the Operations of the Alaska Road Commission for the Fiscal Year Ended June 30, 1952." The following discussion is based on this report.

not used for road construction or maintenance. Trucks operating in Alaska paid only a $75 annual license fee, less than any of the 48 states charged.

Although the territory was responsible for highway regulation, it had largely neglected to perform this function. The commission, therefore, had taken the initiative in enforcing many of the regulations required to protect the highways. For example, in April, May, and September 1952 the commission installed three vehicle weighing scales on Alaska's major highways, and also operated them.

Since 1948 the principal activities of the commission consisted of administering contracts for the reconstruction and bituminous surfacing of portions of the Richardson and Glenn highways, the reconstruction of the Haines Highway, and the force-account construction of connecting roads to the main highway system. Using its own employees rather than letting the projects out to bid, the commission built the Sterling Highway and the Tok-Eagle road, both begun in 1946, and continued the reconstruction of the Tok Cutoff begun in 1947. The Bureau of Public Roads administered contracts on some sections of the Alaska, Richardson and Glenn highways with funds appropriated to the commission. In 1948 the construction of the Seward Highway began with commission funds, but with the Bureau of Public Roads doing most of the building because the highway traversed the Chugach National Forest. Consequently, the responsibility of the commission on this project was largely confined to holding the funds. It did build 12 miles of road between Anchorage and Potter in the summer of 1948, and supervised the paving of about 39 miles from Anchorage to Girdwood.

The GAO pointed out that the conflict of standards between the commission and the bureau became evident when both submitted estimates for the reconstruction of the road between Seward and mile 58. The bureau's estimate was according to its higher standards, and was about $2,000,000 higher than the commission's estimate.

The GAO objected to certain commission budgeting practices. For example, on the construction of the road from the Naknek airport to the village, the commission transferred $550,000 from its paving funds to the Corps of Engineers before requesting Congress to appropriate the money. Another example concerned a major project with a cost estimate that was obsolete when it was submitted: an $11,000,000 request for the Cordova-Richardson Highway. The commission had arrived at that total by adding $1,000,000 to an engineer's report made in 1949—yet three years later, the project still had not reached a stage of planning where a reasonably accurate estimate of final costs could be made. The GAO recommended that the commission fully inform Congress when funds approved and available for certain projects were transferred to cover obligations on other major highway projects in excess of the amounts approved in the commission's budget justifications.

The GAO observed that the commission hired a large number of temporary employees, both wage and classified (blue- and white-collar), at the beginning of each construction season. With wage employees, temporary appointments were limited to one year or less. Under the law, such individuals were not entitled to compensation for holiday pay unless they worked. In 1952, however, the commission paid these temporary workers for Memorial and Independence holidays in amounts approximately totaling $13,500.[5]

The commission accounting system was in the throes of change in 1952. On June 30 of that year, the amounts recorded in the assets and liability accounts, as well as the cumulative project costs, were mostly inaccurate. The commission distorted overhead charges by distributing them to individual work orders, and it had permission to use appropriated construction funds without time limit. Monies received for operation and maintenance, however, could only be legally obligated during

5. Wage employees are skilled blue-collar workers, such as mechanics, drivers, and oilers, and were paid by the hour. Classified employees, such as engineering aides—mostly college students—were hired at a GS rating and received monthly salaries. *Ibid.*, pp. 7-8.

the year for which the appropriation was made. In 1952 the commission reclassified certain projects from construction to operation and maintenance with the result that on June 30 the annual appropriation of $2,940,000 for operation and maintenance had been entirely obligated. The GAO found that an equitable allocation of overhead would cause the appropriation for operation and maintenance to be exceeded.[6]

The GAO recommended that Congress create an interdepartmental transportation authority for Alaska which would promote the establishment of a sound and equitable revenue base to provide for further highway construction and the maintenance of those already built. It also urged Congress to review the need for two independent federal road building agencies in Alaska since it was not conducive either to economy or to effectiveness of effort.[7]

Obviously, the status quo was not to be preserved as the Department of the Interior had hoped. Indeed, the General Accounting Office was to scrutinize the Alaska Road Commission repeatedly during the remainder of the commission's existence.

The Alaska Road Commission's Perspective

A. F. Ghiglione, the commissioner of roads for Alaska, perhaps best summarized the concerns of the commission. He stated that the Alaska Road Commission had successfully coped with the territory's rugged terrain and difficult climate since 1905. It had achieved much, but even more remained to be done. Southeastern Alaska needed a comprehensive ferry system, and although the territory operated one leg in the summer months between Juneau, Haines, and Skagway, it needed to be extended. The territory had to assume responsibilities for the construction of suburban and subdivision roads. Communities did not build beyond their corporate limits; therefore, the commission had recognized a need and used farm road development funds to open areas around the cities. Further use of federal funds for such purposes was no longer possible, and the territory had to assume responsibility for this vital link in the highway system.[8]

Ghiglione observed that large expenditures were required to assure Alaska's continued development. First of all, however, territorial citizens and lawmakers had to recognize that they must participate actively in this process. This they did not do. In fact, territorial citizens paid less than one-third the taxes for highway development purposes that every other American highway user paid. The average fuel tax in all the 48 states came to 5 cents per gallon. Alaskans continued to pay 2 cents per gallon. Additionally, the average vehicle registration fee for trucks and trailers in the contiguous states was twenty times higher than that charged in Alaska. Congressional appropriation committees recognized that Alaskans failed to carry their fair share of highway expenses, and Congress had cut recent Alaska Road Commission budgets because of this factor. For example, the 1952 federal appropriations of $18,149,624.11 had been drastically cut from a 1951 appropriation of $29,389,476.14. In fact, members of the congressional appropriation committees had threatened that unless Alaskans corrected this situation, future federal funding would be cut further, and seriously. Ghiglione continued that Alaska was far more dependent upon federal funds for highway development than any of the contiguous states. Many

6. *Ibid.*, pp. 8-9.

7. *Ibid.*, p. 12.

8. Ghiglione, "Highway Development For Alaska," January 7, 1953, ARC, box 65638, R. G. 30, Federal Records Center, Seattle, Washington.

Alaskans had clamored for years to be included in the Federal-Aid Highway Act in the belief that this would bring more road construction funds. What most did not understand, he contended, was that such inclusion required substantial territorial matching funds. Even if Alaska's highway user tax structure were revised to equal the average within the states, the total Federal-Aid Highway Act funds available on a matching basis would still be considerably less than what Congress annually appropriated to the Alaska Road Commission. It was mandatory, Ghiglione concluded, that the territorial legislature make every effort to raise substantially Alaska's monetary contributions to highway construction and maintenance.[9]

The Concerns of Territorial Officials

Territorial officials recognized the problem. Frank A. Metcalf, the territorial highway engineer, echoed Ghiglione's concerns in his 1949-1950 and 1951-1952 biennial reports. In the earlier report he pointed out that Alaskans paid less gas tax than the residents of any of the states except Missouri. An increase was urgently needed to help pay for the rapidly increasing demand for more roads and harbor facilities. In the latter report, he pointed out that between 1920 and 1940, the territory contributed 11.7 percent of the total funds that the Alaska Road Commission expended for road work. Between 1950 and 1952, the territory's contribution of $816,000 amounted to only 1.2 percent of the total. This limited territorial contribution, he pointed out, made justifying federal expenditures for roads in Alaska very difficult. Echoing Ghiglione, Metcalf stated that in "recent years Congressional Committees have assumed the attitude that unless the Territory participates in its road program to an extent more comparable to that of the various states, further Federal appropriations will be greatly curtailed."[10]

In his biennial report for 1953-1954, Irving McKay Reed, the territorial highway engineer and superintendent of public works, also dealt with the problem of territorial contributions. He stated that the legislature had gradually reorganized his office in intent, purpose, and composition in preparation for a more active participation through the construction and maintenance of roads, as well as water and harbor facilites. Reed noted that federal appropriations to the Alaska Road Commission exceeded by twenty times the territory's expenditures for roads. He disagreed with Ghiglione in interpreting the congressional mood. Reed argued that Congress really did not complain of the proportion of federal to territorial road funds, but rather criticized Alaskans for "not protecting the roads which the Government is building." He therefore proposed that the territory discourage the transportation of overloads on Alaskan highways, operate truck weighing stations, increase the motor fuel tax, and add the receipts from the sale of license plates to the road fund.[11]

Reed also dealt with Alaska's possible inclusion in the Federal-Aid Highway Act, which provided for a long-range program of highway development with a very favorable ratio of federal-territorial matching funds. The apportionment formula was a complicated one, based on population, star route or rural mail delivery mileage, and the area of the land in a state or territory included in the public domain. In 1953, federal officials told Reed that if Alaska was included in the program, the

9. *Ibid*; Alaska Road Commission, *Annual Report, 1955*, p. 47.

10. *Biennial Report of the Alaska Territorial Highway Engineer and Superintendent of Public Works, 1949-1950* (Juneau, Alaska, 1951), pp. 8-9; *Biennial Report of the Alaska Territorial Highway Engineer and Superintendent of Public Works, 1951-1952* (Juneau, Alaska, 1953), pp. 5-6.

11. *Biennial Report of the Alaska Territorial Highway Engineer and Superintendent of Public Works, 1953-1954* (Juneau, Alaska, 1955), pp. 8-34.

matching ratio would be about 86 percent federal and 14 percent territorial funds. This arrangement looked tremendously advantageous for Alaska, because not only would there be a large amount of federal funds coming to Alaska, but also the territory could choose the locations for its road system and the type of roads to be built. The continuation of its road program and its speed of completion would not be as dependent upon congressional whims. There were disadvantages, however, and one of the most important was that the Federal-Aid Highway Act required each state or territory to maintain, at its own expense, a highway department having adequate powers and being suitably equipped and organized to handle its responsibilities. The federal government did not pay for the cost of maintaining the central office nor the engineering organization of these highway departments, and no federal funds could be used for the maintenance of projects constructed under the provisions of the act. Therefore, if Alaska was to come under the provisions of the Federal-Aid Highway Act, Congress would probably abolish the Alaska Road Commission. Under the Federal-Aid Highway Act, road construction was done only in cooperation with the Bureau of Public Roads. Furthermore, Congress undoubtedly would transfer all roads and highways built by the commission and the bureau to Alaska. In 1953, the cost of maintaining the territorial road system was about $4,150,000 annually but Alaska paid only a minute proportion of that cost. These expenses were bound to increase with the expansion of the highway system. In case of a transfer, Alaska not only would have to assume total maintenance costs, but also face a tremendous initial investment in road equipment and machinery. If Alaska was included in the act, it would need to come up with about $5,000,000 a year for supporting a highway department, its equipment, and road maintenance—and after that, the territory could set aside funds to match federal monies. Reed concluded that "the territory is unable to take advantage of the Federal-Aid Act."

Obviously, territorial officials were as interested in maintaining the status quo as had been representatives of the Alaska Road Commission and the Bureau of Public Roads, if for different reasons. Territorial financial resources were slim, but the Alaska legislature had always been reluctant to improve its fiscal situation by raising taxes for even the most basic governmental functions. In a fashion, the federal goverment had supported this reluctance to tax because it provided for most of the territory's basic governmental functions, which, besides highways and roads, included supporting a judicial system and the management of fish and wildlife resources, to mention a few.[12]

The Alaska Road Commission Continues Its Work

In the meantime, the bureaucratic organization of the Alaska Road Commission continued to increase in complexity. By 1953, the commission found it necessary to hold an annual conference of district engineers, designed to discuss district as well as agency problems. That year the commission also included assistant district engineers in view of the heavy workload in all districts, a result of the extensive improvement and paving program as well as considerable pioneer construction. The 1953 agenda included subjects such as the organization of the commission, public relations, general topics, and the 1953 construction and maintenance program.[13]

As the first item of business, headquarters representatives handed district personnel the latest revised organizational chart,

12. *Ibid.*, pp. 10-11.

13. Alaska Road Commission, "Summary and Digest of the Annual Conference of District Engineers, 1953," ARC, box 65638, R. G. 30, Federal Records Center, Seattle, Washington.

and explained that commission charts were not fixed and were revised about every six months to meet changing situations and adjust to congressional appropriations. The two major changes in 1953 involved the establishment of an internal audit branch directly under the Commissioner of Roads; this was done in response to a 1952 General Accounting Office critical review. The other was the creation of an independent safety branch reporting directly to the chief engineer. There also was some discussion about staff relationships and communication between headquarters and district offices, with an emphasis on the necessity of coordinating efforts territory-wide.[14]

Most conferees felt that the commission did not need to "sell" itself. They believed the best way to obtain public good will was to provide the best possible highways with the funds available, and "to exercise courtesy of the road to the traveling public at all times."

The headquarters staff discussed the functioning of the new internal audit and safety branches at some length. Conferees also considered engineering problems, such as design, materials testing, and permafrost problems, personnel matters, supply and property, contracts, and operations. The two-day conference ended on a note of satisfaction that the conference had brought about a closer and more understanding approach to mutual problems.[15]

In the summer of 1953, the *Fairbanks Daily-News Miner* requested program information from the Alaska Road Commission for inclusion in the paper's annual progress edition. Commissioner Ghiglione answered personally. He proudly reported that as of June 30, 1953, the end of the fiscal year, the commission maintained a total of 3,422 miles of road. During the year, it had built 91 miles of new roads, improved 284 miles of primary highways to through road standards, and paved 137 miles. Of the total of 3,422 miles, 577 were paved, and the commission maintained 1,711 miles to year-round traffic. During the 1953 fiscal year, the commission had started work on the 170-mile-long Copper River Highway, which, when completed, would provide interior Alaska with its fourth route to an ice-free port open all winter. Work continued on the 160-mile-long Denali Highway, which would connect the second-largest American national park with the through-highway network. The 160-mile-long Taylor Highway was open to Eagle on the Yukon River, and a branch connected it with the Canadian road to Dawson, Yukon Territory.[16]

The farm and industrial road program had made some gains, with 47 miles of new roads extending into the most promising farm, industrial, and mining lands in the Anchorage, Palmer, Kenai, Homer, and Fairbanks areas. The commission maintained a traffic census which showed a substantial increase over the entire interconnected highway system. Under construction were a new bridge across the Chena Slough at Fairbanks and an eight-mile bypass around the military reservation at Anchorage, both designed to relieve traffic congestion. The commission had also maintained a vigorous traffic safety program during the year, which included improved highway signs, centerline striping, safety patrols during extreme sub-zero temperatures, erection of guard rails, and strict limitation of highway loads.[17]

Ghiglione was happy to report that the six-year accelerated highway program authorized in 1948 and started in 1949 would continue into 1954, although on a reduced scale. To date, more than $100,000,000 had been expended on the program since its start. He expected that Congress would appropriate approximately $14,000,000, the lowest amount in recent years. Ghiglione observed that Congress had made good its threat to cut back on appropriations because the territorial

14. *Ibid.*

15. *Ibid.*

16. Ghiglione to Kennedy, July 15, 1953, ARC, box 65415, R. G. 30, Federal Records Center, Seattle, Washington.

17. *Ibid.*

legislature had failed to pass the required highway revenue bills.[18]

The commission intended to complete the paving of the Richardson, Alaska, and Glenn highways by 1955; complete the Taylor, Denali, and Copper River highways by 1956; add another 40 miles of farm and industrial roads annually through 1960; and continue pioneer surveys for possible new routes, including the Livengood-Rampart and Skagway-Carcross projects. It might even be possible to build parts of these routes in the latter part of the six-year program. Ghiglione also had a "wish list"—projects he wanted to see started. These included the start of new construction in 1954 on the Kasilof-Kenai-Sterling Highway; in 1955, on the Fairbanks-Nenana, Livengood-Rampart, and Haines-Lutak Inlet roads; in 1956, the paving of the Sterling and Denali highways and construction of the Pittman-Willow project; in 1957, paving of the Copper River Highway as well as the Nenana-Healy-McKinley Park Highway, the Chitina-McCarthy road, the link connecting Skagway with the Alaska Highway, and the extension of the Copper River Highway to the Bering River coal deposits; in 1958 the construction of the Chilkat River bridge and road; in 1959, the paving of the Seldovia-Yakalof Bay and Flax-McKinley roads; and finally in 1960, the improvement and paving of the Skagway-Dyea route.[19]

While Ghiglione projected the future plans of the commission, the General Accounting Office concluded its audit report of the agency and submitted it to Congress. Once again, the GAO recommended that the relationship between federal and territorial participation in highway construction, operation, and maintenance be reviewed and that the Alaska legislature should be prodded to contribute more funds toward these activities. Congress, for example, might consider limiting appropriations to a ratio based on cooperative territorial funds. Under the existing apportionment formula used by the Bureau of Public Roads and applied to the contiguous states, the share of federal aid for primary and secondary construction on a project in Alaska would be about 87 percent. The states usually paid all maintenance costs. The Alaska legislature also had so far failed to raise taxes and license fees for motor carriers to appropriate levels, and whatever little revenue the territory derived from this source at present was partly diverted to other uses. Under those circumstances, territorial contributions in recent years to the commission funds for construction and maintenance of roads had been about 1 percent of the total in the last four years, compared to approximately 12 percent from 1920 to 1940.[20]

Legislation covering territorial contributions did not specify the amount of funds to be contributed by the territory nor the nature of the cooperative programs with it. Each year the head of the commission and territorial officials negotiated a basic cooperative program, which had primarily been confined to contributions for the maintenance of local and feeder roads. From 1949 through 1953, the cooperative programs provided for the expenditure of the commission's appropriated funds and territorial contributions as follows:

Construction Year	ARC	Territory	Total
1949	$371,000	$215,000	$ 586,000
1950	520,000	222,000	742,000
1951	589,000	250,000	839,000
1952	810,000	250,000	1,060,000
1953	902,000	250,000	1,152,000

In 1949, the territory's share amounted to about 37 percent, and in 1953 it had declined to approximately 22 percent.[21]

18. *Ibid.*

19. *Ibid.*

20. The Comptroller General of the United States, *Audit Report to the Congress of the United States, Alaska Road Commission, Department of the Interior for the Fiscal Year Ended June 30, 1953* (General Accounting Office, Washington, D.C.: August, 1953), pp. 6-7.

21. *Ibid.*, p. 7.

