PROVINCE OF BRITISH COLUMBIA

DEPARTMENT OF COMMERCIAL TRANSPORT

HON. E. C. WESTWOOD, *Minister* A. J. BOWERING, *Deputy Minister*

REPORT OF THE

Department of Commercial Transport

containing the reports on

RAILWAYS, AERIAL TRAMWAYS, PIPE-LINES,
INDUSTRIAL TRANSPORTATION,
and COMMERCIAL VEHICLES

YEAR ENDED DECEMBER 31ST

1960

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in right of the Province of British Columbia.
1961

VICTORIA, B.C., January 27th, 1961.

To Major-General the Honourable GEORGE RANDOLPH PEARKES,
V.C., P.C., C.B., D.S.O., M.C.,
Lieutenant-Governor of the Province of British Columbia.

MAY IT PLEASE YOUR HONOUR:

The undersigned respectfully submits the Annual Report of the Department of Commercial Transport for the year ended December 31st, 1960.

EARLE C. WESTWOOD,
Minister of Commercial Transport.

VICTORIA, B.C., January 27th, 1961.

The Honourable Earle C. Westwood,
Minister of Commercial Transport.

SIR,—I have the honour to submit the Annual Report of the Department of Commercial Transport for the year ended December 31st, 1960.

A. J. BOWERING,
Deputy Minister of Commercial Transport.

Report of the Department of Commercial Transport, 1960

A. J. Bowering, Deputy Minister

INTRODUCTION

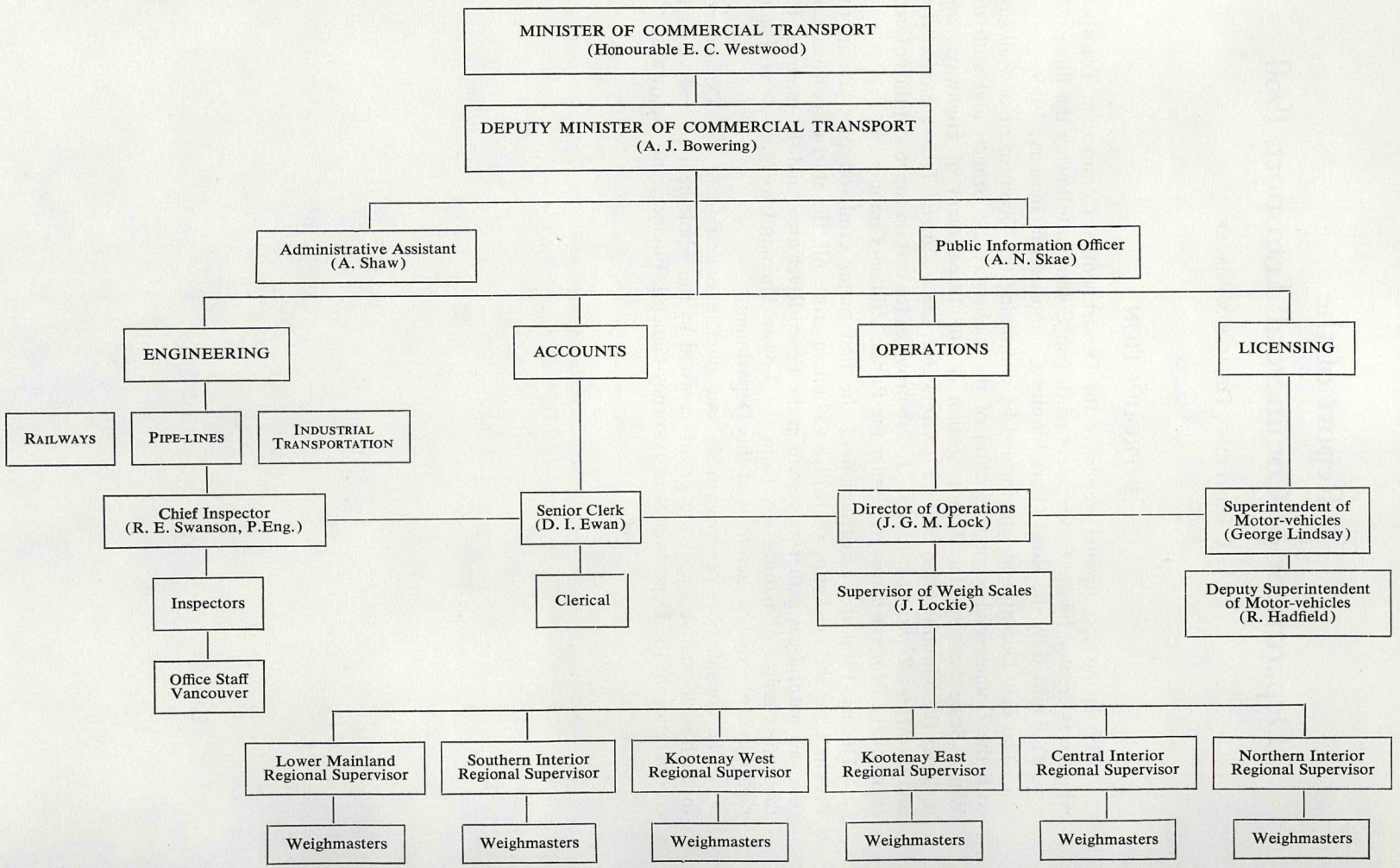
This is the first Annual Report of the Department of Commercial Transport which was created by the Government of British Columbia following the filing of a report submitted by the Road Users Inquiry Commission in January, 1959.

The new Department was formed by combining the Department of Railways with the Commercial Vehicle Section of the motor-vehicle Branch and with the Weigh Scale and Special Permit Section of the Department of Highways, and includes the administration of the *Pipe-lines Act,* the *Industrial Transportation Act,* and the *Mines Rights-of-way Act.* It also provides for certain aspects of the enforcement of the *Motor Carrier Act* under the Public Utilities Commission.

During 1960 the construction of the first major crude-oil pipe-line in the Province for the marketing of British Columbia crude oil, the start of construction of a vast natural-gas gathering system in the Peace River area, and the planning for the transmission of natural gas from the Lower Mainland to Vancouver Island highlighted the diverse activities of this Department.

The considerable progress made and efficient operation of this Department through its formative stages was greatly assisted by the whole-hearted and valuable co-operation of the Departments of Attorney-General, Finance, and Highways.