The GAO Remains Restless

The General Accounting Office once again commented upon the differing construction standards of the commission and the bureau. The commission policy was to serve as great an area as possible by building pioneer roads to minimum standards and improving upon them when traffic warranted. The bureau built roads on their final locations and to a quality suited for heavier traffic, in contrast to the commission's initial construction of bulldozer trails which had little value when further improvements became necessary. The GAO yet again recommended that Congress should review the necessity of maintaining the two separate federal road building and maintaining agencies in Alaska.[22]

Other criticisms included losses incurred on mess operations, failure to recover full costs for work performed for other government agencies, the need to improve budgetary practices, accounting deficiencies, and employee housing. On the latter point, the GAO recommended that the commission leave the responsibility for housing its employees to the Alaska Housing Commission. The GAO urged the Alaska Road Commission to obtain specific authority to furnish supplies and services to territorial agencies, such as the Alaska Departments of Education, Health, and Public Welfare, because these activities did not fall within the duties imposed by law upon the commission. It also recommended that the commission discontinue the practice of paying per diem allowances to temporary classified employees, because they did not incur the additional costs intended to be covered by these payments. The commission also needed to strengthen its internal audit activities, accounting and fiscal procedures.[23]

The GAO additionally reported that winter maintenance of Thompson Pass was very expensive. The cost for the 1952-1953 season amounted to $201,661, or about 27 percent of the total winter maintenance expenditures. The average cost of keeping this 47-mile section of road open came to $4,291 per mile.

In 1953, the Alaska Road Commission had informed appropriate city and territorial officials that it was divesting itself of maintenance activities within the corporate limits of the larger settlements. For example, the commission notified the City of Fairbanks that it must assume full jurisdiction over the Cushman Street bridge, and told the territory that it had to assume the full management of that portion of the Seward Peninsula tramway lying within Nome's corporate limits. As of June 30, 1953, the commission was responsible for 315 miles of local, isolated roads. Maintaining these roads cost about $117,000 in 1953. Although maintenance in these remote areas most of the time was not expensive, equipment had to be transported to them; it could remain there for years with little use, and in some instances pieces of equipment had been idle for years. Because of isolation, administrative control was difficult. Private citizens in these areas had often complained about poorly maintained roads, construction and maintenance of roads for the benefit of one or a few individuals, and the improper use of commission equipment and supplies for private purposes. The GAO reviewed one such example. Ironically, it picked Wiseman. The GAO noted that it was a small settlement about 70 miles north of the Arctic Circle and about 200 miles northwest of Fairbanks, had a population of about 300 before World War II. With the decline of mining during and after the war, the population had dwindled to about 21 year-round and 6 summer residents. For several years the commission maintained about 13 miles of road, and built another 4.5 miles. During 1953 the commission spent about $7,000 in maintenance. One air shipment of caterpillar parts and petroleum products weighed 26,930 pounds and cost $1,346. For all this expenditure, only two private vehicles used the road. Clearly, the amount of

22. *Ibid.*, pp. 8-9.

23. *Ibid.*, pp. 10-17.

money expended was not commensurate with the number of people served.[24]

After this report, representatives of the General Accounting Office kept up a steady stream of correspondence with the commission, scrutinizing the smallest details. For example, in November 1953, the GAO noted that the commission performed work on private property for private individuals, usually in exchange for materials utilized in road construction or improved rights of way. GAO wanted the commission to furnish a reference to the authority relied on to (1) perform work on private property; and (2) exchange service for materials or rights of way without transfer of funds. Ghiglione replied:

> *The Act of June 39, 1921, 42 Stat. 90, as amended by the Act of June 30, 1932, 47 Stat. 446 provided that the "Secretary of the Interior authorized* [The Alaska Road Commission] *to receive from the territory of Alaska, or other source, such funds as may be contributed by them to be expended in connection with 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 (48 USC 327).*[25]

Ghiglione explained that the commission performed work for individuals under this authority. Frequently, however, it was advantageous to do this work on a barter basis because the individual in question might be able to trade necessary materials for such services but was unable to pay cash. Furthermore, at times it was possible to obtain rights-of-way advantageous to the government. The commission maintained that it did not evade or circumvent the law but rather acted in a fashion profitable to the government. The GAO kept picking away, however, and no sooner had Ghiglione answered one inquiry when another came. Again he had to consult the statutes. It took much time. Finally, he contacted F. M. Edwards, Jr., the chief counsel of the Office of Territories, and urged him to draft remedial legislation for the commission to help ward off the constant General Accounting Office inquiries. Ghiglione complained that it was "unfortunate that representatives of the General Accounting Office, in conducting site audits, must adhere completely to the letter of the law." As a result the commission time and again had to try to explain "the authority by which we perform certain operations." In fact, "it begins to seem a bit ridiculous that the usual and ready explanation for operations, which, in the strictest sense, may be contrary to law, is that such operations are really in the best interests of the Government."[26]

Problem areas to the GAO such as contributions, barter for services, agreements with territorial agencies, and the operation of messes, were standard practices to the commission. These practices had developed over many years, Ghiglione explained. Alaska's vast expanse, arctic and subarctic climate, and its economic structure required the greatest degree of cooperation between the commission and the territory in order to accomplish set goals.[27]

Before the Office of Territories could act, the General Accounting Office released yet another report, this one heavily criticizing the commission's accounting and fiscal procedures.[28] What the General Accounting Office did not understand was that over many years,

24. *Ibid.*, pp. 37-38.

25. Hirschhorn to Ghiglione, November 16, 1953, Ghiglione to Edwards, December 29, 1953, ARC, box 65403, R. G. 30, Federal Records Center, Seattle, Washington.

26. *Ibid.*

27. *Ibid.*

28. United States General Accounting Office, Division of Audits, *Report on Review of Accounting and Fiscal Procedures of the Alaska Road Commission, Department of the Interior, for the Fiscal Year Ended June 30, 1953* (Washington, D.C., 1953).

the Alaska Road Commission had developed procedures which best suited Alaskan circumstances. As long as congressional appropriations had been miserly, nobody had bothered to scrutinize the commission. As soon as Congress appropriated large amounts of money in 1949, the commission had come under close observation. At that point, it was expected that the commission, still operating in a raw frontier area, conform to federal standards applicable to the highly developed agricultural, urban, and industrial states.

In the spring of 1954, the Office of Territories drafted a measure designed to put long-established commission practices on a legal footing. When Ghiglione received it, he told the Office of Territories that the draft bill had undergone so many drastic revisions that it was of little value to the Alaska Road Commission. Two years later, in January 1956, Ghiglione submitted a draft measure worked out within the commission. Short and to the point, it authorized the commission to accept funds and materials from the territory and other sources for use, together with federal monies, for the construction, repair, and maintenance of roads and bridges; to make agreements with territorial agencies for the transfer of materials, supplies, equipment, and services; to furnish food and lodging to employees of the commission; and to credit payments received to the appropriations from which expenditures had been made. The Office of Territories redrafted the measure various times, but it already was too late. Within a few months the Alaska Road Commission was to be absorbed by the Bureau of Public Roads.[29]

In the meantime, the territorial legislature revamped the highway revenue system in 1955. It raised the motor fuel tax on vehicles from 2 to 5 cents a gallon, divided the revenues from the motor fuel tax into a highway and a water and harbor facilities fund, and also changed the territorial fiscal year from January to December 31 to July 1 to June 30 to conform with the federal fiscal year. After the legislature had raised the motor fuel tax, the Department of the Interior announced in June 1955 that it no longer would request the usual $400,000 in its program for the construction of farm and access roads. It turned the program over to the territory—which had no choice but to accept it because these access roads were very important. The Alaska Road Commission, however, assured the territorial highway engineer that it would continue to maintain all roads built by the commission with territorial funds.[30]

On August 17, 1956 the Departments of Interior and Commerce jointly announced that the Alaska Road Commission would be transferred, effective September 16, to the Bureau of Public Roads. This action became necessary when Congress placed Alaska under a modified section of the Federal-Aid Highway Act, to become effective on July 1, 1956.[31]

On August 31 of that year, Ghiglione submitted the last annual report of the Alaska Road Commission to the Office of Territories, summarizing the commission's history of 51 years of service to Alaska. From 1905 until the start of the 6-year program in 1949, the commission had been a small, efficient organization handling a modest program of comparatively low-standard road construction. The postwar massive road construction program made it necessary to form a modern highway organization around this small group of experienced Alaska road builders. Despite the increase in specialized personnel, the commission found it necessary to utilize the

29. Beasley to Lausi, May 20, 1954, Lausi to Ghiglione, June 21, 1954, Ghiglione to Lausi, July 1, 1954, Ghiglione to Lausi, January 4, 1956, Van Cleve to Office of Territories, February 3, 1956, ARC, box 65403, R. G. 30, Federal Records Center, Seattle, Washington.

30. *Biennial Report for 1955-1956 of the Alaska Territorial Highway Engineer and Superintendent of Public Works to the Twenty-Third Territorial Legislature and Estimates of Receipts and Expenditures for the Period January 1, 1957 to June 30, 1959* (Juneau, Alaska. 1957), p. 2.

31. Joint Press Release, Departments of Interior and Commerce, August 17, 1956, ARC, box 65403, R. G. 30, Federal Records Center, Seattle, Washington.

Bureau of Public Roads' Alaska organization to meet survey, design, and contract administration deadlines. The staffing, climate, terrain, and construction problems were formidable, but did not delay the start of the accelerated program. In fact, contractor's work forces often followed the commission's engineering crews by only a few hundred feet. In 1956, 8 years and $170,000,000 later, the program neared completion. The 1956 highway system consisted of a thousand-mile network of all-weather paved routes, connecting the ice-free ports of Valdez, Seward, and Haines with Alaska's principal cities and military installations, and with the contiguous states via the Alaska Highway through Canada. A secondary system connected farming and mining areas to the primary network. In addition, the system included 570 miles of isolated roads connecting inhabited areas with air, rail, or water transportation facilities.[32]

Thus the work of the Alaska Road Commission quietly came to an end. More than half a century before, the War Department had successfully undertaken the building of a 93-mile trail between Valdez and Copper Center. To the scattering of prospectors striving to reach the gold fields of the interior then, it must have seemed progress and convenience of the most impressive sort. Now they could be confident that they could use a horse to carry equipment and supplies all summer long. By 1956, as the Bureau of Public Roads emerged from the national forests to take control of Alaska transportation, the road north from Valdez was paved and maintained year-round all the way to Fairbanks, and motorized traffic could find different routes from ice-free Pacific ports to the Yukon River.

Not all the desirable roads identified over the years had been built—nor yet have been—despite the vociferous demands of Alaskans, whose complaints and protests must sometimes have seemed as much of a hazard to the commission's orderly accomplishment of its tasks as was the bitter northern weather or difficult terrain. Territorial residents behaved (and certainly spoke) as if they had fulfilled a pact with progress by beginning their mines or farms; for the success of their projects, it was the duty of the federal government to see that progress triumphed. In demanding that the Alaska Road Commission comply with their wishes, they felt they were demanding only what was theirs by right—when they could agree on what they wanted.

Yet when there were sudden improvements in funding for transportation-related projects, they came not from the heated protests of territorial residents nor the reasoned arguments of commission engineers; neither of these groups ever seemed to have much leverage in Washington (despite Wickersham's perception of Richardson's cronyism in the capital). Congressional attention seemingly could be caught only by dramatic events of global scale. Alaska lay virtually forgotten by the United States Government from the time of its purchase until the great gold rushes caught international attention. The Board of Road Commissioners for Alaska owed its existence to the Klondike. Similarly, the existence of a road link to Canada and the contiguous states came about not because northerners had been campaigning for it for decades but because World War II taught the federal government that Alaska was no longer a backwater that could be forgotten. The greatly increased funding that marked the commission's final years came not from any national recognition that northern pioneers "deserved" adequate transportation—only northerners themselves still stubbornly believed that. Although the War Department had long been disengaged from direct responsibility for Alaska's roads, it was the military perception of the Cold War and Alaska's geographic importance in that silent struggle that drove the budget. Against that background, so unresponsive to local needs and conditions, the Alaska Road Commission could retire well content with its work. Transportation in the territory had gone from a nearly Stone Age level to that of the twentieth century in a handful of decades; the commission had done its duty.

32. Alaska Road Commission, *Annual Report*, 1956, p. 3.

Appendices

Appendix A

Members of the Board of Road Commissioners for Alaska

Presidents

Wilds Preston Richardson, Major, Colonel, and eventually Brigadier General in the National Army, June 16, 1905 to December 29, 1917.
William H. Waugh, Major, December 30, 1917 to April 14, 1920.
John C. Gotwals, Lieutenant-Colonel, April 15, 1920 to July 6, 1920.
James G. Steese, Major, later Colonel, July 7, 1920 to October 15, 1927.
Douglas H. Gillette, Major, October 16, 1927 to November 8, 1927.
Malcolm Elliott, Major, November 9, 1927 to July 20, 1932.

Presidents and Engineer Officers

William H. Waugh, December 30, 1917 to April 14, 1920.
James G. Steese, Colonel, March 27, 1924 to August 4, 1924.

By Departmental Order No. 585, dated July 1, 1932, the Secretary of the Interior designated the ex-officio commissioner for Alaska (the governor) to administer the duties relating to the road functions transferred to the department under the act of June 30, 1932. On December 3, 1932, Departmental Order No. 605 amended the above order and provided that the activity carried on in the name of the Board of Road Commissioners for Alaska be designated as stemming from the Alaska Road Commission. This made official a term which had come into use in the 1920s. The commission form of organization ceased to exist, and primary responsibility for its function was placed with one individual.

The Chief Engineer became the chief operating official of the commission until July 31, 1948. In that year Congress approved a substantial road building program in Alaska for defense and economic development purposes. To carry out this expanded program, the Acting Secretary of the Interior issued Departmental Order No. 2448, dated July 19, 1948, establishing a Commissioner of Roads for Alaska.

Chief Engineers

Ike P. Taylor, July 20, 1932 to July 31, 1948.
William J. Niemi, 1951 to 1956.

Commissioners of Roads for Alaska

John R. Noyes, Colonel, August 1, 1948 to June 30, 1951.
Angelo F. Ghiglione, July 1, 1951 to September 16, 1956.

Assistant Engineer

John Zug, Captain, December 30, 1917 to April 14, 1920.

Engineer Officers

George B. Pillsbury, Captain, May 15, 1905 to 1908.
F. A. Pope, Captain, 1908 to 1911.
Glen E. Edgerton, Captain, January 1911 to September 11, 1915.
Joseph C. Mahaffey, Major, July 1 to October 3, 1917.
William H. Waugh, Captain, October 4 to December 30, 1917, and April 15 to July 6, 1920.
John C. Gotwals, Lieutenant Colonel, July 6, 1920 to March 26, 1924.
Lunsford E. Oliver, Major, May 21, 1924 to June 19, 1927.
James G. Steese, Major, June 20 to July 11, 1927.
Douglas H. Gillette, Major, July 12, 1927 to February 15, 1930.
Malcolm Elliott, February 16 to June 24, 1930.
Layson E. Atkins, Major, June 25, 1930 to July 20, 1932.

Secretaries and Disbursing Officers

Samuel C. Orchard, Lieutenant, March 1905 to 1911.
Robert L. Weeks, Lieutenant, 1911 to August 26, 1913.
L. A. Kunzig, Lieutenant, August 26, 1913 to December 31, 1915.
Peter W. Davison, Lieutenant Colonel, July 1 to August 31, 1917.
Joseph C. Mehaffey, Major, September 1 to October 17, 1917.
John Zug, Captain, October 19, 1917 to January 18, 1918.
Sidney L. Carter, First Lieutenant, January 19, 1918 to June 30, 1921.
C. S. Ward, Captain, July 1, 1921 to May 2, 1922.
Aubrey H. Bond, Captain, May 3 to November 25, 1922.
Pierre A. Agnew, March 1, 1923 to January 31, 1925.
Harry E. Fisher, First Lieutenant, February 1, 1925 to 1926.
Frank A. Pettit, Second Lieutenant, 1926 to December 31, 1927.
Arleigh T. Bell, Second Lieutenant, January 1, 1927 to 1927.
John R. Noyes, First Lieutenant, 1927 to March 31, 1928.
Emerson L. Cummings, Second Lieutenant, April 1 to November 30, 1928.
Emerson C. Itschner, First Lieutenant, December 1, 1928 to July 31, 1929.
Philip R. Garges, First Lieutenant, August 1, 1929 to January 31, 1930.
James G. Christiansen, First Lieutenant, February 1 to July 31, 1930.
Raymond B. Oxrieder, First Lieutenant, August 1, 1930 to January 31, 1931.
Leland B. Kuhre, First Lieutenant, February 1 to September 28, 1931.
Walter W. Hodge, First Lieutenant, September 29, 1931 to July 20, 1932.

Special Disbursing Agent

James G. Steese, Colonel, September 23, 1922 to February 28, 1923.

Military Assistants

C. W. Ward, Captain, May 3 to November 14, 1922.
Pierre A. Agnew, First Lieutenant, December 18, 1922 to February 28, 1923.
John C. Gotwals, Lieutenant Colonel, March 27 to April 26, 1924.
Lunsford E. Oliver, Major, May 2 to August 4, 1924.
Harry E. Fisher, Second Lieutenant, October 2, 1924 to November 1926.
Arleigh T. Bell, Second Lieutenant, September 28, 1925 to September 28, 1927.
Frank A. Pettit, Second Lieutenant, September 28, 1925 to March 27, 1928.
John R. Noyes, Second & First Lieutenant, November 9, 1926 to December 5, 1928.
Lunsford E. Oliver, Major, June 20 to June 21, 1927.

Military Assistants (cont.)

Emerson C. Itschner, Second & First Lieutenant, August 22, 1927 to August 22, 1929.
Emerson L. Cummings, Second Lieutenant, August 22, 1927 to March 31, 1928.
Philip R. Garges, Second & First Lieutenant, April 4, 1928 to April 4, 1930.
Emerson L. Cummings, Second Lieutenant, December 1, 1928 to August 29, 1929.
James G. Christiansen, First Lieutenant, November 7, 1928 to July 31, 1930.
Leland B. Kuhre, Second & First Lieutenant, August 14, 1929 to January 31, 1931.
Raymond B. Oxrieder, Second & First Lieutenant, August 19, 1929 to January 1, 1931.
Emerson L. Cummings, First Lieutenant, December 1, 1928 to July 20, 1932.
Albert H. Burton, First Lieutenant, July 20, 1930 to July 20, 1932.
Walter W. Hodge, First Lieutenant, November 5, 1930 to 1931.

Appendix B

Laws Relating to the Construction of Roads in Alaska

May 26, 1900. An Act making appropriation for the support of the Regular and Volunteer Army for the fiscal year ending June thirtieth, nineteen hundred and one. (31 Stats., 214).

Transportation of the Army and its supplies;....thirty million dollars; Provided, that one hundred thousand dollars of this sum may be used in Alaska, and shall be immediately available, for the construction of military roads and bridges in Alaska.

June 30, 1902. An Act making appropriation for the support of the Army for the fiscal year ending June thirtieth, nineteen hundred and three. (32 Stats., 507).

Transportation of the Army and its supplies;...twenty-five million dollars; provided, that the balance of the appropriation of one hundred thousand dollars made by the Act of May twenty-sixth, nineteen hundred, for construction of military roads and bridges in Alaska remaining unexpended on June thirtieth, nineteen hundred and one, is hereby reappropriated, and made available for such construction; Provided further, That the number of draft animals purchased from this appropriation, added to those now on hand, shall be limited to such numbers as are actually required for the service.

April 23, 1904. An Act making appropriation for the support of the Army for the fiscal year ending June 30, 1905, and for other purposes. (33 Stats, at Large, 271).

For survey and estimate of cost of a wagon road from Valdez to Fort Egbert on the Yukon River, to be made under the direction of the Secretary of War, twenty-five thousand dollars ($25,000.00) to be immediately available; said survey and estimate, herein provided, shall be submitted to Congress at the earliest practicable day.

For surveying and locating a military trail, under the direction of the Secretary of War, by the shortest and most practicable route, between the Yukon River and Coldfoot, on the Koyukuk River, twenty-five hundred dollars ($2,500.00) to be immediately available, and a report and estimate upon said trail to be submitted to Congress at the earliest practicable day.

April 27, 1904. An Act to authorize the appointment of road overseers and to create road districts in the District of Alaska and for other purposes. (33 Stats., 391).

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled. That it shall be the duty of the commissioner in each precinct in the District of Alaska, on the first Monday in the month of April in each year, to appoint a road overseer for the precinct in which he resides, and create a road district in the inhabited part of said precinct, which said district shall not include incorporated cities and towns.

To fill all vacancies in the office of road overseer in his precinct. To cause a record to be made defining the boundaries of said road district.

Term of Office and Qualifications of Road Overseers

All road overseers shall hold office for one year and until their successors are appointed and qualified.

Every person appointed to the office of road overseer of any road district shall reside in the road district to which he has been appointed, and shall, within thirty days after he shall have been notified of his appointment, take and subscribe to an oath of office obligating himself to the faithful performance of

the duties of his office, and shall forthwith cause such oath to be filed in the office of the commissioner of his precinct, and in case any such road overseer shall become nonresident of his road district, his office shall at once become vacant.

Each road overseer shall, before entering upon the duties of his office, execute a bond to the United States in a sum not less than double the amount of money which will probably come into his hands at any time during this term of office, with two or more sureties, the amount and sufficiency of the bond to be approved by the commissioner of the precinct, conditioned for the faithful discharge of the duties of his office, which bond shall be by him forthwith filed in the office of the commissioner and ex-officio recorder. The approval of such bond shall be endorsed thereon by the commissioner.

Duties of Road Overseers

The duties of road overseers shall be such as may be prescribed by law.

Each road overseer shall keep an accurate account of all money received by virtue of his office and the manner in which the same has been disbursed, and to whom, and shall, on the last Saturday of March in each year, exhibit such account, together with his vouchers, to the commissioner for adjustment and settlement. Such account shall be in writing, verified by affidavit of the overseer that the same is in all respects a full and true account of all money received by him during the full term for which he should make settlement and the amounts expended and the manner in which they were expended.

If any person appointed to the office of road overseer, unless unable from disease or other infirmity to discharge the duties of such office, shall refuse or neglect to serve therein, he shall be liable to a fine of twenty-five dollars; but no person so appointed who shall have served for a term next preceding such appointment shall be liable to such fine for refusing to serve if he shall have given notice in writing of refusal to the commissioner within twenty days after having been notified of his appointment.

Every road overseer who shall, after the expiration of his term of office, neglect or refuse to deliver on demand to his successor in office, after such successor shall have been duly qualified according to law, all moneys, records, books, papers, or other property appertaining to such office shall be liable to a fine of not less than fifty nor more than five hundred dollars.

Road overseers of the different precincts are authorized, and it is made their duty, to advise all male persons between eighteen and fifty years of age who have resided thirty days in the District of Alaska, who are capable for performing labor on roads or trails, and who are not a precinct charge, to perform two days' work of eight hours each in locating, constructing, or repairing public roads or trails, under the direction of the road overseer within whose precinct they may respectively reside, or furnish a substitute to do the same, or pay the sum of four dollars per day for two days' labor, and said road overseer shall receipt for the same and shall expend it in location, construction, or repairs on the public roads and trails within his precinct; and any moneys so received and not expended shall be paid over to his successor in office, who shall expend the same as above provided.

The overseer of roads and trails in each precinct shall give notice to persons residing in his precinct liable to or charged with a road or trail tax of the time and place and the kind of work expected to be performed on the road or trail, and may direct what implement such persons shall bring with which to perform such work.

Whenever it shall happen, in consequence of sickness or absence from home, or any other cause, that the two days' work aforesaid shall not be performed within the time specified in this Act, the overseer shall be authorized to require the performance of such work at any time prior to the first day of October then next ensuing; and in case any person shall neglect or refuse to do the two days' work, or furnish a substitute, or pay in money the price of two day's labor, as provided in this Act, he shall be deemed guilty of a misdemeanor and shall be fined in the sum of ten dollars for each day refusing so to work upon conviction before any justice of the peace of the precinct.

If any person shall appear at the proper time and place as directed by the overseer and neglect or refuse to do a reasonable day's work according to his ability, he shall be liable the same as if he had neglected or refused to appear, or furnish a substitute, or pay the sum of money as provided herein.

Under the direction of the overseer, and at his discretion, the above road tax may be performed by one day's work, together with an able-bodied man, a two-horse team with wagon, or a dog team consisting of not less than five dogs and a sleigh, or a reindeer team of not less than two reindeer and sleigh or cart.

It shall be the duty of each road overseer to receipt to each person who performs labor on the public roads and trails of his precinct under the provision of this Act for the amount of labor so performed, and no person shall be compelled to pay road tax except in one precinct in the District of Alaska during one calendar year.

Each road overseer shall, on or before the first day of April in each year, report to the commissioner of the precinct the names of all persons subject to the two days' road tax for the preceding year, the names of those who have worked out said tax, the names of those who have paid the said tax money, and the names of those delinquent, and also all moneys received by him from all sources, and how expended, and the report shall be approved by said commissioner before any final settlement shall be made with such road overseer.

Each and every road overseer who shall neglect or refuse to perform the several duties enjoined upon him by this Act, or who shall, under any pretense whatsoever, give or sign a receipt or certificate for labor performed or money paid, unless the labor shall have been performed or money paid prior to the signing or giving of such receipts of certificates, shall forfeit for every such offense not less than five nor more than fifty dollars, to be recovered by an action before any justice of the peace within the precinct where such overseer may reside, and it is hereby made the duty of every United States attorney or assistant to prosecute all offenses against the provision of this Act not otherwise provided for.

Per Diem

Road overseers shall be allowed four dollars per day for all services required by this Act and actually performed in their respective precincts, to be retained out of money paid said road overseers from persons paying money or fines in lieu of two days' labor, upon the certified statement of the overseers, approved by the commissioner of the precinct; Provided, That no overseer shall receive pay for more than ten days in any one year, and not until he has made the return as provided in the preceding section, in duplicate, one copy to be retained by the commissioner and one copy filed with the clerk of the district court in the division in which the said precinct is situated.

Any oath required to be taken by said overseer, acknowledgement of bond, or the filing or recording of any paper or plat authorized by this Act shall be free of cost to said overseer.

Upon application of road overseers, it shall be the duty of the clerk of the district court to furnish copies of this Act and blank forms of notices warning persons to perform road work, receipts for road work, bond, and oath, and for overseer's report to commissioner, the expense of which shall be paid out of the fund for paying the incidental expenses of the court.

The Attorney General of the United States is hereby directed to furnish clerks of the district courts in the different judicial divisions of Alaska a sufficient number of copies of this Act and other road and trail laws that may now be upon the statutes relating to roads and trails in the District of Alaska for use of road overseers in each judicial division.

Repealed by Act December 16, 1930

January 27, 1905. 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. (33 Stats., 616).

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled.

SEC. 1. That all moneys derived from and collected for liquor licenses, occupation, or trade licenses outside of the incorporated towns in the district 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 District of Alaska. One-fourth of said fund, or so much thereof as may be necessary, shall be devoted to the establishment and maintenance of public schools in said district; five per centum of said fund shall be devoted to the care and maintenance of insane persons in said district, or so much of said five per centum as may be needed; and all the residue of said fund shall be devoted to the construction and maintenance of wagon roads, bridges, and trails in said district.

SEC. 2. That there shall be a Board of Road Commissioners in said district, to be composed of an engineer officer of the United States Army to be detailed and appointed by the Secretary of War, and two other officers of that part of the Army stationed in said district and to be designated by the Secretary of War. The said engineer officer shall, during the term of his said detail and appointment, abide in said district. The said Board shall have the power, and it shall be their duty, upon their own motion or upon petition, to locate, lay out, construct, and maintain wagon roads and pack trails from any point on the navigable waters of said district to any town, mining or other industrial camp or settlement, or between any such town, camps or settlements, therein, if in their judgement 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, or camp, or settlement which is wholly transitory or of no substantial value or importance for mining, trade, agricultural, or manufacturing purposes. The said Board shall prepare maps, plans, and specifications of every road or trail they may locate and lay out, and whenever more than five thousand dollars in the aggregate shall have to be expended on the construction of any road or trail, contract for the work shall be let by them to the lowest responsible bidder upon sealed bid, after due notice, under rules and regulations to be prescribed by the Secretary of War. The Board may reject any bid if they deem the same unreasonably high or if they find that there is a combination among bidders. In case no responsible and reasonable bid can be secured, then the work may be carried on with materials 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. As soon as any road or trail laid out by the Board has been constructed and completed they shall examine the same and make a full and detailed report of the work done on the same to the Secretary of War, and in such report they shall state whether the road or trail has been completely conformable to the maps, plans, and specifications for the same. 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 expenses of laying out, constructing, and repairing such roads and trails shall be paid by the Secretary of the Treasury out of the road and trail portion of said "Alaska Fund" upon vouchers approved and certified by said Board. The Secretary of the Treasury shall, at the end of each month, send by mail to each of the members of said Board a statement of the amount available of said "Alaska Fund" for the construction and repair of roads and trails, and no greater liability for the construction or repair shall at any time be incurred by said Board than the money available therefore at that time in said fund. The members of said Board shall, in addition to their salaries, be entitled to receive their actual traveling expenses paid or incurred by them in the performance of their duties as members of the Board.

SEC. 3. That the governor of the District of Alaska shall be ex officio superintendent of public instruction in said district, and as such shall prescribe rules and regulations for the examination and qualification of teachers,

and shall make an annual report of the condition of the schools in the district to the Secretary of the Interior.

SEC. 4. That the common council of the incorporated towns in said district shall have the power, and it shall be their duty, in their respective towns to establish school districts, to provide the same with suitable schoolhouses, and to maintain public schools therein and to provide the necessary funds for the schools; but such schools when established shall be under the supervision and control of a school board of three members, consisting of a director, a treasurer, and a clerk, to be elected annually by the vote of all adults who are citizens of the United States or who have declared their intention to become such and who are residents of the school district. The members of said board first elected shall hold their offices for the term of two, and three years, respectively, and until their successors are elected and qualified, and one member of such board shall be elected each year thereafter and shall hold his office for a period of three year until his successor is elected and qualified; and they shall each, before entering upon the duties of their office, take an oath in writing to honestly and faithfully discharge the duties of their trust. In case a vacancy in the membership of said board occurs from death, resignation, removal, or other cause, such vacancy may be filled by a special election, upon ten days' notice, called by the remaining members of the board upon the petition of five qualified voters. All money available for school purposes, except for the construction and equipment of schoolhouses and acquisition of sites for the same, shall be expended under the direction of said board, and the treasurer of said board shall be the custodian of said money, and he shall, before entering upon the duties of his office, give his bond, with sufficient sureties, to the school district, in such sum as the common council may direct, and subject to its approval, but not less than twice the amount that may come into his hands as treasurer, conditioned that he will honestly and faithfully disburse and account for all money that may come into his hands as such treasurer. The said board shall have the power to hire and employ the necessary teachers, to provide for heating and lighting the schoolhouse, and in general to do and perform everything necessary for the due maintenance of a proper school.

SEC. 5. That the clerk of the district court shall have the power, and it shall be his duty, in the division to which he is appointed, and establish by order in writing a school district at any camp, village, or settlement outside of the limits of any incorporated town, but such school district shall not embrace more than forty square miles of territory nor contain less than twenty resident white children between the ages of six and twenty years. The said petition shall specify as near as may be the location and boundary of the proposed school district, the number of people, the number of families, and the number of children between the ages of six and twenty years, resident therein, and such other material facts as tend to show the necessity for the establishment of the school district. Said petition shall be signed by not less than twelve persons of adult age who are citizens of the United States or have declared their intention to become such and who reside within the boundaries of the proposed school district. If the clerk of the court is satisfied that it is necessary and proper to grant such petitions, he shall make an order in writing establishing the school district, describing the same and defining its boundaries, and he shall also in said order appoint three of the petitioners to supervise and give notice of the first election, and shall specify the time and place of the same. The original order shall remain on file in the records of the court, and a copy of the same shall be posted at three public places in the school district at least ten days before the election, and such posting shall be deemed a sufficient notice of such election. All persons qualified to sign said petition shall be qualified to vote at said election. The qualified voters of said school district shall at said election choose by plurality vote a school board of three members, consisting of a clerk, a treasurer, and a director, who shall, before entering upon the duties of their trust, each take an oath in writing to honorably and faithfully discharge the duties of their office. In case a vacancy in the membership of said

board occurs from death, resignation, removal, or other cause, such vacancy may be filled by a special election, upon ten days' notice called by the remaining members of the board upon the petition of five qualified voters. The treasurer shall be the custodian of the monies of the school district, and he shall, before entering upon the duties of his office, have given his bond to the school district with sufficient sureties, to be approved by the clerk of the court, and in such sum as he may direct, but not less than twice the amount of money that may come into his hands as treasurer, conditioned that he, the treasurer, will honestly and faithfully disburse and account for all the money that may come into his hands by virtue of his office. Said board shall have the power to build or rent the necessary schoolhouse or schoolroom, to equip the same with the necessary furniture and fixtures, to provide fuel and light, to hire and employ teachers, and in general to do and perform everything that may be necessary for the maintenance of a public school. The members of said board shall hold office for the term of one year and until their successors are elected and qualified. An annual election shall be held each year, after the first election, for the election of members of said board. As soon as the members of said school board have been elected and qualified, they shall send to the clerk of the court and file in his office a certificate of their election under the hand and seal of the judges or supervisors of the election, their oaths of office, and the bond of the treasurer, and the clerk of the court shall file said papers and carefully keep them as part of the files and records of his office, and he shall at once send to the governor of the District of Alaska a certified copy of said papers, together with a certified copy of the order establishing the school district, and the governor shall duly file and preserve the same. The said board, as soon as they have complied with the requirements aforesaid, shall immediately report in writing to the governor the number of children in their school district between the ages of six and twenty years that intend to attend a public school, and the wages per month for which a teacher can be obtained; and after a school has been opened and maintained they shall, at the end of each school term report to the governor in writing the length of the term, the wages paid the teacher, the total number of pupils in attendance, and the daily average of such attendance at such term. The governor shall assign and set apart to each school district established and organized under the provisions of this section assume, not less than three hundred dollars nor more than one thousand dollars, in proportion to the number of pupils in the district, for the construction and equipment of a schoolhouse, which sum shall be paid by the Secretary of the Treasury to the treasurer of the school district upon the order and voucher of the governor out of that portion of the said "Alaska Fund" set apart for the establishment and maintenance of public schools. The residue of said portion of said fund, or so much thereof as may be necessary, shall by the governor be apportioned among the several school districts established under the provisions of this section in amount sufficient for each district to pay the wages of a teacher, together with the expense of fuel and light, for five months' school in each year. And the amounts so apportioned to each school district shall be paid to the treasurer for the district by the Secretary of the Treasury upon the order and voucher of the governor out of the said portion of said fund.

SEC. 6. That the clerks of school districts in the incorporated towns shall, at the end of each school term, report to the governor in writing the length of the term, the wages paid the teacher, the number of pupils in attendance, and the average daily attendance during the term.

SEC. 7. That the schools specified and provided for in this Act shall be devoted to the education of white children and children of mixed blood who lead a civilized life. The education of the Eskimos and Indians in the District of Alaska shall remain under the direction and control of the Secretary of the Interior, and schools for and among the Eskimos and Indians of Alaska shall be provided for by an annual appropriation, and the Eskimo and Indian children of Alaska shall have the same right to be admitted to any

Indian boarding school as the Indian children in the States or Territories of the United States.

SEC. 8. That commissioners appointed by the judges of the district court in the District of Alaska, pursuant to existing laws, shall, as ex officio probate judges and in the exercise of their probate jurisdiction, have the power, and it shall be their duty, in their respective districts, to commit, by warrant under their hands and seals, all persons adjudged insane in their districts to the asylum or sanitarium provided for the care and keeping of the insane in their District of Alaska. No person shall be adjudged insane or commited as such, except upon and pursuant to the following proceedings, to wit: Whenever a complaint in writing is made by an adult person to a commissioner that there is an insane person at large in the commissioner's district, the commissioner shall at once cause such insane person to be taken into custody and to be brought before him, and he shall then immediately summon and impanel a jury of six male adults, residents of the district, to inquire, try, and determine whether the person so complained of is really insane. The members of said jury shall, before entering upon the discharge of their duty, each take an oath to diligently inquire, justly try, and a true verdict render, touching the mental condition of the person charged with being insane. Before entering upon such trial the commissioner shall appoint some suitable person to appear for and represent in the proceeding the person complained of as insane, and in case there is a physician or surgeon in the vicinity who can be procured, the commissioner shall cause such surgeon or physician to examine the person alleged to be insane, and after such examination to testify under oath before the jury in respect to the mental condition of said person. The commissioner shall preside at said hearing and trial. All witnesses that may be offered shall be heard and shall be permitted to testify under oath in said matter, and after having heard all the evidence the said jury shall retire to agree upon a verdict, and if the jury unanimously, by their verdict in writing, find that the said person so charged with being insane as aforesaid is really and truly insane and that he ought to be committed to the asylum or sanitarium aforesaid, and the commissioner approved such finding, he shall enter a judgment adjudging the said person to be insane and adjudging that he be at once conveyed to and thereafter properly and safely kept in the said asylum or sanitarium until duly discharged therefrom by law. The commissioner shall thereupon, under his hand and seal, issue his warrant, with a copy of said judgment attached, for the commitment of said insane person to the asylum or sanitarium aforesaid, which warrant shall be delivered to the marshal of the division in which said proceedings are had, and shall direct said marshal to safely keep and deliver said insane person to said asylum or sanitarium, and the said marshal; for the service of process in connection with and the guarding and transportation of the insane, shall be compensated from the same source and in the same manner as in the case of prisoners convicted of crime. The commissioner, the jurymen, and the witnesses in said proceeding shall be entitled to the same compensation and mileage as in civil actions. And all the compensation, mileage, fees, and all other expenses and outlays incident to said proceedings shall be audited and allowed by the district judge of the division in which said proceedings are pending and had, and when so audited and allowed shall be paid by the clerk of the court in such division as the incidental expenses of the court are by him paid and from the same fund.