ORGANIZATION CHART



ENGINEERING BRANCH

(Railways, Aerial Tramways, Pipe-lines, and Industrial Transportation)

R. E. SWANSON, P.ENG., CHIEF INSPECTOR

RAILWAYS

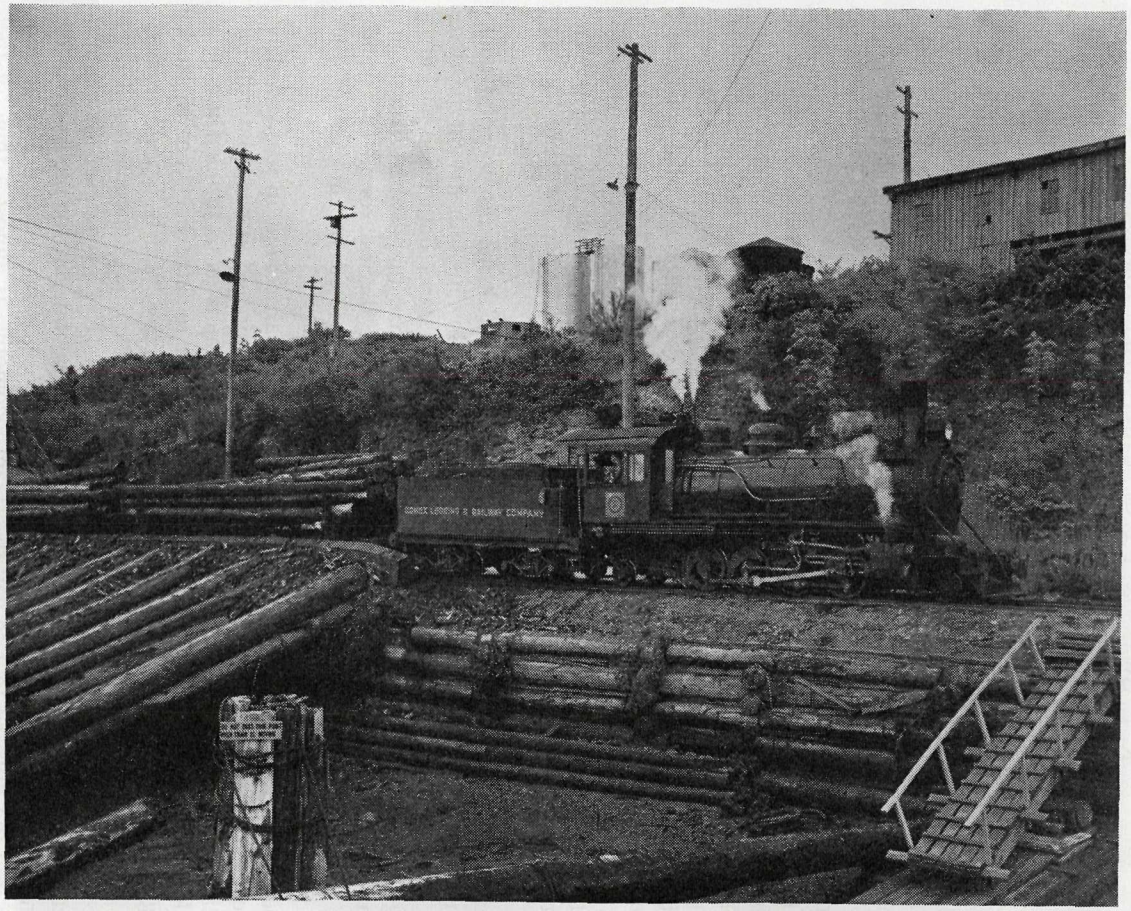
When the Department of Railways was absorbed by the Department of Commercial Transport in 1959, it was a case of the newest department inheriting one of the oldest departments of the Provincial Government. The inheritance was a rich one, for it included the files and records of one of the most colourful periods in British Columbia's history—the introduction and development of railroading in the economic life of the Province.

Although the *Railway Act* was passed in 1890, it wasn't until the appointment of the first Minister of Railways in 1911 that the Government was able to administer to the needs of a rapidly expanding railway industry. Following the construction of the first transcontinental line, and up to and including the First World War, British Columbia experienced a speculative boom in railways and, although many of these early railways are still operating to-day, a great number of the companies that were incorporated in those times planned fantastic schemes that never materialized beyond the drawing-boards. Not a few were based on visions of wealth and power generated by the vast resources of the Province that appeared to be there for the asking.

Railroading in British Columbia had its beginning with the discovery of coal on Vancouver Island and with the early onslaught of the logging industry on the rich forests of the Province. There is uncertainty about the exact date when the first logging-railway was introduced, but it has been established that Robert Dunsmuir began using a locomotive to haul coal for the Canadian Collieries around 1880, and in 1883 the Wellington Colliery Railroad was incorporated by an Act of the Legislature.

Because extensive logging operations were being carried out in many widely scattered areas both on Vancouver Island and on the Mainland, it has been difficult for authorities to judge the authenticity of the many claims as to the first use of a steam-locomotive in the woods. A locomotive is said to have been put to work hauling logs at Chemainus in 1900, while the legendary "Curly," a diminutive engine which stands to-day as a relic in Exhibition Park in Vancouver, B.C., is believed to have been working in the woods as early as 1894. Whatever the claims, the fact remains that logging-railways virtually ruled the industry for the first half of the century. The decline of logging-railways came as logging receded farther and farther into the hills, so that to-day the steam-locomotive is almost a thing of the past and the more versatile rubber-tired logging-truck is now used almost exclusively. The last load of Wellington coal was hauled by rail in 1953, to end an era of railroading for Nanaimo. However, there is still hope for the few remaining logging-railways to continue, but, instead of the steam-locomotive, the less romantic but more powerful and more economic diesel engine will be at the fore.

The records of the old Department of Railways show that prior to 1911 as many as 179 railway companies were registered to operate in British Columbia.



Half a century of steam locomotion ended for the Comox Logging & Railway Company when this logging-locomotive was retired in December, 1960, to make way for diesel locomotion. The "locie" pictured here is one of two that were withdrawn from service by the company to mark the gradual passing of an era in British Columbia's forest industry.

Most of these are now operated as part of either the Canadian Pacific or Canadian National Railway systems; only a few are in operation serving the present economy of the Province. Included among some of the grandiose plans for development were at least two companies which planned to construct railways from Prince George north-east to the British Columbia-Yukon Boundary at Teslin Lake. The earliest of these proposed railways was filed with the Department in 1910, while the other was registered in 1942. It is significant that both proposals followed almost exactly the route of the proposed Pacific Northern Railway.

While it is true that many of the small logging-railways converted to truck operations, it is a fact that the amount of tonnage moving by rail to-day is greater than it has ever been before. The extension of the Pacific Great Eastern Railway to provide a communications link between the Lower Mainland and the Peace River was an extremely important advancement in the history of British Columbia railroading. The British Columbia Electric Railway Company Limited has also played an important role in the development of the railway industry in the Province, and it continues to operate many miles of track in the Lower Fraser Valley. A number of the larger logging operations still rely on railways for the long transportation of logs, the most notable of these being the Canadian Forest Products operation at Englewood, where 75 miles of main line are maintained.