SEC. 9. That all Acts and parts of Acts inconsistent with this Act are, to the extent of such inconsistency, hereby repealed.

March 3, 1905. An Act making appropriations to supply deficiencies in the appropriations for the fiscal year ending June 30, 1905, and for prior years, and for other purposes. (33 Stats. at large, 1225).

Engineer Department

Survey of wagon road from Valdez to Fort Egbert, Alaska: For a survey and estimate of cost of a wagon road from Valdez to Fort Egbert, on the Yukon River, to be made under the direction of the Secretary of War, five

thousand seven hundred dollars and sixty three cents. ($5,700.63).

Survey of military trail between Yukon River and Coldfoot, Alaska: For surveying and locating a military trail under the direction of the Secretary of War, by the shortest and most practicable route, between the Yukon River and Coldfoot, on the Koyukuk River, to be immediately available one thousand four hundred and thirty one dollars and fifteen cents. ($1,431. 15).

May 14, 1906. Amendment to Act approved January 27, 1905. (34 Stats., 192).

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled. That section one 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 twenty-seventh, nineteen hundred and five, be, and the same is hereby, amended so as to read as follows:

SEC. 1. That all monies derived from and collected for liquor licenses, occupation or trade licenses outside of the incorporated towns in the District 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 District of Alaska.

One-fourth of said fund, or so much thereof as may be necessary, shall be devoted to the establishment and maintenance of public schools in said district; five per centum of said fund shall be devoted to the care and maintenance of insane persons in said district, or so much of said five per centum as may be needed; *and all the residue of said fund shall be devoted to the construction and maintenance of wagon roads, bridges, and trails* in said district; AND PROVIDED FURTHER, That the clerk of the court of each judicial division of said district is authorized, and he is hereby directed, whenever considered necessary, to call upon the United States Marshal of said judicial division to aid in the collection of said license monies by designating regular or special deputies of his office to act as temporary license inspectors, and it shall be the duty of said United States Marshal to render such aid; and the said regular or special deputies, while actually engaged in the performance of this duty, shall receive the same fees and allowances and be paid in the same manner as when performing their regular duties.

That section two of said Act be, and the same is hereby, amended so as to read as follows:

SEC. 2. That there shall be a Board of Road Commissioners in said district, to be composed of an engineer officer of the United States Army to be detailed and appointed by the Secretary of War, and two other officers of that part of the Army stationed in said district and to be designated by the Secretary of War. The said engineer officer shall, during the term of his said detail and appointment, abide in said district. The said board shall have the power, and it shall be their duty, upon their own motion or upon petition, to locate, lay out, construct, and maintain wagon roads and pack trails from any point on the navigable waters of said district to any town, mining or other industrial camp or settlement, or between any such 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, agricultural, or manufacturing purposes. The said board shall prepare maps, plans, and specifications of every road or trail they may locate and lay out, and whenever more than twenty thousand dollars, in the aggregate, shall have to be expended upon the actual construction of any road or section of road designed to be permanent, contract for the work shall be let by them to the lowest responsible bidder, upon sealed bids, after due notice, under rules and regulations to be prescribed by the Secretary of War. The board may reject any bid if they deem the

same unreasonably high or if they find that there is a combination among bidders. 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. As soon as any road or trail laid out by the board has been constructed and completed they shall examine the same and make a full and detailed report of the work done on the same to the Secretary of War, and in such report they shall state whether the road or trail has been completed conformably to the maps, plans, and specifications of the same. 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 or 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 expenses 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. The Secretary of the Treasury, shall, at the end of each month, send by mail to each of the members of said board a statement of the amount available of said "Alaska Fund" for the construction and repair of roads and trails, and no greater liability for construction or repair shall at any time be incurred by said board than the money available therefore at the time in said fund. The members of the board shall, in addition to their salaries, be reimbursed in the sums actually paid or incurred by them in traveling expenses in the performance of their duties, and shall be entitled to receive their actual expenses of living while serving as members of said board within the limits of the district and not stationed at a military post.

June 12, 1906. An Act making appropriation for the support of the Army for the fiscal year ending June 30, 1907. (34 Stats. at Large, 254).

For the construction and maintenance of military and post roads, bridges, and trails in the District of Alaska, to be expended under the direction of the Board of Road Commissioners described in section two 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, and to be expended conformably to the provision of said Act, *one hundred and fifty thousand dollars. ($150,000.00).*

June 20, 1906. (34 Stats., 316).

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled. That the sum of $35,000 be, and the same is hereby appropriated, out of any money in the Treasury not otherwise appropriated, for a reconnaissance and preliminary survey of a land route from the navigable waters of the Tanana River, at or near Fairbanks, to the vicinity of Council City, on the Seward Peninsula, Alaska, for a mail and pack trail along such route, such sum to be immediately available, and to be expended under the direction of the Secretary of War; report of said survey and reconnaissance to be made to Congress at the earliest practicable day.

March 2, 1907. (34 Stats. at Large, 1178).

For the construction and maintenance of military and post roads, bridges, and trails in the District of Alaska, to be expended under the direction of the Board of Road Commissioners described in section two 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, and to be expended conformably to the provisions of said Act, *two hundred and fifty thousand dollars. ($250,000.00).*

May 11, 1908. (11 Stats., 142).

For the construction and maintenance of military and post roads, bridges, and trails in the District of Alaska, to be expended under the direction of the Board of Road Commissioners described in section two 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, and to be expended conformable to the provision of said Act, *Two hundred and fifty thousand dollars ($250,000.00) to remain available until the close of fiscal year 1910.*

February 6, 1909. Amendment to Act creating Road Commission. (35 Stats. at Large, 601).

So much of the Act approved January 27, 1905, entitled "An Act to provide for the construction and maintenance of roads, establishment and maintenance of schools, and care and support of insane persons in the District of Alaska, and for other purposes," as provides that five per centum of the license monies collected outside of incorporated towns in the District of Alaska shall be devoted to the care and maintenance of such insane persons is hereby repealed.

March 3, 1909. (12 Stats., 148).

For construction and maintenance of military and post roads, bridges, and trails in the District of Alaska, to be expended under the direction of the Board of Road Commissioners described in section two of an Act entitled "An Act to provide for the construction and maintenance of roads, establishment and maintenance of schools, and care and support of insane persons in the District of Alaska, and for other purposes," approved January 27, 1905, and to be expended conformably to the provisions of said Act, *three hundred and fifty thousand dollars ($350,000.00) to remain available until the close of fiscal year 1911.*

March 23, 1910. (13 Stats., 302).

For the construction and maintenance of military and post roads, bridges, and trails in the District of Alaska, to be expended under the direction of the Board of Road Commissioners described in section two of an Act entitled "An Act to provide for the construction and maintenance of roads, establishment and maintenance of schools, and care and support of insane persons in the District of Alaska, and for other purposes," approved January 27, 1905, to be expended conformably to the provisions of said Act, *one hundred thousand dollars ($100,000.00), to remain available until the close of fiscal year ending June thirtieth, nineteen hundred and twelve.*

March 3, 1911. (36 Stats., 1052)

Same wording as act of June 12, 1906 (34 Stats., 254) except beginning with amount appropriated.

...one hundred and fifty thousand dollars ($150,000.00) to remain available until the close of the fiscal year ending June thirtieth, nineteen hundred and thirteen (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, and in the case of any officer so assigned the provisions of the Act of Congress approved April twenty-third, nineteen hundred and four, entitled "An Act making appropriations for the support of the Army for the fiscal year ending June thirtieth, nineteen hundred and five, and for other purposes" as relates to the assignment of retired officers to active duty shall apply.

The above extended to Alaska an act of April 23, 1904 (33 Stats., 264) which provided that "The Secretary of War may assign retired

officers of the Army, with their consent, to active duty...and such officers while so assigned, shall receive the full pay and allowances of their respective grades.

War Department Act approved August 24, 1912. *Construction and maintenance of military and post road, bridges, and trails, Alaska:* For the construction, repair, and maintenance of military and post roads, bridges, and trails in the District of Alaska, to be expended under the direction of the Board of Road Commissioners described in section two 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 twenty-seventh, nineteen hundred and five, *as amended by the Act approved May fourteenth, nineteen hundred and six*, and to be expended conformably to the provisions of said Act *as amended, one hundred and twenty-five thousand dollars ($125,000.00).*

War Department Act approved March 2, 1913. *Construction and maintenance of military and post roads, bridges, and trails, Alaska*: For the construction, repair, and maintenance of military and post roads, bridges, and trails in the Territory of Alaska, to be expended under the direction of the Board of Road Commissioners described in section two 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 twenty-seventh, nineteen hundred and five, as amended by the Act approved May fourteenth, nineteen hundred and six, and to be expended conformably to the provisions of said Act as amended *$155,000; Provided, That not to exceed $55,000 of this amount may be used by the Board of Road Commissioners for Alaska for the protection of the Signal Corps Building and terminal grounds of the Alaska Military Cable and Telegraph System.*

March 3, 1913 (37 Stats., 728). An Act to provide assistance to persons in Alaska who are indigent and incapacitated through nonage, old age, sickness, or accident, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled. That section one 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 twenty-seventh, nineteen hundred and five as amended by an Act approved May fourteenth, nineteen hundred and six, and as further amended by an Act approved February sixth, nineteen hundred and nine, be, and the same is hereby amended to read as follows:

SEC. 1. 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. Twenty-five per centum of said fund, or so much thereof as may be necessary, shall be devoted to the establishment and maintenance of public schools in said Territory; ten per centum of said fund shall be, and is hereby, appropriated and authorized to be expended for the relief of persons in Alaska who are indigent and incapacitated through nonage, old age, sickness, or accident, and all the residue of said fund shall be devoted to the construction and maintenance of wagon roads, bridges, and trails in said Territory; Provided, That the clerk of the court of each judicial division of said Territory is authorized, and he is hereby directed, whenever considered necessary, to call upon the United States Marshal of said judicial division to aid in the collection of said license monies by designating regular or special deputies of this office to act as temporary license inspectors, and it shall be the duty of said United States Marshal to render

such aid; and the said regular or special deputies while actually engaged in the performance of this duty shall receive the same fees and allowances and be paid in the same manner as when performing their regular duties.

That at the end of each fiscal quarter the Secretary of the Treasury of the United States shall divide the amount of said ten per centum of said fund so received during the quarter just ended into four equal parts, and transmit to each of the four United States district judges in Alaska one of said equal amounts.

That each of said judges is hereby authorized to expend so much of the money recieved by him under this Act as may, in his discretion, be required for the relief of those persons in his division who are incapacitated through nonage, sickness or accident, and who are indigent and unable to assist and protect themselves; Provided, That each judge shall quarterly submit to the Secretary of the Treasury an itemized statement, with proper vouchers of all expenditures made by him under this Act, and he shall at the time transmit a copy of said statement to the governor of the Territory; Provided further, That any unexpended balance remaining in the hands of any judge at the end of any quarter shall be returned to the Secretary of the Treasury of the United States, and by him deposited in the said "Alaska Fund" and the said sum shall be subsequently devoted first, to meeting any actual requirements for the care and relief of such a person as are provided for in this Act in any other division in said Territory wherein the amount allotted for that purpose has proved insufficient; and, second, if there shall be any remainder thereof, said remainder shall be devoted to the construction and maintenance of wagon roads, bridges and trails in said Territory.

April 27, 1914. (36 Stats., 366). An Act making appropriations for the support of the Army for the fiscal year ending June thirtieth, nineteen hundred and fifteen.

Construction, repair, and maintenance of military and post roads, bridges and trails, Alaska: For the construction, repair, and maintenance of military and post roads, bridges, and trails, Territory of Alaska, $125,000: Provided, That the accounting officers of the Treasury are authorized and directed to allow and credit in the accounts of First Lieutenant Robert L. Weeks, United States Army, the sum of $1,340, disallowed against him on the books of the Treasury in accordance with a ruling of the Comptroller of the Treasury, dated March fourteenth, nineteen hundred and thirteen; and that hereafter any officer of the Army and member of said Board of Road Commissioners who is living with his family while serving as a member of said board within the limits of the Territory of Alaska, and not stationed at a military post, shall be entitled to receive a per diem commutation fixed by the board in lieu of "actual living expenses" as now provided by law; and this provision shall embrace the time during which any member of said board shall have failed in the post to receive any allowance for expense of living by reason of the decision of the Comptroller of the Treasury above referred to, to the effect that said allowance could not be made to an officer living with his family.

War Department Act approved March 4, 1915. *Construction, repair, and maintenance, military and post roads, bridges, and trails, Alaska*: For the construction, repair, and maintenance of military and post roads, bridges, and trails, Territory of Alaska, *$165,000.*

War Department Act approved March 29, 1916. *Construction, repair and maintenance, military and post roads, bridges, and trails, Alaska:* Construction, repair and maintenance of military and post roads, bridges, and trails, Territory of Alaska, *$500,000.*

War Department Act approved May 12, 1917. *For construction, repair, and maintenance, military and post roads, bridges, and trails, Alaska*: Construction, repair and maintenance of military and post roads, bridges, and trails, Territory of Alaska, *$500,000, to remain available until June thirtieth, nineteen hundred and nineteen (1919).*

Retired Officer on Active Duty. (40 Stats., 231).

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.

Approved June 15, 1917.

Appendix C

Road Work Proposed in the 1920 Ten-Year Plan

Project Symbol	Name of Road	District	New Construction (in miles)	Remarks
A	Talkeetna, Takotna, Ophir, Ruby	Susitna and Kuskokwim	280	This road reaches from Ruby, on the Yukon, through the most promising mining district of the Kuskokwim, through Mount McKinley Park, to Talkeetna on the Government Railroad. Sixty miles of this route are already under construction. The most promising mineralized region of the Upper Yentna Valley is reached.
B	Davidsons Landing, Kugarok, Candle	Nome	135	This road runs from tidewater through the Kugarok mining district to Kotzebue Sound at Candle. It is of the highest importance for the further development of the Seward Peninsula.
C	Roosevelt, Glacier, Riley Creek	Yukon	75	This road connects the important Kantishna mining district with the head of navigation on the Kantishna River and with the Government Railroad at Riley Creek.
D	Eagle, 40-Mile, Boundary	Yukon	50	This road is an extension of an existing road and improvement of a sled road to the 40-mile mining district from Eagle. Connection will be made at the Alaska-Yukon Territory boundary with the Miller Creek Road to Dawson.
E	Chatanika, Miller House	Yukon	80	This road connects two old road commission projects, enabling traffic to pass from Circle on the Yukon to the Fairbanks district and serving as a very important feeder to the Government Railroad.
F	Rampart, Hot Springs	Yukon	21	This road joins two old projects connecting Rampart on the Yukon with Hot Springs on the Tanana.
G	Gulkana, Chistochina	Copper River	40	This road is an important tributary to the Fairbanks Trail, is a part of a future main artery road from the Copper River Valley to the Yukon at Eagle, and makes accessible the promising Slate Creek mining district.

Under development roads, the most important possible projects are noted below:

Alaska Peninsula—Wide bay-oil fields, 25 miles. Reaches from Tidewater at Wide Bay to the oil fields now being prospected near Cold Bay.

Kenai Peninsula—Kenai-Homer, 70 miles. This road, with the completion of the Kenai-mile 29, will give a system of roads to the Kenai Peninsula reaching every district and making connection with the Government Railroad at mile 29.

Susitna Valley—Talkeetna-Iron Creek, 45 miles. This road will connect an important mining district in the Susitna Valley with the Government Railroad.

Copper River Valley—Abercrombie (Copper River R.R.)-Katalla, 45 miles. Makes accessible the Katalla oil field to the port of Cordova, and especially necessary in case a railroad extension is not made.

Katalla-Cape Yakataga—80 miles. Reaches a new oil field now being prospected and otherwise inaccessible for development.

Yukon Valley—Forty Mile to Tanana Crossing, 60 miles. An extension of the Eagle-Forty Mile Road passing through an important mining district and reaching the valley of Tanana.

Susitna Valley—Government Railroad-Valdez Creek, 50 miles. This road makes accessible to the railroad the important Valdez Creek mining district. This district is now reached only by a 70-mile trail from Meiers on the Richardson Road.

Copper River Valley—Nizina River to Nizina, 10 miles. This will include the Nizina River Bridge and make accessible the upper Chitina Valley to the Copper River Railroad.

Strelna to Kuskulana River, 16 miles. This includes the improvements of existing roads built by mining operators and makes accessible an important mining district in the upper Kuskulana Valley.

Chistochina-Chisana, 455 miles. This makes accessible the Chistochina Valley working to the road projected on this year's program from Gulkana to Chistochina.

Yukon Valley—McCarty to Forty Mile, 135 miles. This road would complete the through-road from Dawson and Eagle to Fairbanks, and would pass through a very promising and undeveloped agricultural region in the upper Tanana Valley.

Circle to Fort Yukon, 8 miles. Makes accessible both winter and summer the important trading post of Fort Yukon. This settlement of 50 white and 500 natives is now reached by water in summer, and with difficulty over the ice on the Yukon in winter.

Chatanika-Livengood, 56 miles. This road makes accessible the important mineral developments around Livengood.

Beaver-Caro, 75 miles. Provides a line of traffic between the Chandalar mining district and the Yukon.

Fort Gibbon-Arctic City, 100 miles. Connects the valley of the Koyukuk with the Yukon Valley.

Eagle-Seventy Mile, 40 miles. Connects the Seventy Mile mining district with Eagle.

Nome District—Nome-Kugarok, 60 miles. Connects the Nome district with the Kugarok district and with the Davidson's Landing-Candle Road projected under this year's program.

Southeastern Alaska—Skagway-White Pass, 13.5 miles. This is an important international road, and by cooperative effort on the part of the Canadian Government would make travel by road from Skagway to Whitehorse possible.

Taku Landing-Boundary, 22 miles. This road, if prolonged by the Canadian Government, would permit travel from Juneau to Lake Atlin.

Annual Report of the Alaska Road Commission, Fiscal Year 1920, pp. 61-65.

Appendix D

A Progress Report by C. G. Morrison, Engineer Responsible for the Valdez-Fairbanks Road July 1918

1. Chitina-Willow Creek Road

Foreman W. R. Cameron with a crew of 13 men, four horses, and three automobile trucks in addition to the regular maintenance of this entire section has been engaged in the surfacing of one and three-fourths miles between mile 1 and mile 12.75. In doing this 1178 cubic yards of gravel and 100 cubic yards of rocks have been moved by the trucks.

An excellent quality of gravel has been secured in mile 12 and approximately 3000 cubic yards uncovered during the month. A double loading bin has been constructed at this point the filling of the bin being accomplished by slip scraper.

The stripping of this gravel deposit has been expensive as both the gravel and surface soil were frozen. In the future, I believe that it will be advisable for use to strip the surface from the gravel pits at least two months previous to the time when they will be needed.

Between mile 11 and mile 13 all ditches have been cleaned or enlarged, a few culverts repaired, and all sharp corners on the inside of sharp curves have been removed. The entire length of this section has been maintained in excellent condition during the month.

2. Valdez-Ernestine Road.

(a) From mile 1 to mile 3 inclusive foreman T. O. Bell with a crew of two men has been employed throughout the month on the placing of fascines, repairing grade, removing drift from the bridges, and making light repairs to the bridges in this section.

On the 16th, a bridge of three spans was washed out and on the 20th, another of one span was lost, both being in mile two. A piledriver was secured from the Valdez Dock Co. and after considerable trouble and delay, sufficent men to operate it were secured only on applying to the Commanding Office at Fort Liscum. By the 28th, both these structures were again in place—each having had two spans added to their original length.

(b) During the entire month foreman Matt McGlade with an average crew of 12 men and 4 horses has been employed between mile 3 and mile 13 fighting the inroads from the Lowe River. A total of 650 cubic yards of gravel and rock and man loads of brush were employed in this work in addition to numerous logs which were used for crib diversion spurs in the river. Several stretches of grade in miles 8, 10, and 11 had to be raised to prevent the loss of the road.

(c) The month of July has been for foreman Naud and his crew a period of unremitting strife with the Lowe River. The destruction caused by the high water has several times nearly discouraged the men in the crew. The men are to be commended for having remained with the work in the face of such a discouragement.

The shortage of labor on this section has been felt to a considerable extent. Sections of the road in miles 12 and 13 have been destroyed several times thus shutting off the traffic for short periods. At the end of the month a piece of the old railroad grade in mile 13 at the mouth of the Keystone Canyon was taken out. It has been necessary in each of these cases to place the new road in the solid rock to prevent any further damage.

Bear Creek at the head end of the Canyon has been giving trouble for some time as the old river bed has filled in up to the level of the bridge floor. The course of the stream has been changed until now it is running to the north of the double truss. The few views which were sent you some time ago will show this action. Naud's crew consisted during this period of an average of 11 men and 4 horses.

(d) From the summit of Thompson Pass to Ernestine foreman Howard with 6 horses and with a crew of 17 men in addition to the regular maintenance has done the following work:

Constructed or repaired 23 culverts

Placed 240 cubic yards of gravel surfacing on 6600 linear feet

Placed rock fill in washout near summit, 500 cubic yards

Ditched 2730 linear feet

Blasted out of rock on steep grades about 600 cubic feet to prevent further washouts.

On the 28th, due to the washout and inroads from the Saina River at Beaver Dam a dike was constructed and clearing and grading started in mile 43 for a diversion around the washout. As the present road in miles 42 and 43 is below the elevation of the river bed of the Saina at this point the new location was laid out with the idea of placing both mile 42 as well as 43 on the hillside within the next two years it being very certain that the river would in that time at least destroy the present road. The south approach to this diversion was for this reason made steeper than would otherwise have been the case as it is the intention to abandon about three hundred feet of it when it becomes necessary to lengthen out the diversion. When this work does become necessary there should not be the question of labor that we had to meet this season.

3. Ernestine-Copper Center

Foreman Joe Olson, with an average crew of 20 men and 8 horses, in addition to maintenance over the entire section from Ernestine to Copper Center, has constructed numerous bridges and culverts in addtion to removing mud and rock slides. In most cases the bridges and culverts were necessitated by the loss of the former ones by fires. There appears no evidence as to the origin of the fires, although I am certain that the mushers are in nearly all cases the guilty parties. Of course, in some cases in the past our own men in the road crews have been responsible.

This bridge work is as follows:

1 bridge of 44 feet span
1 bridge of 61 feet span
1 bridge of 21 feet span
1 culvert of 10 feet span
2 culverts of 8 feet span
5 culverts of 6 feet span
1 culvert of 5 feet span and
3 culverts of 5 feet span rebuilt and
9 culverts of 5 feet span repaired

In addition to the above, during the month 590 cubic yards of gravel were placed as surfacing on roads.

4. Copper Center-Sourdough

Foreman Shipp, with a crew of 19 men and 8 horses in addition to the regular maintenance, constructed three and one-half miles of new grade between mile 124.5 and mile 128; built 17 new culverts in this section; and put in 1000 linear feet of drainage ditches, the culverts in this section being of an average span of six feet.

5. Sourdough-Paxson

With a crew of 17 men and 8 horses foreman Ellingson with the exception of grading one mile south of Paxson has been engaged in cleaning and enlarging ditches, repairing culverts and bridges, and in the repair and dragging of the grade.

6. Paxson-Rapids

Holland's crew of 20 men and 8 horses at the first of the month were employed in bridge construction and in the removal of the heavy snow drifts in the vicinity of Millers Road House. On the completion of the bridge in mile 227 which was reported last month a dike of rock, gravel, brush, and wire netting was constructed just above it to concentrate all the glacier water at the bridge. This dike had an extreme length of 467 feet. Another dike of the same type was constructed in mile 223 to control the river at the Long Bridge. The latter dike has a length of 210 feet. A new road 610 feet in length was constructed in mile 217 to replace a washed out section. Over this entire section the scour from the glacier streams of the Phelan and Big Delta River annually does

considerable damage. During the past month it has been necessary for Holland to protect 1750 feet with brush and whole trees used as fascines. The section of the road between Yosts and the Summit although dragged has absorbed so much water that it has been impossible to prevent it being cut up. It, like numerous sections at other places in the Valdez-Fairbanks roads, needs a surface of gravel or at least of sand before satisfactory results will be obtained.

7. Rapids-McCarty

Foreman Oscar Olson with his crew of 20 men and 8 horses has, during the entire month, been employed on the section between mile 275 and mile 243. The former trail between McCarty and Beales Cache has been repaired and drained so that although not graded it is now one of the better parts of the road. This distance of 18 miles is now being made in 50 minutes by the stage cars.

The road over the Dome and in the vicinity of Donnelly has all been placed in good condition and the culverts of the entire section are now in good shape.

At the end of the month the camp had been moved north of the telegraph station at Donnelly and a start made on the grading of the road from mile 240 to mile 232 at Rapids. This work is to be of standard section and the alignment will be as straight as possible.

8. McCarty-Richardson

During this month no maintenance has been necessary on this section.

9. Richardson-Munson

Foreman Sheedy has repaired culverts and bridges between mile 320 and mile 312 and ditched, cleared, and repaired the grade between mile 317 and mile 312. During the month six contract horses with their owners have been employed on slip scrapers and a four-horse team has been used for freighting for this camp as well as to place supplies in the several caches.

10. Munson-Fairbanks

Foreman McKinnon on July 7th started out of Fairbanks with the new Case tractors which during the month have been used for regrading and dragging of the road. The summary of the work accomplished is as follows: Repaired culvert at 368 mile post, placed new floor stringers in the Little Piledriver Bridge, repaired the Little Salchaket Bridge as well as placed new floor stringers, and also repaired two culverts near the 336 mile post. The entire length of the road was dragged with the new Three Way Drags. From mile 364 to mile 356 gravel and sand were placed in all mud-holes and the bad spots were all repaired. Three hundred feet of bad road at mile 355 were covered with gravel. Near this same place 200 linear feet of road were raised and covered with gravel. In mile 353, 1500 linear feet of road were raised one foot and covered with gravel. The road near mile 348 was also repaired for a distance of 400 feet.

This crew consisted of a total of eight men having two Case tractors, one large grader, and two Three Way Drags for the entire month and for a portion of the month a two-horse contract team with driver which was used for the bridge repairs and in the transporting of the gravel and sand from the distant pits to the mudholes.

11. Eagle-Forty Mile

The crew under J. B. Powers started on general maintenance on July 10th. Mr. Powers reports that the season is a very dry one and that he therefore expects to accomplish considerable work without any lost time or funds. He has requested an additional allotment principally, I believe, to furnish work to the miners of that district who are unable to work their claims on account of shortage of water. Nothing other than maintenance has been accomplished.

12. Circle-Miller House

Mr. John Joslin, the foreman in charge, had completed all the work on this project by August 4th and on that date was en route down the river to his new assignment at Arctic Circle Hot Springs. The following was the work accomplished on this project:

a. Seven miles of road regraded
b. One thirty-foot bridge constructed
c. All bridges and culverts repaired

d. Ferry scow at Birch Creek repaired
e. Passenger car and carrier erected across Birch Creek.

13. Ruby-Long

During the period from July 1st to 7th awaiting advice as to the appropriation for the new Fiscal Year nothing was done. From the latter date to the end of the month the crew was again in the field. There are now 9 men and one team in the crew. The first camp was pitched at mile 27 where a 60-foot bridge and 200 feet of connecting road being built at the last report. The maintenance of the entire length is being continued and it is the intention to finish the grading into Long, a distance of approximately two and one half miles.

14. Hot Springs Landing-Eureka and Hot Springs-Sullivan Creek

Mr. John Joslin arrived here on the project on August 20th and immediately started work on the Hot Springs Landing Bridge which had been destroyed by the breakup this spring.

15. Rampart-Eureka

Wm. Garrett was appointed by Mr. Joslin as road patrolman and continues to render his personal services at all times having the privilege during times of necessity to engage other labor to assist him.

August, 1918

1. Valdez-Ernestine Road

Foreman Bell with an average of two men during the entire month has been employed between Valdez and mile four repairing bridge floors, clearing drift from bridges, placing fascines for grade protection and maintaining the gravel surfacing over the entire distance. There have been no washouts on this section during the month.

Foreman McGlade with two teams and an average of nine men has during the entire month been engaged solely on repairing damages in miles seven to eleven inclusive which had been caused by inroads from the Lowe River. He also constructed 335 linear feet of gravel and earth filled log diversion spurs to prevent further encroachments from the river.

Foreman Naud with a crew of eight men and two teams was engaged for the entire period on maintenance from mile twelve to eighteen inclusive. He has, during the month accomplished the following:

1256 linear feet of gravel surfacing on the new diversion in mile 12
156 linear feet of new road in mile 13 necessitated by scour
300 linear feet of new road in mile 12 necessitated by scour
150 linear feet of new road in mile 14 necessitated by scour
50 linear feet of new road in mile 14 necessitated by scour
100 linear feet of new road in mile 14 necessitated by scour
1800 linear feet of clearing in mile 17 for diversion

Both McGlade and Naud have been on the jump every day of the month in the endeavor to keep the road open at all times and for the most part of the month have been successful. The washout in mile sixteen occurred at the latter end of the month but it was possible to get the mail through as well as the new Nash Quads of the winter mail contractor before the road was closed.

On the twentieth of the month Bear Creek bridge in mile eighteen was destroyed by the flood water from a glacier lake at the source of Bear Creek. The bridge timbers were all salvaged by the road crew.

Foreman Howard constructed 3400 linear feet of new grading at Beaver Dam in mile 43, the change being necessitated by a change in the channel of the Saina River. The new line is so located that as the river makes further inroads the road may be extended further to the southward. In addition to the grading of this new diversion he has placed 140 cubic yards of gravel surfacing, constructed three new culverts, and rebuilt ten culverts. The crew during this period has on an average consisted of 17 men of whom 7 were native Indians.

2. Ernestine-Willow Creek Road (4 C)

The road crew with Joe Olson in charge was engaged during this month on the section from mile 74 to mile 83 inclusive due to the necessity of replacing and repairing bridges and culverts which had been destroyed by a large forest fire during the latter part of July.

The work done is as follows:

1 mile of new grading
6 bridges constructed having total width or span of 236 feet
11 culverts constructed having total width or span of 65 feet
1 culvert rebuilt having total width or span of 6 feet
330 linear feet of drainage ditch
200 cubic yards of gravel surfacing
2 large mud slides removed

The total average of the crew was 17 men of whom 5 were Siwash Indians.

3. Chitina-Willow Creek Road (6 B and 6 A)

Foreman Cameron having an average crew of twelve men of whom four were native Indians up to the 20th of the month were employed in the graveling of the road by the use of three Mack self-dumping trucks and in general bridge and culvert repairs. By the end of the month all bridges and culverts between Chitina and Willow Creek had been rebuilt or strengthened in preparation for the heavy truck and tractor freighting which is to be done this fall and winter by the new mail contractor and the Alaska Road Commission. About the 20th camp was moved from the vicinity of the gravel pit at 12 mile and was pitched at 14 mile where the remainder of the month was consumed in clearing 2600 linear feet for a diversion along the foot of the hill to escape further floods and washouts from the Tonsina River. As there is considerable frost in all this ground, it was thought advisable to do the clearing now so that it would be possible to do the grading next season.

While awaiting the thawing out of the gravel pit the trucks were engaged in moving freight from Chitina out onto the road to the north of Tonsina.

4. The white truck as in former months has been used for freighting supplies of all kinds from Chitina to Ptarmigan Drop and Paxson. Al Moore, the Commission blacksmith at Chitina, has been placed on the truck as driver and at the same time continues his duties as blacksmith and horseshoer for all the camps from Chitina to Ptarmigan Drop north to Paxson. Our personnel is thus reduced by one man.

5. Motor mechanic A. G. Brown with headquarters at Chitina has continued a close personal supervison and maintenance of all motor equipment as well as doing all receiving and shipping of supplies at Chitina. He spent several days at the Fairbanks end during this month repairing the Ford truck and in general inspection of the new tractors and all the heavy equipment and vehicles between Fairbanks and Valdez.

Mr. Brown is within the draft age and is registered at Riverside, California. As his services are very necessary, it is hoped that in case he is drafted you may be able to have him assigned to duty with the Commission. Mechanics are now practically unknown in this vicinity and it is a certainty that it will be necessary at the beginning of next season to make chauffeurs out of the laborers we may have. Without a good mechanic to watch the drivers and machines the equipment is apt to be laid up for repairs for a considerable part of the season.

At the end of the month the new Case tractor arrived in Chitina and was immediately set up but on account of lack of fuel was not started out onto the road until the first week in September.

6. Willow Creek-Gulkana Road (4 D)

Frank Shipp has been in charge of the crew on this section having a total of 19 men and four teams employed on the work. The work accomplished is as follows:

1.75 miles of new grading
0.50 miles of clearing and grubbing
15 new culverts constructed
7 culverts rebuilt or repaired
1 pier of the Gulkana bridge repaired and filled with rock
21 loads of gravel surfacing placed at the Gulkana bridge
940 linear feet of drainage ditches dug

7. Gulkana-Sourdough Road (4 E)

No work done.

8. Sourdough-165 mile post (4 F)

Ellingson with four teams and 18 men of whom 6 were Indians was engaged only during the latter week of the month on this section repairing culverts and filling mudholes in the vicinity of Hogan Hill. During heavy rains and even for some time afterward the road between mile 152 and mile 162 becomes so badly cut up by the wagons and automobiles that an automobile is able to make the distance only after considerable trouble and labor. I am planning to gravel this entire section at the very beginning of the next working season.

9. 165 mile post-208 mile post (4 G)

Ellingson with his full crew during the first 23 days of the month was engaged between Paxson and Meiers doing the following:

122 linear feet of culverts constructed
4 miles of new road graded
46 cubic yards of gravel placed
100 miles of road repaired

10. 208 mile-McCarty Road (4 H)

Lars Holland with the same crew as last month has accomplished the following between Paxson and Rapids:

1 bridge 24 feet span at Fish Creek
2 new culverts of 10 feet span each
1500 linear feet of new road necessitated by inroads of the Delta River and Phelan Creek
850 linear feet of road surface with gravel, and repairs made to the Long bridge in mile 222 and the dike at Gun Creek

Oscar Olson has had the same crew as in July and during the entire period has been engaged on road construction. Grading has been completed between mile post 242 and mile post 237. From 241 to 237 it was necessary to do a considerable amount of clearing and grubbing.

11. McCarty-Richardson Road (4 I)

Two round trips of a tractor hauling one of Three Way Drags placed this section in good shape. A small amount of machine grading was done in the vicinity of Richardson.

12. Richardson-Salchaket Road (4 J)

Foreman Sheedy and foreman McKinnon were both at work on this section for a part of the month, the first with a crew of men and horses for the heavier grading and bridge work while the latter used the two new tractors with the grader and Three Way Drags to do the light grading and the general repairs to the entire section.

On the 23rd McKinnon was placed in charge of all the work with instructions as follows:

a. Tractor 30 with chauffeur and assistant to work with Three Way Drags between Richardson and Fairbanks. At termination of the season this machine will be stored at Fairbanks.

b. Tractor 31 with chauffeur and assistant to work with Three Way Drags between Richardson and McCarty. At termination of the season this machine will be stored at Richardson in the cache rented from McClusky.

c. The crew at present with the tractors and also the crew under Sheedy will be immediately returned to Fairbanks retaining only six men and one team under McKinnon to repair bridges and culverts and to get out material for the Little Piledriver bridge.

During the month the entire section of road between the Salchaket River at Munsons and Birch Lake was put in good condition so that at no time in the future is it expected that there will be any interruption to traffic. In addition to the road work the Banner Creek bridge at Richardson was repaired and the mudsill replaced by trestle bents, the small girder bridge north of this was repaired, four other bridges were repaired, two culverts rebuilt, and all the drainage leading to and from the structures were opened up.

13. Salchaket-Fairbanks Road (4 K)

The section from mile 332 to 330 was regraded and timber gotten out for the Little Piledriver bridge. The intention is to do the actual bridge work at the Little Piledriver later in the fall when the slough is dry.

Alaska Road Commission, narrative monthly reports, June, July, August 1918, ARC, box 65418, R. G. 30, Federal Records Seattle, Washington.

Appendix E

1921 Reconnaissance Report on the Eagle-Fortymile Districts

by Fred Price

Eagle and Fortymile Roads and Trails

In July I put a small crew of men to work upon the winter roads and pack trails, putting them into good shape for winter travel. As much ground as possible was covered with the money at my command. The high water of the spring caused a wash-out in the canyon leading to Gravel Gulch. A repetition of this could be avoided by a small amount of maintenance work in the spring during the high water. Cutting a channel in the ice would cost but a few dollars but would save hundreds by avoiding an occurrence of this kind. I would recommend that this be done.