Inspectors from the Engineering Branch of the Department are responsible for approving all engineering plans and specifications as to construction and operation of railways. All plans and specifications of locomotives, rolling-stock, boilers, pressure vessels, bridges, tunnels, structures, communications, telegraph, radio, etc., also require approval of the Inspectors. In addition, all operating procedures, such as dispatching and operation of trains with regard to public safety, must be certified correct.

In the field, inspections are made with regard to all rail operations within the Province, including the inspection of right-of-way, ballast, bridges, ground and soil conditions, drainage, farm crossings, highway crossings, pipe-line crossings, overhead crossings, wire crossings, track conditions, curvature alignment, super elevation, switches, road signals, and dispatching.

Operating personnel certified by Inspectors include locomotive engineers, conductors, power-car operators, crane operators, and dispatchers. Certificates of competency signed by the Chief Inspector and the Minister are issued to each successful examinee.

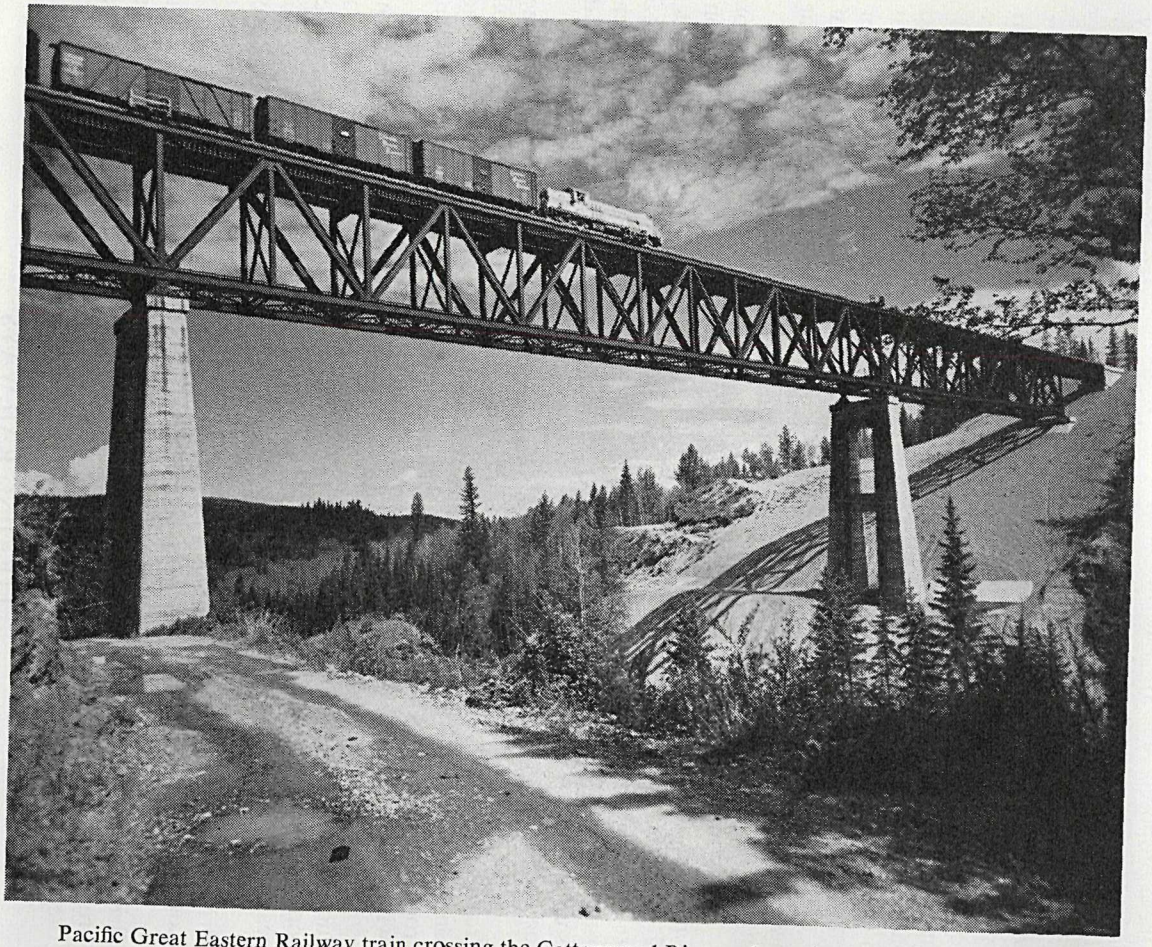
Principal railways inspected are as follows: Pacific Great Eastern Railway, British Columbia Electric Railway, Canadian Forest Products Limited, and Comox Logging & Railway Company.

In addition to the above railways, the engineers inspect all the railways in British Columbia which are under the Federal Board of Transport with regard to fire inspection, and each Inspector has been appointed as a Federal Inspector under the Federal Act in addition to being an Inspector under the Provincial Act.

LOGGING-RAILWAYS

Canadian Forest Products Limited

The logging-railway of Canadian Forest Products Limited in the Nimpkish and Englewood areas rates as a classic example of how railway and truck logging may be integrated into a smoothly functioning, highly efficient operation. Three years ago the railway was extended to Nimpkish Lake from Beaver Cove so that logs could be railroaded from Vernon Lake, where they are loaded, to Beaver Cove, a



Pacific Great Eastern Railway train crossing the Cottonwood River a short distance north of Quesnel.

distance of about 60 miles. The railway operation of this integrated system uses a considerable number of diesel-electric locomotives, as well as rail cars for the transportation of personnel. The dispatch system makes use of both microwave radio-telephone and land telephone. During the year, inspections were made of all phases of this railway-trucking system in the area, where the company maintains a high standard of safety.

The following is the report of the 1960 inspection by the Department's Inspector:—

Inspecting Engineer's Report

W. F. THOMAS, INSPECTOR

During the period November 3rd to 9th, 1960, an inspection was made of the railway installation and equipment owned and operated by the above company at the Englewood Division.

Annual hydrostatic tests were applied to steam-locomotives 115 and 117, and certificates issued with defects noted.

The boiler on locomotive No. 117 is due for internal and external inspections. The dome cover and stand-pipe were removed in order to gain access to the boiler to make an inspection above the tubes. It is anticipated the company will request an extension of the internal and external inspections, and upon receipt of the request an extension may be granted due to the favourable condition of the boiler at this time; however, should defects develop which may require another inspection before the expiration of the extension, the Department must be notified.

Rail-cars 121, 122, 124, 125, 126, 129, and 130 were inspected and reservoirs tested.

Generally, the equipment is being very well maintained.

One conductor, one diesel-electric engineer, and two truck-drivers were examined and certified according to their qualifications.

The track and bridges between Beaver Cove and Vernon Lake camp were inspected and found to be in good condition.

The following conditions were noted:—

Nimpkish Yard and Old Lake Dump Track: Renew packing missing from frogs and guard-rails.

Tsultan Bridge: Ties moving and some require renewal.

Halfway Island Creek Bridge: Renew broken ties.

Kinman Creek Bridge: Shim cap No. 1 bent. Inspected under load.

Woodengle Creek: Grillage sloughing bent No. 14. Renew No. 1 bent and attention required No. 2 bent. Slow order of 6 miles per hour imposed until repair completed. Signs to be installed noting speed restriction.

An extensive inspection is being carried out by the company engineers of all railway and logging-road bridges.

The Camp "A" siding transfer machine was inspected and found to be in good operating condition and well maintained. This machine is equipped with a Cat. D-1700 200-horsepower engine in conjunction with a Skaget BX 200 winch equipped with a thirty-car-capacity spotting-drum. All controls are air-operated, supplied from a 25-c.f.m. Curtis compressor at 160 p.s.i. The air-receiver was not tested at this inspection.

An invitation was accepted to attend the camp safety rally, which was well represented by members of all phases of the operation. The writer gave a short talk on railway and truck safety, togeter with a graphic demonstration of braking power as applied to logging-trucks.

Comox Logging & Railway Company

The Comox Logging & Railway Company is another example where integration of railway and truck logging has resulted in a highly efficient operation. Logging-trucks haul from the woods and unload in the Nanaimo Lakes, where the logs are sorted and loaded on to specially constructed flat cars. At this operation—until recently one of the last to employ a steam-locomotive—a number of diesel-electric locomotives carry out the long-distance hauling. Various inspections of the operation were conducted by the Engineering Branch during the year.

The 1960 inspection report on this railway follows:—

Inspecting Engineer's Report

W. F. Thomas, Inspector

On October 13th, 1960, an inspection was made of the railway and equipment owned and operated by the above company between Ladysmith and Nanaimo Lakes.

Locomotives 11 and 16 were hydrostatically tested, internally inspected above tubes, and certificates issued with defects noted.

The boilers of both locomotives are due for internal and external inspections, and the company intends to apply for extensions. In view of the favourable condition of both the boilers, it will be in order to grant the extensions, providing defects do not develop before the next annual inspection, in which case the Department is to be notified.

Rail cars 102, 104, gas switcher 107, and unloader 3 were inspected, reservoirs tested, and certificates issued.

The track and bridges between Ladysmith and Nanaimo Lakes were inspected and generally are in good condition. Twelve thousand ties were renewed since the last inspection.

Ladysmith Yard and Dump: Renew packing missing from guard-rails and frogs.

Haslam Creek Bridge: Redecked in 1960. Caps require shimming at north end.

Nanaimo River Bridge: Condition good. Redecked in 1960.

MacDonald Curve: Renew rail on outside curve. Ball of rail getting thin. Next curve north is in same condition.

Boulder Creek Bridge: Condition good.

Deadwood Creek Bridge: Condition good.

Nanaimo Lakes Yard: Renew packing missing from guard-rails and frogs.

It was noted that locomotives 11 and 16 were being operated with boiler test-cocks either plugged or frozen, which would indicate that the engine crews are not testing the water-level in the boiler by use of the test-cocks. This is to be done frequently—daily during the operation of the boiler—and the crews notified to this effect.

MacMillan, Bloedel and Powell River Limited

MacMillan, Bloedel and Powell River Limited make use of three railway systems to haul logs between Nanaimo River and Chemainus. Logs are loaded at Nanaimo River and transported over the Comox Logging & Railway Company to Ladysmith, where an interchange takes place with the Esquimalt & Nanaimo Railway, and the logs are taken to Chemainus, where the company operates its own terminal railway to handle the sawmill and log-dump. This operation was inspected a number of times during the year.

MINING-RAILWAYS

Mining-railways inspected each year by Department engineers include the Sullivan mine at Kimberley and the Consolidated Mining and Smelting Company at Trail, each of which operate narrow-gauge lines. The Sullivan mine maintains several miles of track between the mouth of the mine and the tipple at Kimberley, on which electric locomotives perform the work. The railway is in excellent condition, and because the company is very safety-conscious, no serious accidents have been reported for several years.

The tramming operation at Trail is also in good condition. All motormen are certified by the Department, which has assisted in the past to promote safety measures on the line.

KITIMAT

The Aluminum Company of Canada operates a terminal railway at Kitimat, and this operation was duly checked. Problems of safety that were troublesome several years ago have now disappeared.

STEEL-MILLS

A number of steel-mills in the Vancouver area which own and operate their own trackage in and around the plants were inspected during 1960. The boilers of locomotive cranes were hydrostatically tested, and certificates were issued to operating engineers following examination.

PULP-MILLS

The railway serving the pulp-mill at Crofton is now well established, with a fine record of safety behind it. The company operates a diesel-electric locomotive over a system that serves the mill and barge-slip, and which is interconnected with the Esquimalt & Nanaimo Railway.

Inspections were also carried out at MacMillan, Bloedel and Powell River pulp-mill operations at Port Alberni and at Harmac near Nanaimo. Diesel-electric locomotives and rolling-stock at both mills were inspected and certified. A similar inspection took place at Elk Falls Company Limited's mill at Duncan Bay near Campbell River.

The barge-slip, trackage, and wharfing facilities, as well as a diesel-electric locomotive, all in operation at the Canadian Industries Limited plant on James Island, were inspected, and the personnel examined and instructed in railway safety.

EXHIBITION RAILWAYS

Once again it was the Department's pleasure to inspect the antique narrow-gauge railway operated for the enjoyment of railway enthusiasts by Mr. G. Wellburn at Deerholme near Duncan. Two 15-ton steam-locomotives, rolling-stock, speeders, and other historical railway equipment are maintained on the 3-foot line. The locomotives were given hydrostatic tests and certified, and the whole operation was checked thoroughly in the interests of public safety.

Also inspected was the miniature railway operated in Stanley Park in Vancouver by the Vancouver Parks Board. The miniature boiler, which carries 150 pounds pressure per square inch, was inspected and certified as a public safety measure.

SAFETY TROPHY

Since 1952 the Department has awarded a safety trophy to the logging-railway which has operated during the year with the best record of safety. This award has been won every year since 1957 by the Comox Logging & Railway Company. Presentation of the trophy is accompanied by a brief ceremony attended by company and Department representatives.

Annual inspection reports and statistical information relating to railway operations follow.

B.C. ELECTRIC RAILWAY MAIN LINE

Inspecting Engineer's Report

J. H. Carmichael, Inspector

On December 21st, 1960, the general annual inspection was made of the above company's District 3 main line from Mile 0, New Westminster, to Mile 62.92, Chilliwack, B.C. The inspection was made by track motor in company with Mr. L. McLeod, Roadmaster.