Seventymile

On my trip to the Seventymile I found the trail leading to Alder Gulch in very bad condition, from Crooked Creek upstream, but with the money allotted to this district there is now a good trail leading upstream to Barney Creek. I set aside $100.00 out of the $1,000.00 allotted for the construction of a foot-bridge across the Seventymile at Nugget Gulch. This bridge is to be cut in this winter, as there is no way of crossing the river at medium high water. Some parties were held up for two days before they could cross. The possibility of extending the road to Crooked Creek on the left limit is rather impractical, as there are several abrupt bluffs which would entail too much expense in getting around them. There is a good base leading up to the falls upon the right limit of the Seventymile.

Fourth of July

In July I made an investigation of the trail leading from Fourth of July to Nation. Good work had been done there with the small amount of money at Mr. Vanderveer's command in 1920. This year's work will complete the trail to Nation. This work not only leads to their camp, but is the means of ingress to an extensive country lying south of Fourth of July Creek. The mining operations on Fourth of July Creek will be worked upon a large scale, and a road is necessary. The base is good and my estimate of construction will not exceed $50.00 per mile. It is less than ten miles to the works. I would recommend that this road be constructed if possible in the near future.

Wade Creek to Walker's Fork and Boundary Line

In traveling from Wade Creek, up Robinson Creek, to the ridge leading to Walker's Fork an easy grade is encountered. The road to Walker's Fork has a very good roadbed, continuing to the boundary line, and with a small amount of money could be put into good condition. At the time of my visit to Walker's Fork, Mr. Jacobson, who is a mining operator in that locality came from Dawson with a two-horse team loaded with 800 lbs. of provisions. He informed me that the road from the boundary to Dawson was the worst part. It is about 5 miles from Jacobson's to the boundary following the right limit of Walker's Fork.

Canyon Creek

There is a very good road down Canyon Creek following the right limit slope for a distance of five miles. From this point the creek bottom is used during the winter.The freight is brought to the mouth of Canyon, thence up Canyon to Walker's Fork. There is some mining activity on Canyon and Squaw Creeks this season.

Canyon to Steel Creek

Ascending the Steel Creek divide from Squaw Creek the winter trail is followed down to Steel Creek. This is a very bad road during the winter months for traveling as the grades exceed 15% and the snow drifts upon the summit are bad. This road also leads to Wade Creek for winter freighting.

O'Brien Creek

Following up O'Brien Creek from the mouth in its entirety there is a very good road bed part of the way.The present winter road is, in my estimation, not practical for a permanent road going to the many crossings of the creek requiring too many bridges. Along the right limit, however, fairly good material is found until Columbia Creek is reached, then the present road could be followed to Liberty.

Reconnaissance of Outlets from O'Brien, Polly and Uhler Creeks to Chicken

From the mouth of O'Brien Creek the Fortymile River would have to be bridged, following up the right limit to Polly Creek, thence up Polly Creek which has an easy grade, possibly a 6%. Good material is found on the left limit up to a low divide which could be followed for a short distance to the head of Uhler Creek. Uhler Creek has about the same grade as Polly Creek. Going down Uhler Creek to the mouth which is about five miles below Franklin, another bridge would be needed, crossing to the left limit of the Fortymile River, going up river to Franklin, thence up river opposite Two-mile Creek, onto a good, dry ridge which can be followed to Chicken Creek.The approach to this ridge is a little steep but can be used.

Walker's Fork

Part of the river is in bad condition due to the fact that there are numerous large boulders in the riverbed. This condition can be relieved by blasting the mouth. My recommendation is that a small allotment be made for this purpose.

Outlet to North Fork of Fortymile

Mr. McCandless who expected to go over this route with me was unable to go so this trip was not made. Previously, however, the road was indicated on the map. This road leads from Eagle to American Creek and thence to the head of Arkansaw Creek. From this point the old Government trail is followed into and down Champion Creek to the proposed power site of the McCandless Company on the North Fork of the Fortymile River. This road would also form an outlet to Charlie River district which is practically an undeveloped country.

Mr. McCandless assured me that if the assays proved as good as previous ones taken, $200,000 would be available next season for construction of their plant, requiring 200 tons of freight to be handled. This will of course depend upon the assay returns of the black sand, which Mr. McCandless promised to let us know. The estimated cost of this road is $10,000 for work on the first 13 miles for Discovery Fork to the head of Arkansaw Creek. This road is really necessary for the further development of the mining industry of that section and Charlie River district.

Lumber

Some investigations have been made in regard to lumber and it was found that 60 to 70 thousand board feet measure can be secured two miles from Gravel Gulch. With a little grading the main road can be reached. There is also some good timber on O'Brien Creek and at the mouth of Chicken Creek. The round poles used for bridges and culverts are unsatisfactory, lasting only a year or so, making it expensive to replace them each year. Mr. Powers has a sawmill on O'Brien Creek and a recommendation here would be timely that some 3-inch planks be sawed and delivered along the road before they get bad in the spring. The lumber at Gravel Gulch can be sawed and hauled in the summer as it is needed.

Freight Rates

	Present summer rates	Winter rates	These rates are freighter's estimate with a trunk road to Chicken.
From Eagle to Gravel Gulch	2¢ per lb.	¢ per lb.	1¢ per lb.
Liberty	7¢ per lb.	2½¢ per lb.	2¢ per lb.
Dome Creek	10¢ per lb.	3¢ per lb.	3¢ per lb.
Steel Creek	15¢ per lb.	3½¢ per lb.	4¢ per lb.
Wade Creek	20¢ per lb.	5¢ per lb.	6¢ per lb.
Franklin & Chicken	25¢ per lb.	5½¢ per lb.	8½¢ per lb.
Up river to N. Fork	—	4½¢ per lb.	—
Above Walker's Fork	—	6¢ per lb.	—
Napoleon Creek	—	5½¢ per lb.	—

1¢ per lb. added for perishables

Note: Freighting up Fortymile costs 16¢ to Chicken. It is uncertain as a method of transportation.

From information obtained from the miners in the vicinity of Chicken and Franklin, provisions and supplies used during the past four years cost approximately $0.75 per pound.

Activity in the District

Creeks	Number of men	Class of Mining	Estimated Output
Crooked Creek	3	Hydraulic	$ 5,000.00
Broken Neck Cr.	1	Open Cut	—
Big Bear Bar	2	Open Cut & Rocking	300.00
Nugget Creek	1	Hydraulic	700.00
Alder Creek	3	Hydraulic	4,000.00
Curtis Bar	1	Open Cut	300.00
Flume Creek	1	Hydraulic	150.00
Barney Creek	1	Hydraulic	200.00
Fox Creek	2	Hydraulic	No data
Fourth of July	7	Hydraulic	Depends on water
Ruby Creek	1	Winter Drifting	300.00
Washington Creek	1	Prospecting	—
Mission Creek	1	Open Cut	300.00
Estimate	5	In outlying districts	—

Creeks	Number of men	Class of Mining	Estimated Output
American Creek	2	Open Cut	$ 850.00
	1	Open Cut	3,000.00
	2	Open Cut	Depends on water
Discovery Fork	2	Open Cut	$40,000.00
Dome Creek	12	Hydraulic	5,000.00
Downstream from Steel Creek 40 mi.	15	3 Hydraulic	4,000.00
		12 Rocking	$4 to $6 per day
Up 40-mile from Steel Creek	4	2 Winter Drift	No data
		2 Rocking	No data
Franklin Creek	5	Open Cut	$ 4,340.00
South Fork of 40 mile	1	Winter Drifting Open Cut	400.00
Chicken Creek	7	Open Cut	—
Lost Chicken	2	Open Cut	None
Ingle Creek	3	Open Cut	$ 1,200.00
Littlevig Creek	3	Winter Drifting	2,300.00
Mosquito Fork	3	Scraper Plant	18,000.00
Napoleon Creek	2	Open Cut	None
Montana Creek	1	Open Cut	$ 700.00
Walker's Fork	5	Scraper Plant	8,000.00
Davis Creek	2	Open Cut	1,400.00
Wood Creek	1	Open Cut	375.00
Squaw Creek	3	Scraper Plant	No data
Canyon Creek	3	Open Cut & Winter Drifting	$ 800.00
Wade Creek	16	1 Hydraulic, 15 Open Cut, Drifting	11,300.00

Note: The output may be increased after September 1st owing to heavy rainfall. The output of Dome Creek will probably reach the $150,000 mark as better ground has been found since the estimate was given. Miners usually yield $3.00 per gold pan washed.

Mail Service

There is semi-monthly service to the creeks, each mail having a weight limit of 600 pounds. On the 15th of July there was in the post office at Eagle, 3,600 pounds of mail and unless a special contract is issued the mail will lay until it can be taken over the winter trail, causing a considerable inconvenience to the miners. Mr. Powers, the present mail carrier, assured me that with a good road these conditions now existing would be relieved. Furthermore the contract for carrying the mail could be cut one-third a year making a savings to the Government, amounting to $2,600, which in a short time would pay for the construction of the road.

Summary

Being conversant with mining conditions, it is in my judgement not a worked out district, but one with a future before it, second to none in the Yukon. This district has been producing extensively for the past forty years. During the war it of course received a setback, but with good roads and trails, and a reduction in the cost of produce will induce younger blood to enter the country.

The Eagle-Fortymile and the surrounding districts have a bright future.

Price to Alaska Road Commission, November 5, 1921, ARC, box 65480, R. G. 30, Federal Records Center, Seattle, Washington.

Appendix F

1923-1924 Reconnaissance Survey of Fort Gibbon (Tanana) to Koyukuk and Kobuk Rivers to Kotzebue

The purpose of this survey report in the winter of 1923-24 was to obtain information on the route for possible improvements of the trail and erection of shelter cabins. It was an old established trail and of great use in access to the upper Koyukuk and Kotzebue area on the coast.

The trail extended north to Allakaket, Bettles, Coldfoot, and Wiseman, a distance of 180 miles. From Allakaket it branched off westward to Kotzebue, via the Alatna and Kobuk Rivers to Shungnak, Kiana, and Kotzebue, 280 miles.

The snowfall in the vicinity of Alatna was very light at the time of arrival at that place. The Christmas holidays brought the natives to the Mission of St. John in the wilderness at Allakaket on the Koyukuk, near the mouth of the Alatna River. This gave me an opportunity to select a suitable guide from among the Kobuk natives.

After having all the arrangements made for the trip, taking ten days' supplies and dog food, I proceeded with Napoleon, the Kobuk guide, January 7th along the Alatna River, taking advantage of the portages, to Blackjack, a Kobuk village, where we stayed at Chief Nulyook's place for the night. From Blackjack the river was used, making short cuts across the portages of the many bends in the river. A 7 × 7 tent was used for camping out as there are no cabins along this route of travel. We had already resorted to the use of snow shoes to break trail for the dog team, the snow being heavier towards the Endicott Range. A blizzard from the northeast compelled us to seek shelter in a spruce grove, where we pitched camp for the night. It snowed during the night and the wind was getting stronger. Nothing was visible for more than a half a mile, but having worked out a compass course, Napoleon and I started to break trial and mark the same to the Hogatza, locally called the Hog River. For the next two days we were breaking trail and found faint traces of old blazes but the snow had driven so hard that the bark of the trees was covered with snow. The line of blazed trees corresponded to the compass course and the same was followed for three hours, returning to camp at dusk. Only two days dog food was on hand and our food supply was getting low; I decided to return to Marsan to replenish our supplies. On the return trip we met a fur warden from Nome with three dog teams and two natives as guides and trail breakers. Later in the day we met a Kobuk trapper and we camped at his tent for the night. Leaving the tent next morning, we traveled the Alatna River. The cold was severe, the nostrils and mouths of the dogs were getting iced. We made Pooto Hope's cabin, stopped for the day (63 degrees below zero). The next day we returned to Marsan and after replenishing our supplies, engaged Nictune, native, to return with us to haul dog food. Leaving Marsan on the 28th of January, the Kobuk was reached on February 1st, made camp about two miles above Reed River (temperature 52 degrees below zero). Next day passed Reed River and Beaver Creek, at the mouth of Reed River an overflow was concealed beneath the snow, got feet wet and sled runner iced. The faces of the dogs and the front of our parkas were frozen so made camp at 3 p.m. During the night Napoleon and Nictune had to make a fire in order to keep warm (69 degrees below zero). In the course of next morning's travel, both natives had their cheeks and chins frost-bitten.

We pulled in at a white trapper's cabin, below Selby Creek, where we had lunch. Here we learned that distemper was raging among the dogs along the Kobuk River and that many had died of the disease. Stayed overnight at

Pah River, where three Kobuk igloos are located. Proceeded next morning on Kobuk River, arriving at Shungnak on February 4th at 5 p.m. We put up at the store which has a sawmill and mining enterprise also. The eight days following, the weather remained 51 to 70 degrees below zero. During this time made a trip to the native village 7½ miles below Shungnak, where the Bureau of Education maintains a school, presided over by two teachers who also look after the reindeer herds on behalf of the Government. Owing to the epidemic of distemper among the dogs, the scarcity of dog food, and the extreme cold, I decided not to go on to Kotzebue and went to Noorvik, where I wired Fairbanks to that effect. Left Marsan February 28th over the winter trail for Nolan and arrived at Henshaw Cabin at 5 p.m. The trail was drifted in many places. Proceeded next day to Chinoko Cabin. At this place I met two Koyukuk natives who were hauling dog food for the Geological Survey. Next day I arrived at Bettles and had a meeting with the miners and residents and talked over trail matters. Proceeded on to Coldfoot and 2½ miles below Coldfoot, where Porcupine Creek flows into the Koyukuk—a heavy overflow, 18 inches deep, was encountered. Cutting a way around, I arrived at Coldfoot at 1:30 p.m. Had lunch with Mianano, a Japanese, then proceeded to Wiseman and on to Nolan, it being the center of mining activities in the district, 6 miles from Wiseman. A meeting was held there and also at Wiseman to talk over trail and road matters. There seems to be more prospecting and development on the Upper Koyukuk than there has been for some time past. On Nolan Creek, 16 men in 3 outfits, were taking out winter dumps from shafts, others were working on benches. There was considerable working ground, but the water for sluicing was and had been a drawback. Two men were sinking a shaft on Alte Creek, 2 men and 1 woman on Emma Creek, 2 men on 12 Mile Creek, 5 men and 1 woman on Porcupine Creek, 5 men on Tramway Bar, 2 men on California Creek, 1 on Bettles River, 10 on Hammond Creek and 1 on Union Gulch. Four men were mining on Wild and 3 on John River.

The question of transportation and cost of supplies was foremost. Freight from Nenana to Bettles was $90.00 per ton by boat, owned by the operating stores who handled mostly their own goods.

Leaving Wiseman on March 10th, I arrived at Nenana on March 26th, having covered 1,350 miles, of which 700 miles were traveled on snowshoes.

The money spent in former years for the improvement of trails, roads, and shelter cabins north of the Yukon has been, in many cases, misapplied or wasted, either by having incompetent persons directing the work or others who directed the work for selfish purposes.

Valdez Trail Collection, University of Alaska Archives, Fairbanks, Alaska.

Appendix G

Report on Ten-Day Inspection Trip in the Cache Creek-Yentna River Area In the Fall of 1928

by

M. C. Edmunds
Anchorage District Superintendent

The following report covers an inspection trip during which the various routes mentioned below were covered, routes 51, 51-D, 51-E, and 20-H.

The main object of the trip was to cover routes 51-D and 51-E, between Cache Creek and the Yentna River; no one attached to the force at present had been over the trails, and the only information available was obtained from people in the district, and it appears that the more persons talked to the less reliable information was obtained.

As it is not likely that the trip will be taken again for some time, as there is no necessity until more development takes place, I am writing a report of the trip for future reference.

The trip was taken on foot, carrying ten days' provisions, making a pack of about 60 lbs. to start off, and 25 lbs. when I finished up at the railroad.

I had intended to take a dog along, carrying some of the load on it, but the dog was too soft and I had to leave him the second day out.

Itinerary.

October 1st. Left Anchorage 1:45 p.m. by A.R.R. arriving Talkeetna 6 p.m.

October 2nd. Left Talkeetna 7 a.m., stopped at A.R.C. cabin at Moose Cr. 12 miles out, arrived 1:30 p.m.

October 3rd. Left Moose Cr. 7 a.m., arrived Peters Cr. noon, mile 23½; after lunch went to Lee's cabin on Black Creek, mile 29, arriving 2 p.m. (this cabin used by public for shelter.)

October 4th. Left Black Cr. cabin 7 a.m., went to the A.R.C. road camp near Windy, a tributary of Cache Creek, arriving there 11:20 a.m.; stayed here the night. Traveled 10 miles. Waited over here for one day, in order to wait for two trappers who were going to Sunflower Creek.

October 5th. Went with trappers Wagner and Strom to Falls Creek, stopping the night in a cabin belonging to Nagley, the merchant at Talkeetna, evidently used by the public; distance traveled 2 miles.

October 6th. Left the cabin on Falls Creek, which is located about one-half mile above the mouth at 8 a.m.; went down Cache Cr. to the mouth of Short Cr., then over trail to the Treasure Creek shelter cabin, arriving there at 6:30 p.m., distance traveled 18 miles.

October 7th. Left the A.R.C. cabin on Treasure Creek 7:30 a.m., went to Wagners cabin on Sunflower, about three miles below the cable crossing, arriving there at 1:30 p.m., distance traveled 10 miles.

October 8th. Left Wagner's cabin 8 a.m., went to Pat Collins camp on Notobac Creek, (the men who named this creek evidently must have been out of tobacco when they struck here) a tributary of Twin Creek. Stopped at Huggers' camp on Mills Creek enroute; distance between camps one and a half miles, distance traveled ten miles, the last two miles being on the Southeast slope of Fairview mountain. Was accompanied by Wagner this far. Arrived at Collins camp 5 p.m.

October 9th. Left Collin's camp 7:30 a.m., after one mile reached the regular Yentna-Mills Creek trail, following same until I reached the camp of McLean and Patterson, on the Clearwater, one mile above the mouth, where it enters into the Yentna River. Arrived here 3 p.m., distance traveled 15 miles.

October 10th. Left McLain and Patterson's cabin 7:30 a.m., went down trail to the Yentna River, inspected cabin, then proceeded down the stream, at the mouth of Donkey Creek slough, so walked down there. Had thought that I could get a trapper to take me down to the station as they all have Johnson outboard motors, but ice was running in the Yentna, and the boats were all beached for the winter, and it was doubtful whether they would work in the ice. Arrived 5 p.m., distance traveled 27 miles.
October 11th. Examined boat, which had not been in water for two seasons, calked two seams with gunnysack and old shirt, which were open for a good half inch, put a patch over a small hole in the bow, and started off at 10 a.m., arriving at the abandoned town of McDougal at 5 p.m. Wet snow all day, distance traveled 18 miles.
October 12th. Left McDougal 6:45 a.m. arriving at Susitna Station 2 p.m., had to break shore ice in order to beach boat, weather wet with snow and rain. Distance traveled 36 miles.
October 13th. Left Susitna Station 7 a.m. over the winter trail for Nancy, on the Alaska Railroad, arrived at the shelter cabin at mile 10.5 at 2 p.m., distance traveled 11.5 miles.
October 14th. Left shelter cabin 6 a.m. arriving at Nancy 1 p.m., caught freight train into Anchorage, arriving 8 p.m.