In general, the line is in excellent condition and well maintained. Between Huntingdon and New Westminster this line serves as a transfer between the Northern Pacific and Milwaukee Road terminals in Huntingdon and the Canadian Pacific Railway, Canadian National Railway, and Pacific Great Eastern Railway in Vancouver. This traffic is handled by seven diesel-electric locomotives, maintained and serviced at the B.C. Electric maintenance shops in New Westminster.

The following items were noted during the inspection:—

All passing tracks and spurs were found in good order.

Sidings are protected by locked derails where down grade to main line.

The main line has been laid with 85-pound rail throughout.

Level crossings are in good order with well-maintained crossing signs.

Automatic signals installed at King George Highway, Scott Road, and the new Trans-Canada Highway near Chilliwack were found in good operating condition.

It was noted that the signal lights on the new Trans-Canada Highway crossing on the west approach were not aligned properly toward approaching highway vehicles. This is being attended to immediately.

The steel bridge over the Vedder River and all wooden trestles are in good condition.

Track-oilers installed to reduce flange and rail wear are showing good results.

Fractured rock above the right-of-way at mileage 54 has been blasted clear.

All overpass trestles have been raised to give the track standard clearance over the roads concerned.

The repair-shops at New Westminster were inspected, and safety regulations were up to standard and good housekeeping was very evident.

PACIFIC GREAT EASTERN RAILWAY

Inspecting Engineer's Report

R. E. Swanson, P.Eng., Inspecting Engineer

During 1960 various operational phases of the Pacific Great Eastern Railway from North Vancouver to Fort St. John and to Dawson Creek were inspected. These inspections included road-bed, train operation, dispatch and communications, sta-

tion facilities, rolling-stock, shop facilities, and locomotives. With respect to the maintenance-of-way operation of the company, certain data were supplied by the office of the chief engineer of the Pacific Great Eastern Railway Company.

On November 26th, 27th, 28th, and 29th, 1960, the final annual inspection of the road-bed and railway maintenance was made. The chief engineer and other company officials were in attendance during the inspection. The trip was made from Squamish to Dawson Creek and to Fort St. John.

New Rail Re-lay Programme—Inspection

During the inspection it was noted that in 1959 25 miles of old 60-pound rail was replaced by new 85-pound rail between Mile 320.15 and Mile 344.90 on the Prince George Subdivision.

It is also noted that approximately 41 miles of 60-pound rail requires to be renewed between the Two Mile Flat, Quesnel, Mile 386.9 and Mile 344.7.

The rail re-lay programme, replacing 60-pound rail with 80-pound rail, which was inaugurated in 1948, is now complete with the exception of the above-noted mileages. It is also noted that considerable rail on the branch line between Chetwynd and Dawson Creek is of the old 60-pound re-lay quality; however, traffic on this branch line at present does not warrant the installation of heavier rail.

Rail wear is noticeable on Cheakamus Hill north of Squamish. In this regard some of the rail on the curves requires to be either turned or renewed in the near future. With regard to rail renewal on the Squamish Hill, it is recommended that a programme should be set up whereby 100-pound rail or heavier will replace the present 85-pound rail on the Pavilion Hill and the Squamish Subdivision.

Tie Renewals—Inspection

Inspection revealed that a total of 58,000 untreated and 36,000 treated track ties were renewed during 1959, with 67,000 treated and 27,000 untreated ties in 1960, between North Vancouver and Prince George. The tie programme provided for the major portion of replacements to be of treated ties; however, it was pointed out to the Inspectors that it was not possible to obtain treated ties and the number of treated ties was substantially reduced.

Ballast Programme—Inspection

A total of 126 miles of main-line track was ballasted with pit-run gravel during 1959, with 56.5 miles in 1960.

Eleven sidings were ballasted on the Squamish and Lillooet Subdivisions during 1959 and 1960.

New Bridges—Inspection

1. The replacement of the trestles at Cuisson Creek, Mile 356.3, and Australian Creek, Mile 364.3, was completed during 1960. During the year both trestles were constructed on new alignments parallel to and approximtaely 35 feet away from the existing old trestles, and creosoted timber was used.

2. Two minor timber trestles were rebuilt in kind by railway company forces at Mile 95.0 and Mile 95.4.

3. The pile-and-timber trestle partially destroyed by fire at Mile 185.3 was replaced with a fill-and-timber crib.

4. The highway deck on the Peace River Bridge was removed and the railway bridge deck rehabilitated by Defence Construction Ltd. after opening of the new highway bridge over the Peace River to vehicular traffic.

5. Final painting of the steel superstructure of the Peace River Bridge was carried out by contract to West Coast Painting Co. Ltd., of Vancouver, after removal of the highway deck.

Bridge and Building Maintenance

Bridge and building maintenance work was carried out over the entire line by seven B. and B. gangs, a water-service gang, and a paint gang. The following is a summary of the various projects completed by the end of 1960 and inspected: Seventy-eight bridges repaired and maintained; five small bridges on Squamish Subdivision rebuilt; six trestles north of Prince George extended one or two bents each and protection piling driven; two stockyards constructed (Dawson Creek and Fort St. John); three timber end- and side-unloading ramps constructed; one industrial side-loading ramp at Prince George.

Maintenance was carried out on section-houses, bunk-houses, stations, mechanical department buildings, and freight-sheds at various locations.

Painting of approximately fifty-five individual buildings along the line between North Vancouver and Prince George was completed by the end of 1960.

Fencing

Nine miles of new fencing was constructed during 1959 and 31 miles during 1960 in areas where it was most urgently required to eliminate the hazard of live stock on the right-of-way. Most of the fencing was carried out in the Graham and Wright areas, where there is the largest incidence of accidents to cattle on the right-of-way.

Construction of Sidings and Inspection of Same

The following sidings and tracks were constructed and inspected during 1960:—

(1) Railway company trackage:

45-car capacity yard track, North Vancouver.
No. 1 siding, Lillooet, extended from 41-car to 119-car capacity.
No. 1 siding, Prince George, extended and cross-overs installed to provide two tracks of 116-car and 127-car capacity.
Connection of east end of interchange track to C.N.R. main line at Prince George.
No. 2 track at Septimus—60-car capacity.

(2) Private-trader trackage:

McKeen & Wilson, North Vancouver.
Vancouver Wharves, North Vancouver.
Commonwealth Forest Industries Limited, Mile 65.7.
L. E. Talbot, Pemberton.
Richmond Plywoods Company Limited, Pemberton.
Le Blanc & Pierce & Son Limited, Birken.
Blackwater Timber Company, Devine.
Imperial Oil, Lillooet.
Storm Logging, Mile 312.9, Williams Lake.
Dominion Tar & Chemical, Mile 461.0, Prince George.
Pas Lumber Company, Mile 539.7, Anzac.
Fort St. John Lumber Company, Chetwynd.
Trans-Prairie Pipeline Company, Taylor.
Phillips Petroleum, Taylor.
Milwhite Mud & Chemical Limited, Fort St. John.

Inspection of Rock Cuts, Concrete Walls, Drainage, etc.

The programme of widening and daylighting cuts to improve drainage, visibility, and to facilitate snow-clearing, as well as to enable the railway to handle larger loads between North Vancouver and the north, was continued through the year, mainly along Howe Sound and between Cheakamus and Lillooet.

Permanent concrete retaining-walls were constructed along Howe Sound between Mile 19.5 and Mile 24.5. This work was carried out during January and February, as well as in December of 1959.

Drainage was greatly improved over the entire line, with track boxes being installed where suitable and a considerable number of culverts installed and extended, particularly between Mile 482 and Mile 496.5, as well as on the Fort St. John and Dawson Creek Subdivisions.

Inspection of Grade Stabilization

An extensive programme of stabilization of slopes, etc., was under way north of Prince George, being a continuation of the original construction, and south of Prince George, which was mainly concerned with the elimination of sink-holes and slides which have given considerable trouble over the past years.

Weed-control Inspection

Two hundred miles of road-bed, 16 feet wide, were sprayed with a soil sterilant and weed-killer. Those sections of the road-bed between Mile 11.5 and Mile 424, most subject to heavy weed growth, were found to have been sprayed.

Track Maintenance

From the foregoing it is evident that inspection revealed that track conditions continued to be generally improved throughout the line, with the installation of heavier rail, ballasting, tie renewals, weed-control, and ditching of wet cuts and improved drainage.

Railway Crossings

Two sets of automatic protection apparatus with gates were installed at the Alaska Highway rail crossings at Taylor and Dawson Creek. These were in operation by June, 1960, and inspection revealed them to be in order.

Four sets of automatic protection apparatus are ordered for the following crossings: Mile 465.9 and Highway No. 2-97, Mile 253.8 and Cariboo Highway, Mile 38.97 and Squamish Arterial (Cleveland Avenue), and Mile 344.8 and old Cariboo Trail (now Cariboo Highway).

An overpass has been discussed at Mile 253.9 to eliminate the level crossing, but until the overpass is built the installation of automatic protection is necessary in the interest of safety to the travelling public, both on the highway and on the railway. Where overpasses supersede automatic signals, the equipment can be relocated at other dangerous crossings.

Inspection of P.G.E. Communications Department

The southern extension of the microwave system from Clinton to Vancouver was completed for operational use during 1959. The southern system was then connected to the northern system so that the Pacific Great Eastern now has fully operational a system just over 700 miles long involving over sixty voice channels and thirty-five teletype channels.

Train Dispatch—Inspection

The flexibility of operation by the microwave system makes it feasible for train dispatching to be carried out from the head office in Vancouver, and for this purpose the P.G.E. communications department built a dispatch centre in Vancouver. Operation of the dispatch centre puts the dispatchers and the chief dispatcher in one room and provides instant and close contact between all train dispatchers and the executive staff in the head office.

Inspection of Teletype Service

A telegraph system on the Pacific Great Eastern was approved in 1959 by Order in Council, and, as a result, a microwave teletype control centre was established at Vancouver, giving all agents a direct teletype link to head office in Vancouver and, through the head office, to all other agents throughout the P.G.E. line. The equipment necessary to achieve this operation was not available commercially, and a special teletype exchange was designed and built in company shops to provide the facilities required.

Commercial Telegrams.—The design of the new exchange increased the potential capacity of the teletype system by a very large amount, and made possible the commencement of a commercial telegraph service handling telegrams, telegraph money-orders, etc. This service was approved by the Department by Order in Council, Certificate No. 990, which established the tariff. Interchange arrangements were made with Canadian National Telegraphs and a tie-line between the Canadian National exchange in Vancouver and Pacific Great Eastern was installed to speed up handling of interchange traffic. Inspection reveals the service to be satisfactory.

Land Line Obsolete.—Inspection revealed that by the end of October, 1959, the land line had ceased to be used for P.G.E. service, and the number of linemen was reduced.

Inspection of Equipment Communications

During the year all speeders on the line have been equipped with radio. Speeders were not equipped with electric power, but suitable power-supply layouts for this purpose were made available. This is considered a move paramount to safety.

Inspection of Reflector and Relay Stations

In connection with the construction of the microwave system, a total of seven passive reflector-sites has been established on strategic mountain-tops along the route, thereby cutting down the number of active stations by ten and placing existing actives at more favourable locations. The sites chosen have proved efficient and practical, with the exception of that on the Murray Range, where adverse weather conditions were found to exist. A redesign of the path system and transmitter gain to overcome this problem was completed and necessary equipment installed during 1960. Checks by our Inspectors at various points prove the system to be satisfactory.

Inspection of Traffic Department

Revenue car loadings on the Pacific Great Eastern Railway have increased steadily over the past ten years. The increase in 1959 over 1958 is as follows:—

Revenue car loadings, 1959	55,913
Revenue car loadings, 1958	42,690
Increase, 1959 over 1958	13,223

A similar increase is reflected in actual gross ton-miles, as follows:—

Actual gross ton-miles, 1959	966,191,538
Actual gross ton-miles, 1958	823,361,791
Increase, 1959 over 1958	142,829,747

Inspection of Passenger Department (Passengers Carried)

The number of revenue passengers dropped from 166,296 in 1958 to 131,319 in 1959; however, the average passenger journey increased from 88 miles in 1958 to 125 miles in 1959. The decrease in number of passengers is partially attributable to a decline in construction work between Lillooet and Squamish. The increase in both revenue and average journey indicates numerous passengers using through service to the Peace River area. This service was to be augmented by bus service late in 1960.

Conclusion

The over-all condition of the Pacific Great Eastern Railway has improved and facilities have been increased to cope with increasing traffic.

The northern and southern extensions of the railway are now in full operation.

The microwave dispatch and communication system is working efficiently.

The betterment programmes are continuing and will continue through 1961, so that the railway generally is up to the required standards.

Grade level crossings on the railway require study to eliminate, as far as possible, the inherent dangers involved where highways cross railways at grade level.