Route 51. Talkeetna-Cache Creek.

This route is being maintained each year, and will be covered in the annual report, so there is no necessity of mentioning it at this time.

Route 51-D. Yentna-Mills Creek
(23 miles trail).

This is a pack trail leading from the Yentna River, on the left limit of Clearwater Creek, to the confluence of Twin and Mills Creek which head against Fairview mountain, in the Fairview District.

Leaving the river the trail crosses a flat country for a distance of three miles, covered with small green spruce and an occasional swamp, to high ground running in the same direction as the Yentna River, which runs in a Southeasterly direction.

The ridge is cut through by the water of Clearwater Creek, which runs in a Southerly direction.

After leaving the flats, high ground is followed for a distance of four miles, through spruce and birch timber, along the left limit of the creek, sometimes close to the creek, other times away out of sight, to a small creek running West; after crossing the creek, which is bridged, the trail continues along the high bench near the stream, with a fair growth of spruce, which comes to an end about mile 12, after which a heavy growth of willow and alder is encountered, to mile 15.

At mile 8, a small cabin is passed on the left of the trail, or West, which could be used in an emergency, but it is very small being about 6 feet by 8 feet, with a flat roof.

At mile 15 the trail leaves the Clearwater Creek watershed, running down the right limit of Twin Creek, on a high bare bench to its junction with Mills Creek, which is the end of the trail.

Very little work was done on the trail after passing the 15 mile post, the chief item being tripods that were erected to mark the trail.

The point where the trail starts down Twin Creek is about one mile from Skookum Pass, which is the route followed by the miners and trappers in going from the Clearwater Creek watershed to the Cache Creek district.

With the exception of some swampy ground across the Yentna flats, which could not be avoided, the trail is located in good ground, and is well defined.

It appears, however, as though it would have been better to have continued the trail through Skookum Pass to the mouth of Cottonwood Creek, instead of going down the right limit of Twin Creek, as this would have kept the trail on dry ground, passing close to the location of the men mining there, and been considerably shorter for a mail route.

Considerable timber had fallen across the trail in places, but where it passed through willows and alder the cutting was very plain.

The shelter cabin on the Yentna was in good condition, except for the roof, which should be replaced with an iron roof, and a floor put in.

Arrangements were made to have the trail cleared up, and for the repairing of the shelter cabin next season.

This route is now in good condition, and, with the clearing of windfalls occasionally should be ample for the requirements of the district for years to come, unless further development is shown. At the time the trail was put in there were some good publicity men interested in the district, and it appeared as though the district might develop into a mining camp.

Our friend Mr. Ben Grier, had a lot of property at the mouth of Twin and Mills Creek a few years ago, but, being unable to interest any capital in the venture, it has been abandoned, and has since been restaked by another placer miner, who has done no prospecting of any amount to determine whether it is commercial ground or not.

C. J. Lincke, an old newspaper man, has been in the vicinity for some years, off and on, and has staked a lot of ground in the district; he also does no prospecting, and has the means of keeping people off the ground who might dig up something. The only evidence of work done on this property that I saw was a small hole about three feet wide by six feet long, three feet deep, that any ordinary laborer would dig in two hours.

While it is possible that something may show up in the vicinity that may pay to work by modern methods that would not be profitable to work by older methods, several of the tributaries of Mills and Twin Creeks were prospected and mined years ago.

A man named Pat Collins is the only one left of the early miners, he traps a little in the wintertime.

A man named Hugger has been in the district three seasons, he is mining on Mills; these are the only two men attempting to mine, and I venture to say they do not average more than $1,000.00 a year output between the two of them.

In returning down the Yentna River to Susitna Station, I found very little activity except for trappers and fur farmers, who are located on an average every six miles or so along the river bank.

The white men seemed to be ambitious and energetic, building trails, cabins and doing other work in readiness for the trapping season.

As far as I could ascertain, there appeared to be no activity in prospecting or mining, probably the high prices paid for fur during recent years made trapping more profitable.

There appears to be no need for any road, trail, or shelter cabin work; the main artery of travel is water, and the trappers living along the river are glad to welcome occasional travelers, who bring recent news, and are available for carrying mail.

The Yentna River, from Youngtown to the mouth, is very easy to navigate in a small boat, there being no rapids or other places where there is any hazard. The sweepers along the bank, and the snags in the channel, are easily seen and avoided.

The only place encountered was on the Susitna River, after leaving the mouth of the Yentna, where whirlpools were active; these however, are plainly seen and there is ample room to steer clear.

The velocity of the current near the mouth of the Clearwater is about four miles per hour, while it is only around two miles near the mouth.

The trappers and an estimate of their earnings during the last season adjacent to the river, is as follows:

Name	No. men	River	Estimated Earnings
Gasnon and one	2	Kichatna	$5,500.00
Mike Stripka	1	East Fork	3,000.00
McLain and Patterson	2	Yentna	5,000.00
Corigan	1	Yentna	2,200.00
Briggs	1	Yentna	3,000.00
Jones and wife	1	Yentna	1,500.00
Sholbarger, wife, 3 children	1	Skwentna	5,000.00
Reamer, McElroy, and one	3	Skwentna	5,000.00
Ross, wife, 1 child	1	Skwentna	2,000.00
Link	1	Yentna	5,000.00
Nelso	1	Yentna	500.00
Oman	1	Yentna	800.00
Zorn (does no trapping, a little prospecting)			
Meller	1		1,500.00
Unknown	1		1,500.00
Madison Bros.	2		2,500.00

About six of these people go to Talkeetna, over the trail, with their furs during the winter, the remainder come down the river either taking the Nancy-Susitna trail over the snow, or going by boat to Anchorage and the railroad.

Route 51-E. Cache Creek-Mills Creek
35 miles trail.

This is a summer trail, used as a means of communication between the people of the upper Yentna River, including the Fairview mining district, with the Cache Creek mining district, and by means of the system of roads leading from there, with Talkeetna and the Alaska Railroad.

It is suitable for foot and pack trail travel.

In the winter time there is no need of any trail. The swamps, lakes and rivers, which constitute the country south of the summer trail, freeze over, and one can go in any direction, and the several cabins belonging to trappers provide places where one may obtain shelter.

The winter travel connects with the Cache Creek trail by means of the Mile 32 Spruce Creek trail, route no. 51-D. The summer travel leaves Cache Creek by means of two routes, horse travel goes up Dollar Creek to the junction with Little Dollar, and foot travel follows Short Creek for a distance of one mile, then drops over the bench to the mouth of Little Dollar Creek, from this point one trail is followed.

The trail follows up Little Dollar Creek for one-quarter of a mile, then climbs on the left limit of the creek, following the creek which drains a flat plateau, until it forks, near the head. The creek is crossed at this point, near the top of a steep slope leading down to a large flat drained by the Kahiltna River. The rim is then followed for one mile until an old camp is reached, known as the Barrenburg or Shell Camp, about eight miles from Cache Creek.

From this camp an old trail is followed, known as the "Hughes" trail, over which attempts were made to haul supplies to the Cache Creek diggings from the Yentna, in the early days, before the road was built from McDougal.

The trail was also used by Dr. Cook, during the time he was scouting around when attempting to climb Mt. McKinley.

The trail for the first eight miles is fairly good, except some willows need cutting, and it is inclined to be wet for a couple of miles until the rim, on the left limit of the Kahiltna watershed, is reached.

From the Shell camp the trail drops down to the level of Kahiltna flats, descending 1200 feet in the course of a mile through a well-timbered slope covered with spruce, willows and alders, then continuing for two miles through the timber, skirting lakes and beaver dams to the edge of the timber, the horse trail coming out about one mile below the cable crossing on Granite Creek, about twelve miles from Cache Creek.

Granite Creek drains the left or east side of the Kahiltna Glacier, and the cable tramway spanning this stream is located about two hundred yards above the end of the glacier, where the stream is in one channel, which is not subject to change.

The tram was in good condition, and no difficulty was found in making the crossing.

The left side of Granite Creek, at the cable crossing, is in timber, while the right side runs alongside the glacier, the cable being anchored to rocks and the landing being on rocks, forming part of the glacier.

The trail on the west side of the crossing follows the glacier for two hundred yards until dropping down on the flat, but no difficulty is found in getting over this stretch.

There is no timber between Granite Creek and the glacier stream which drains the west side of the Kahiltna Glacier, except for some scattered willows, a distance of four miles, the trail keeping about two hundred yards south of the end of the glacier.

The water of the Kahiltna River, draining the glacier, was in three channels, about 75 feet wide, the depth at the deepest place where a ford was made being 18 inches.

A cable tram is to be put across this stream this season, materials were being freighted there during the time I passed through.

The stream draining the west side of the glacier was forty feet wide and 12 inches deep, and easily crossed, at mile 16.

West of the stream the trail goes through a dense growth of willows and alders, but the trail is well-defined, and once on it, is easily followed.

Continuing along the trail a distance of three miles, Treasure Creek is reached, at mile 119, where the Alaska Road Commission shelter cabin is located, on a small bench about twenty feet above the level of the creek.

Spruce timber has been gradually getting thicker, until there is good timber where the cabin is located.

The cabin is located about 250 yards off the trail, to the north, and 300 yards from water, but is well supplied with dry wood, and is in a dry location.

Signs are placed on the main trail, so that it is readily seen by travelers.

Owing to the difficulty of getting material on the site, the roof was made out of poles, with moss and dirt, which did not prove very satisfactory this last season, during the continual rain.

During the night I spent there, the roof leaked all night, and it kept the three of us busy keeping the fire going, in order to try and keep warm.

Arrangements were made for putting a galvanized iron roof and a floor in the cabin, the work to be done in the spring when conditions were favorable for hauling the material.

Leaving Treasure Creek cabin the trail traversed level ground for one mile through timber, then climbed for one-half mile on a ten percent grade, which increased to about twenty per cent towards the top, to a level plateau, with an elevation of 1500 feet, formed of grassy meadows (some wet and swampy), small lakes, and high mounds covered with green spruce, which made a picture very pleasing to the eye, but not so attractive when considered from the viewpoint of the trail situation.

Keeping in a westerly direction, with the trail now getting very indistinct through the meadows, we reached Lake Creek, at mile 24.

Lake Creek is crossed by means of a cable tram, which was in good working order. A ford is located just above the cable, where horses can cross the stream, while below the water from different channels collects, and runs through swampy ground.

There is no timber of any size on Lake Creek.

From Lake Creek the trail continues in a southwesterly direction, following timber and high ground where possible, to Sunflower Creek, at mile 28, where another cable crossing is located.

The crossing is located at the head of the canyon, in an ideal location, about one mile below the place forded by horses.

Spruce and cottonwood is plentiful along the banks of Sunflower Creek.

There is a trappers cabin about three miles below the cable crossing on Sunflower Creek, also one on the right limit of Chelatna Lake about two miles above the tram, which are available for shelter for travelers.

Leaving the Sunflower cable, and keeping in the same general direction for a distance of two miles, Camp Creek is reached at mile 30.

Camp Creek is forded just above the mouth of Cottonwood Creek, it was about 75 feet wide and 15 inches deep at the time I crossed.

There was very little water in Cottonwood Creek, it was about six feet wide and 12 inches deep. There was a good growth of Cottonwood timber along the course of both streams, and some spruce up to 10 inches diameter.

A camp belonging to C. J. Lincke is located on the right limit of Cottonwood Creek, about ¼ mile above the mouth, which is available for shelter for mushers traveling through.

A bear or wolverine had visited the place, and made a mess of things generally; one of the articles chewed up being a Corona typewriter which they must have considered to be out of place in the wilds.

After leaving Cottonwood Creek the trail crosses a grassy meadow to the left limit of Little Skookum Creek, about one mile distant, and then follows through dense willows and alders the left limit of the creek until near the head, when the creek is crossed, and the trail follows along high ground, on the southeast side of Fairview mountain, to Skookum Pass, at mile 34.

Skookum Pass is the divide between Mills Creek and Twin Creek, near the summit

of Fairview mountain. it is a good location for a trail as the ground is firm; there are several patches of willow growths along the mountainside, but generally these can be avoided.

From the pass the tripods of the Yentna-Mills Creek trail can be seen along the skyline of the Clearwater slope, which is fifteen miles from the Yentna River.

There is one miner, Matt Hugger, mining on Mills Creek, about one mile from the head, working by the open cut method, with sluice boxes running through the cut into which dirt is shoveled by hand; he was the only man doing any work on Mills Creek.

Another man is working on Notobac Creek, a tributary of Twin Creek on the right limit, using the same method of mining. He had everything in good order, and appeared to be working to advantage; he was the only man working on Twin Creek. His name is Pat Collins.

There is gold scattered all around the south slope of Fairview mountain, which is formed of gravel, work has been done on the different creeks since 1906, and several men have taken out small amounts varying from $3,000.00 to $5,000.00, but no big money has been made.

Water is very scarce, which is a detriment to small miners, but would not affect the working of the ground by a large company, who could bring water for many miles, but a large company is not liable to start operations unless much more prospecting and development is done.

In addition to the two miners mentioned, whom I do not believe take out $1,000.00 a year between the two of them, there are other people interested in the district who call themselves prospectors, who have a lot of ground staked, but do no development work to ascertain whether the ground can be worked or not.

These speculators are a detriment to the district, as they tie up a lot of ground that other people who want to dig might file on and develop something.

At present time there are possibly ten trappers, the two miners mentioned, and a few others using this trail.

Until more development work is done, or something else shows up, the present trail, with the four cable crossings, and the shelter cabins on Treasure Creek and Spruce Creek, which ensure safe travel during the summer and winter, is sufficient, with a little additional cutting and staking.

Edmunds to Gillette, October 20, 1928, ARC, box 65479, R. G. 30, Federal Records Center, Seattle, Washington.

Appendix H

Existing and Proposed Aviation Fields in Alaska as of 1934

Name	Route No.	Item No.		Miles From	Est. Cost to Complete	Remarks
Akiak	3	3	Ketchikan	1535	$ 3500	
American Creek	1	1	Ketchikan	1000	1000	
Anchorage	2	2	Ketchikan	1020	25000	
Aniak	3	3	Ketchikan	1465	3500	
Bear Creek	3-C	1	Bethel	75	2000	
Bethel	3	4	Ketchikan	1555	50000	
Bettles River	1-D	1	Fairbanks	230	2000	
Big Delta	1	3	Ketchikan	890	2000	
Birches	1	3	Ketchikan	1155	4000	
Boundary	1&2	4	Ketchikan	715	35000	
Bramner	4-A	1	Cordova	110	5000	
Bluff	1&2	1	Ketchikan	1475	2500	
Cache Creek	5-A	1	Seward	200	3000	
Candle	1-C	1	Koyuk	75	5000	
Cantwell	5	1	Seward	255	5000	
Chandalar	1-DA	1	Fairbanks	260	4000	
Chena Hot Springs	1-B	1	Fairbanks	50	3000	
Chicken	1-A	1	Ketchikan	860	3000	
Chisana	4-A	1	Cordova	215	3000	
Chistochina	2	1	Ketchikan	320	2000	
Circle Hot Springs	1C	1	Fairbanks	100	2000	
Copper Center	4	2	Cordova	150	20000	
Cordova	4	1	Fairbanks	350	25000	
Council	1-I	1	Nome	60	2500	
Cripple	2-D	1	Anchorage	300	3000	
Crooked Creek	3	3	Ketchikan	1395	2000	
Curry Creek	5	1	Seward	185	2000	
Deering	1-J	1	Nome	135	2000	
Dementi	2	3	Ketchikan	1395	5000	
Dillingham	2-C	4	Anchorage	360	40000	
Donnelly	4	3	Cordova	275	2000	
Eagle	1-A	1	Ketchikan	920	2000	
Egegik	2-CA	3	Anchorage	350	4500	
Fairbanks	1	2	Ketchikan	970	25000	
Flat	2	2	Ketchikan	1345	20000	
Fort Yukon	1-C	1	Fairbanks	180	3000	
Ganes Creek	2-B	1	Anchorage	265	3000	
Gold Run	1-K	3	Nome	40	3500	
Golovin	1-H	1	Koyuk	65	3500	

Name	Route No.	Item No.		Miles From	Est.Cost to Complete	Remarks
Gun Creek	4	3	Cordova	255	$ 2000	
Haines	1	3	Ketchikan	330	2500	
Haycock	1-G	1	Koyuk	25	2000	
Healy	5	1	Seward	285	1500	
Homer	2-B	3	Anchorage	140	2000	
Iliamna	2-C	4	Anchorage	205	30000	
Johnson River	1	3	Ketchikan	840	3000	
Juneau	1	2	Ketchikan	260	15000	
Kaltag	1-F	3	Nulato	35	3500	
Kasilof	2-B	1	Anchorage	80	2000	
Kenai	2-B	1	Anchorage	70	2000	
Ketchikan	1	1	Nome	1525	—	Water Landing Only
Kiwalik	1-G	1	Koyuk	85	2000	
Kobuk	1-JA	1	Nome	310	3000	
Koggiung	2-C	3	Anchorage	295	4000	
Kotzebue	1-G	1	Koyuk	150	3000	
Koyuk	1	2	Ketchikan	1385	35000	
Koyukuk Stn.	1-B	3	Ruby	70	3500	
Livengood	1-D	1	Fairbanks	55	2000	
Louden	1	3	Ketchikan	1250	3500	
Lucky Shot	2-A	1	Anchorage	50	2000	
Manley Hot Springs	1	3	Ketchikan	1060	5000	
Marshall	3-B	1	Bethel	75	3000	
Matanuska	2	3	Ketchikan	990	3000	
McCarthy	4-A	1	Cordova	145	2000	
McGrath	2	2	Ketchikan	1255	20000	
McKinley	5	1	Seward	275	3500	
Medfra	3	3	Ketchikan	1220	3000	
Minchumina	3	1	Ketchikan	1110	3000	
Moose Creek	2	1	Ketchikan	970	2500	
Moses Point	1-B	1	Koyuk	20	3500	
Momtrak	2-C	3	Anchorage	470	5000	
Nabesna	2	1	Ketchikan	765	1000	
Naknek	2-CA	3	Anchorage	320	4000	
Napamute	3	3	Ketchikan	1425	3500	
Nelchina	2	3	Ketchikan	895	4500	
Nenana	3	2	Ketchikan	1015	35000	
Ninilchik	2-B	1	Anchorage	105	2000	
Nome	1	2	Ketchikan	1525	25000	
North Fork	3	3	Ketchikan	1175	5000	
Nulato	1	2	Ketchikan	1295	35000	
Ophir	2-D	1	Anchorage	270	3000	
Palmer Creek	1-B	1	Fairbanks	65	3000	
Paxson	4	3	Cordova	225	5000	
Petersburg	1	1	Ketchikan	130	—	Water Landing Only