Railway Crossings on Pacific Great Eastern Railway, North Vancouver to Fort St. John and Dawson Creek, Year Ended December 31st, 1960

Public crossings	131
Private crossings	40
Industrial crossings	68
Farm crossings	83
Pipe-line crossings	12
Pedestrian crossings	9
Others (power-lines, pipe, etc.)	48
Total	391

EQUIPMENT INSPECTIONS DURING 1960

Following is a list of individual inspections carried out by Department engineers:—

Hydrostatic tests applied to boilers	64
Internal and external inspections of boilers	5
Internal-combustion locomotives inspected and certified	31
Air-locomotives hydrostatically tested	9
Electric locomotives inspected and certified	5
Self-powered rail cars inspected and certified	20
Diesel-electric locomotives inspected	91
Air-receivers tested and inspected	10
Railway cars inspected on industrial railways	350
Railway cars inspected on common-carrier railways	150

Miles of railway track inspected	1,980
New diesel-electric locomotives inspected and put in service	4
Second-hand diesel-electric locomotives imported and put in service	3
Aerial tramways inspected and certified	8
Railway conductors examined and certified	6
Power-car operators examined and certified	3
Internal-combustion locomotive engineers examined and certified	11
Locomotive-crane engineers examined and certified	5
Diesel-electric locomotive engineers examined and certificates issued, P.G.E. Railway	6
Diesel-electric locomotive engineers examined and certificates issued, B.C. Electric Railway	4
Motormen examined and certified, Consolidated Mining and Smelting Company of Canada	2
Locomotive engineers examined and certified (total)	28
Accidents reported on P.G.E. Railway	113
Fatal accidents on P.G.E. Railway	----
Accidents reported on B.C. Electric Railway	7
Fatal accidents on B.C. Electric Railway	----
Number of pipe-lines constructed	57
Miles of new pipe-line inspected	654
Accidents investigated on logging and industrial railways	3

SUMMARY OF ACCIDENTS REPORTED, YEAR ENDED DECEMBER 31ST, 1960

	Fatal	Injured	
		Major	Minor
Pacific Great Eastern Railway—			
Passengers	----	----	1
Employees	----	2	101
Other	----	3	6
B.C. Electric Railway Co. Ltd.—			
Passengers	----	----	----
Employees	----	----	6
Other	----	----	3
Industrial railways—			
Employees	----	----	2
Other	----	----	----
Aerial tramways	----	----	----
Locomotive cranes—Employees	----	----	----
Industrial roads—Truck-drivers	1	----	4
Totals	1	5	129

LIST OF RAILWAYS AND SUMMARY OF MILEAGE

INDUSTRIAL RAILWAYS

No. and Owners/Name of Railway	Head Office	Operating	Mileage			Gauge
			Main Track	Sidings, etc.	Total	
1. Aluminum Co. of Canada Ltd.	Montreal	Kitimat	2.9	3.19	6.09	Standard.
2. Arrowhead Wood Preservers Ltd.	Revelstoke	Revelstoke	0.92	.....	0.92	,,
3. B.C. Forest Products Ltd.	Vancouver	Crofton	1.50	2.50	4.00	,,
4. Canada Creosoting Co. Ltd.	Montreal	North Vancouver	.....	0.75	0.75	,,
5. Canada Creosoting Co. Ltd.	Montreal	New Westminster	3.00	3.00	6.00	30″ and standard.
6. Canadian Forest Products Ltd.	Vancouver	Nimpkish Valley	112.20	13.80	126.00	Standard.
7. Canadian Collieries Resources Ltd.	Vancouver	Union Bay	2.00	4.00	6.00	,,
8. Canadian Industries Ltd.	Montreal	James Island	8.25	1.75	10.00	36″ and standard.
9. Columbia Cellulose Co. Ltd.	Montreal	Watson Island, Shames, and Kalum	.....	7.01	7.01	Standard.
10. Comox Logging & Railway Co.	Vancouver	Ladysmith	23.40	5.05	28.45	,,
11. Consolidated Mining & Smelting Co. of Canada Ltd.	Trail	Trail	19.00	.....	19.00	18″.
12. Consolidated Mining & Smelting Co. of Canada Ltd.	Trail	Kimberley	9.00	33.01	42.01	18″, 36″.
13. Crow's Nest Pass Coal Co. Ltd.	Fernie	Michel	1.53	.....	1.53	30″.
14. Hooker Chemicals Ltd.	North Vancouver	North Vancouver	0.10	1.90	2.00	Standard.
15. Hillcrest Lumber Co. Ltd.	Mesachie Lake	Mesachie Lake	6.00	1.50	7.50	,,
16. Howe Sound Transportation Co. Ltd.	Vancouver	Port Mellon	1.00	.....	1.00	,,
17. Elk Falls Co. Ltd.	Vancouver	Duncan Bay	.....	3.00	3.00	,,
18. MacMillan, Bloedel and Powell River Ltd.	Vancouver	Chemainus	1.58	3.81	5.39	,,
19. MacMillan, Bloedel and Powell River Ltd.	Vancouver	Dunsmuir District	1.00	3.10	4.10	,,
20. MacMillan, Bloedel and Powell River Ltd.	Vancouver	Harmac Pulp Division	1.80	.....	1.80	,,
21. MacMillan, Bloedel and Powell River Ltd.	Vancouver	Port Alberni	.....	1.00	1.00	,,
22. MacMillan, Bloedel and Powell River Ltd.	Vancouver	Powell River	1.50	.....	1.50	Narrow.
23. Osborn Bay Wharf Co. Ltd.	Mesachie Lake	Crofton	0.33	.....	0.33	Standard.
24. Pacific Coast Terminals Co. Ltd.	New Westminster	New Westminster	5.20	.....	5.20	,,
25. Phillips Petroleum Co.	Calgary	Taylor	3.05	0.63	3.68	,,
26. Vancouver Wharves Ltd.	Vancouver	North Vancouver	2.00	.....	2.00	,,
27. Vancouver Steel Co. Ltd.	Vancouver	Twigg Island	1.25	.....	1.25	,,
28. Western Forest Industries Ltd.	Honeymoon Bay	Honeymoon Bay	7.00	0.60	7.60	,,
29. Western Plywood (Cariboo) Ltd.	Quesnel	Quesnel	0.95	.....	0.95	,,

COMMON-CARRIER RAILWAYS

30. Pacific Great Eastern Railway	Vancouver	Vancouver to Fort St. John and Dawson Creek	788.60	146.10	934.70	Standard.
31. B.C. Electric Railway Co. Ltd.	Vancouver	New Westminster–Huntingdon–Chilliwack	76.58	25.29	101.87	,,

AERIAL TRAMWAYS

The use of aerial tramways in industry and in the field of recreation as a means of transportation places these facilities under the jurisdiction of the Engineering Branch of the Department. This mode of transportation, which includes

This diesel-powered truck is typical of logging " rigs " that are common in some areas of the Interior of the Province.

ski lifts, such as are in use at various winter resorts throughout the Province, and the industrial aerial tramway at Kemano, is regularly inspected by engineers of the Branch. Safety standards required by the Department of Commercial Transport are such that regulations for aerial-tramway construction in British Columbia have served as a model for many countries in the world. Inquiries regarding specifications have been received from as far afield as New Zealand, and one of the American States has adopted British Columbia standards as a guide in drafting its own regulations.

New tramways constructed and placed in operation in British Columbia since 1958 include the Silver King Tramway at Nelson and the Star Hill Tramway at Kimberley.