Name	Route No.	Item No.		Miles From	Est.Cost to Complete	Remarks
Pilgrim Springs	1-J	1	Nome	45	$ 2000	
Poorman	2-D		Anchorage	340	5000	
Portage	1	3	Ketchikan	1335	5000	
Rainy Pass	2	3	Ketchikan	1145	5000	
Reindeer	2	3	Ketchikan	1310	3500	
Ruby	1	1	Ketchikan	1215	3000	
Saint Michael	1-F	3	Nulato	155	5500	
Salcha	1	3	Ketchikan	930	3500	
Seldovia	2-3	3	Anchorage	155	10000	
Seward	5	2	Fairbanks	375	25000	
Skagway	1	1	Ketchikan	350	5000	
Skwentna	2	4	Ketchikan	1100	37000	
Solomon	1	1	Ketchikan	1495	2000	
South Fork	2	4	Ketchikan	1180	37000	
Spencer	5	3	Seward	45	2000	
Steel Creek	1-A	3	Ketchikan	885	4000	
Susitna	2	1	Ketchikan	1055	2000	
Takotna	2	1	Ketchikan	1270	2200	
Talkeetna	2	4	Seward	165	30000	
Tanana	1	2	Ketchikan	1105	15000	
Tanana Crossing	1	2	Ketchikan	795	10000	
Telida	3-A	1	Fairbanks	195	3000	
Teller	1-K	1	Nome	65	2000	
Tetlin	1	3	Ketchikan	760	3500	
Thompson Pass	4	3	Cordova	80	3000	
Tolovana	1	3	Ketchikan	1030	3500	
Tonsina	4	1	Cordova	125	2000	
Ugashik	2-CA	3	Anchorage	400	5000	
Unalakleet	2	1	Ketchikan	1475	2500	
Valdez	4	1	Cordova	60	10000	
Valdez Creek	5-B	1	Seward	305	3000	
Wales	1-X	1	Ketchikan	120	2000	
Wasilla	2-A	1	Anchorage	30	2000	
White Mountain	1	3	Ketchikan	1455	5000	
Whitney	2	3	Ketchikan	1015	2000	
Willow	2	3	Seward	130	3000	
Wiseman	1-D	1	Fairbanks	195	2000	
Wrangell	1	1	Ketchikan	85	—	Water Landing Only
Total					$905,000	

NOTES: Item numbers are 1, 2, 3, and 4 and Designate Following:

1 - Existing fields to be improved
2 - Existing fields to be made Class "A"
3 - Emergency fields to be built
4 - Class "A" fields to be built

Sterling to Hall, November 16, 1934, ARC, box 65433, R. G. 30, Federal Records Center, Seattle, Washington.

Appendix I

Alaskan Roads as of September 7, 1949

Through Roads

	Miles
Richardson Highway	365
Glenn Highway	189
Tok Cutoff	136
Alaska Highway	203
Haines Highway	41
Total	**934**

Feeder Roads
Connected with the Through Road System

Steese Highway	162
Elliott Highway	71
Edgerton Cutoff	39
Anchorage-Potter	11
Alaska Highway-Fortymile-Eagle	57
Fairbanks-College	5
Anchorage-Lake Spenard	3
Circle Hot Springs	8
Total	**362** [sic]

Feeder Roads
Not Connected with the Through Road System

Ruby-Poorman	56
Nome-Solomon	33
Kenai Lake-Homer	81
Mt. McKinley Park Road	96
Total	**266**

Local Roads
Connected with the Through Road System

Nabesna Branch	44
Branch Roads, Richardson Highway	33
Branch Roads, Alaska Highway	7
Branch Roads, Steese Highway	128
Branch Roads, Elliott Highway	16
Anchorage Local Roads	67
Fairbanks Local Roads	48
Palmer Local Roads	197
Branch Roads, Haines Highway	24
Total	**564**

Local Roads
Not Connected with the Through Road System

Nome Local Roads	66
Seward Peninsula Mine Roads	177
Seward Peninsula Tramroad	80
Total	**323**
Takotna Roads	71
Flat Roads	36
Manley Hot Springs Road	48
Branch Roads, Ruby-Pooman	10
Wiseman System	13
Kenai Peninsula Road	49
Roads Connecting with the Alaska Railroad	94
Eagle Roads	32
Jack Wade-Boundary	18
McCarthy Roads	31
Iliamna Roads	28
Dillingham Road	10
Annette Island Road	15
Isolated Roads Connecting with River or Ocean Transportation	83
Total	**861**
TOTAL	**2,981**

Alaska Road Commission, "Six-Year Plan," January 17, 1950, ARC, box 65414, R. G. 30, Federal Records Center, Seattle, Washington.

Appendix J

Status of Alaska Road Commission Road Work in 1956

During the fiscal year the highway system was increased by 50.9 miles; 16.1 miles of feeder roads and 34.8 miles of local roads; 26.2 miles of principal feeder roads were improved to through road standards and reclassified.

Following is a tabulation of the road system as of 1954, 1955, and 1956:

	1954	1955	1956
Through Roads	989.1	972.3	998.5
Feeder Roads	1,213.9	1,244.7	1,234.6
Local Roads:			
From Main Feeders	709.4	739.7	761.3
From Isolated Feeders	237.1	237.2	246.6
Isolated Feeders	332.9	349.6	353.4
Total Local Roads	1,279.4	1,326.5	1,361.3
Totals:			
All Roads	3,482.4	3,543.5	3,594.4
Trails	248.0	248.0	445.0
Total Roads & Trails	3,730.4	3,791.5	4,039.4

Following is a current tabulation of highway system:

Through Roads

Route No.	Name	Length	Winter Maintenance
120	Richardson Highway (Valdez District)	227.3	227.3
130	Richardson Highway (Fairbanks District)	134.9	134.9
132	Fairbanks-International Airport	1.0	1.0
230	Alaska Highway	200.6	200.6
310	Glenn Highway (Anchorage District)	114.7	114.7
310A	Glenn Highway Alternate	7.5	7.5
311	Anchorage 4th Avenue Post Road	1.0	1.0
320	Glenn Highway (Valdez District)	162.2	162.2
330	Glenn Highway (Fairbanks District)	33.4	33.4
410	Seward-Anchorage Highway	36.9	36.9
411	Anchorage-Spenard	3.5	3.5
412	Anchorage-International Airport	3.0	3.0
510	Sterling Highway	10.9	10.9
514	Kenai Spur	14.3	14.3
630	Steese Highway (Fairbanks-Farmers Loop)	2.8	2.8
632	Steese Highway-University	3.8	3.8
950	Haines-Boundary and Spur to Haines	40.7	40.7

Feeder Roads

Route No.	Name	Length	Winter Maintenance
121	Edgerton Cutoff, Willow-Chitina	39.0	39.0
122	Copper River Highway	—	—
231	Northway Junction-Airfield	6.8	6.8
232	Gerstle River Test Site Road (Army)	3.6	3.6
312	Palmer-Matanuska-Wasilla	13.9	13.9
313	Palmer-Wasilla-Willow	30.7	30.7
314	Glenn-Fishhook-Knik	33.6	33.6
321	Slana-Nabesna	35.6	—
331	Taylor Highway	161.0	—
511	Sterling Highway	108.4	108.4
513	North Kenai Roads	16.3	16.3
631	Steese Highway-Farmers Loop-Circle	161.0	30.0
633	University-Ester	6.7	6.7
634	Central-Circle Hot Springs	8.3	—
731	Elliott Highway-Fox to Livengood	68.4	9.0
732	Manley Hot Springs Landing-Eureka	25.7	—
811	Denali Highway (Valdez District)	82.0	—
812	McKinley Park Primary Roads	93.6	—
813	North Park Boundary-Kantishna	4.5	—
821	Denali Highway (Valdez District)	41.9	—
011	Sterling Landing-Ophir	47.0	—
012	Iditarod-Flat	8.7	—
013	Dillingham-Wood River-Kanakanak	14.7	14.7
014	Abbert Road	0.8	0.8
031	Ruby-Long-Poorman	56.5	—
041	Nome-Council	77.1	—
042	Nome-Kougarok	20.8	5.2
043	Seward Peninsula R.R.	58.0	—
044	Nome-Teller	—	—

Local Road Systems

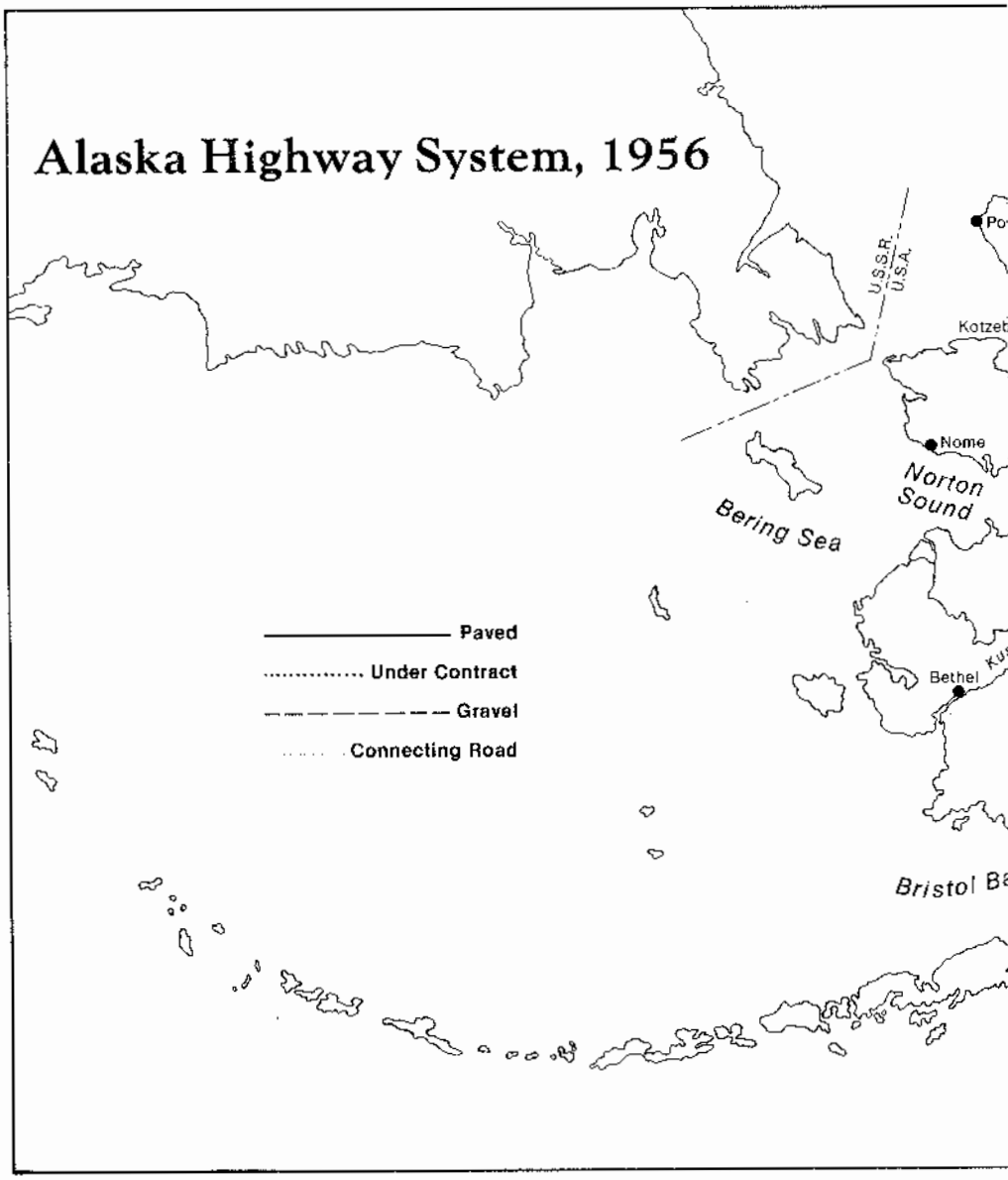
	Total Miles	Winter Maintenance
Anchorage Locals	62.8	62.8
Glenn Highway Locals	91.7	60.7
Matanuska Valley Locals	139.1	80.3
Kenai Peninsula Locals	115.2	101.3
Kuskokwim Locals	68.2	3.0
Kodiak Locals	59.5	59.5
Alaska Railroad Feeder	94.2	19.0
Bristol Bay Locals	25.3	16.5
Iliamna Locals	28.5	—
McCarthy Locals	30.5	—
Richardson Highway Feeder System	84.8	62.9
Fairbanks Locals	37.5	35.5
Steese Highway Feeder System	136.4	35.6
Taylor Highway Feeder System	19.1	1.9
Elliott Highway Feeder System	95.0	—
Manley Hot Springs System	18.0	—
Yukon River Isolated System	31.7	—
Nome System	211.5	9.5
Haines & Skagway Locals	61.8	37.4
Southeast Alaska Roads	36.0	36.0
	1,361.3	621.9

Route No.		Name	Length	Winter Maintenance
010.9	1	Goodnews Bay-Togiak	53.0	53.0
	2	Goodnews Bay-Platinum	9.5	9.5
	3	Takotna-Flat	18.5	18.5
030.7		Wiseman-Porcupine		
040.5	1	Kotzebue-Sheshalik	9.0	9.0
	2	Kotzebue-Noatak	60.0	13.0
	3	Kotzebue-Noorvik-Selawik	95.0	12.0
	4	Golovin-White Mountain	12.0	12.0
	5	Golovin-Moses Point	45.0	6.0
	6	Deering-Candle-Kiwalik	25.0	12.0
	7	St. Michael	5.0	5.0
	8	Teller-Cape Douglas	21.0	12.0
	9	Teller-Igloo Creek	22.0	6.0
	10	Teller-Mission	6.0	6.0
	11	Teller-Lagoon Channel	3.0	3.0
	12	Teller-Mary's Igloo	53.0	53.0

Traffic Statistics

Traffic density studies play an important part in the Commission's planning and programming. Data obtained at 47 permanent traffic count stations for identical periods each year are particularly useful in allocating maintenance funds, and for detecting changes in traffic patterns and characteristics.

Annual Report of the Alaska Road Commission, Fiscal Year 1956, pp. 26-28.


Alaska Highway System, 1956
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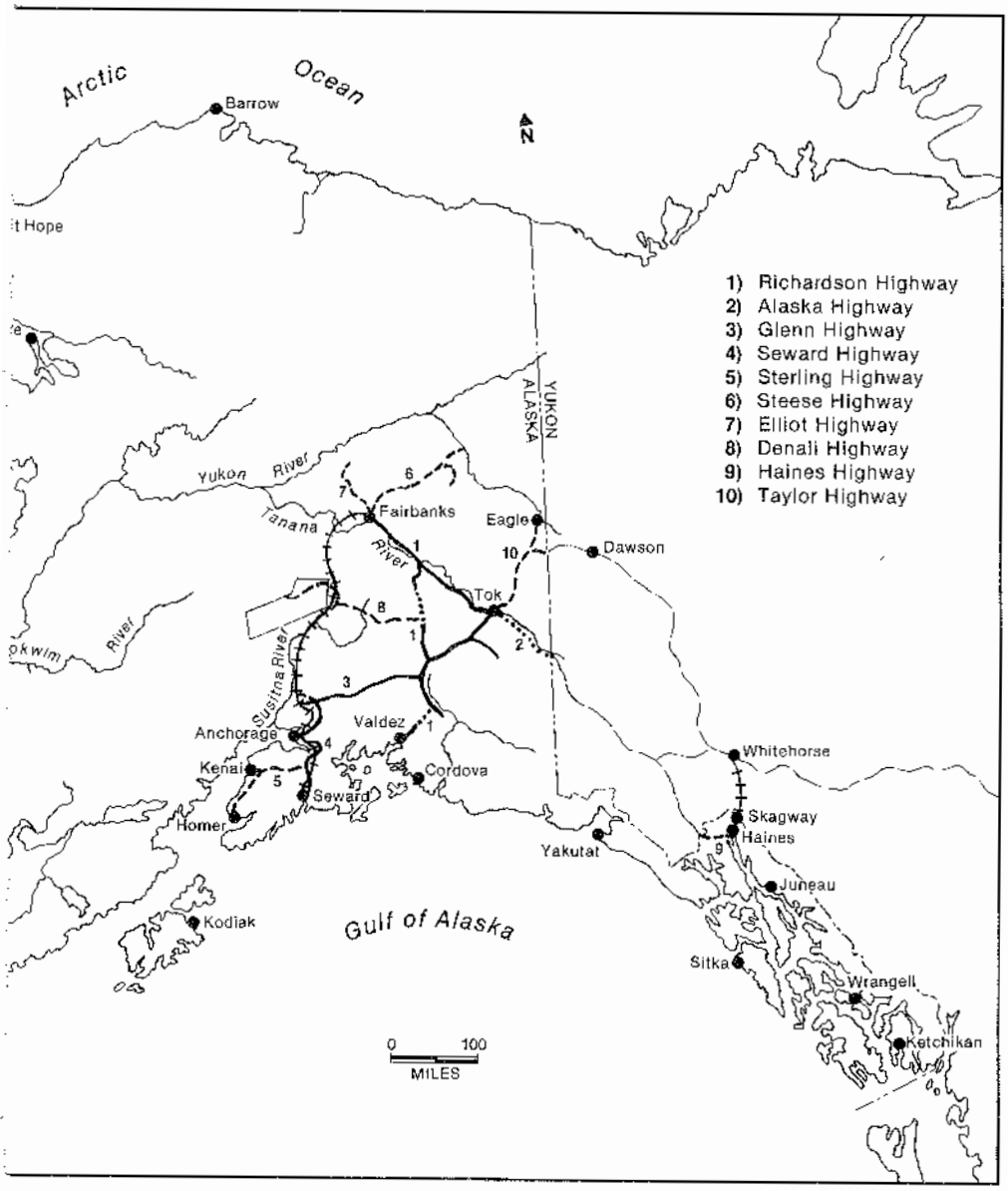
Arctic
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5) Sterling Highway
6) Steese Highway
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8) Denali Highway
9) Haines Highway
10) Taylor Highway
YUKON
ALASKA
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