The factors involved in the construction of aerial tramways, which must receive prior approval of Department engineers, include the location, the design of the tramway, and all mechanical appurtenances. The type of wire rope to be used is given careful consideration by the inspecting engineer. Field inspection of tramways may be made periodically, but an annual inspection is always carried out. The annual inspection involves the engineer riding the tramway to inspect all parts, including towers, anchors, and fittings. A certificate is then issued, which permits the tramway to continue operations.

Among the tramways regularly inspected are the Aluminum Company of Canada tramway at Kemano, the Dog Mountain Aerial Tramways, Grouse Mountain Resorts Limited, Lifts Limited, Hollyburn Aerial Trams Limited, the Royal Canadian Navy Aerial Tramway at Kamloops, and the Red Mountain Ski Club lift at Rossland. The Red Mountain Ski Club lift, one of the highest ski lifts on the continent, which was approved by Department Inspectors in 1953, is typical of the class of lift found at resorts. It is 1,400 feet in vertical height, 3,800 feet long, and carries seventy skiers at a time, from the lodge to the summit, in about ten minutes at a rate of over 200 passengers per hour. Unless such means of transportation are subject to Government inspection so that safety standards are enforced and mechanical efficiency maintained, it can be readily seen where the travelling public could be exposed to danger.

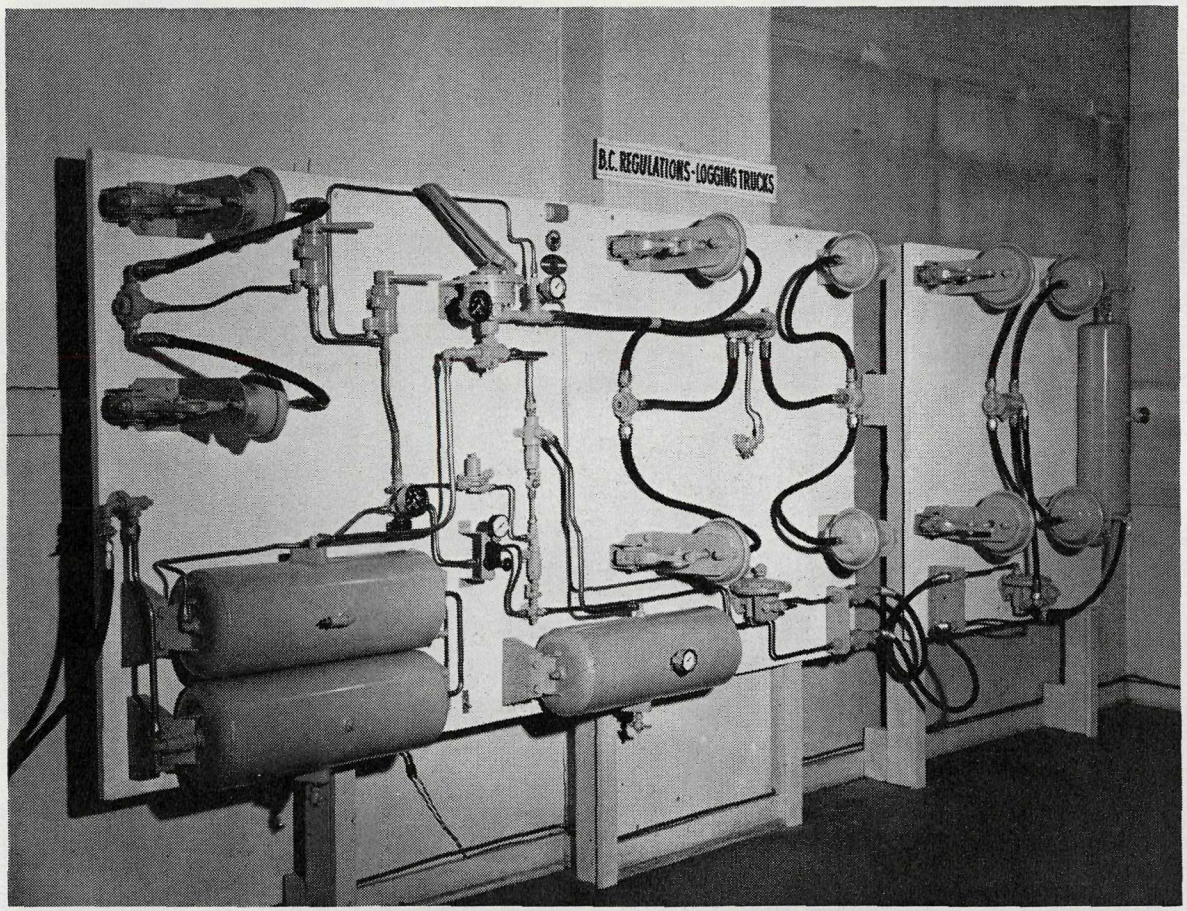
No serious accidents were reported on aerial tramways during 1960, and it appears that this type of uphill transportation is gaining wide public acceptance. It is understood that several large aerial-tramway installations are planned for future development in conjunction with the creation of parks and recreational playgrounds that are being made available for public use.

INDUSTRIAL TRANSPORTATION

In the administration of the *Industrial Transportation Act,* the air-brake systems of a total of 648 heavy-duty logging-trucks were checked by the Engineering Branch in 1960, and 105 new and reconditioned trucks were certified before being put into service.

The Department's administration of the regulations governing the installation and maintenance of air-brake systems in logging-trucks and other vehicles which operate on industrial roads has been credited with saving not only the equipment, but the lives of operators as well, when partial failures of braking systems have occurred.

Because they are safer and more efficient, air-brakes are compulsory on industrial roads, replacing vacuum and hydraulic brakes, which cannot cope safely with the heavy loads transported by logging-trucks.



A section of the air-brake training school operated by the Department of Commercial Transport at Vancouver. This is a working model of an air-brake system as would be applied to a truck with trailer.

Department Inspectors conduct classes in all parts of the Province teaching safety and training drivers in the proper use of air-brakes and other safety devices used in transportation. In co-operation with the Department of Education, classes are held at the Vocational Training School in Nanaimo and at Vancouver, and, following examinations, successful operators receive a certificate of competency signed by the Minister. Three mobile units, equipped with complete braking systems mounted on panels, are maintained by the Department so that drivers in the Interior of the Province may receive the benefit of the air-brake training classes. Classes are also conducted for the benefit of the Royal Canadian Mounted Police so that its officers may be kept up to date on air-brake requirements for heavy-duty trucks. Many trucking companies who operate equipment on public highways only have come to recognize the value of these classes and require their drivers to attend air-brake schools in order to obtain a certificate.

During the year a total of 482 truck-drivers was certified in the proper use of air-brakes, bringing the total number examined since the classes were instituted to well over 5,000.

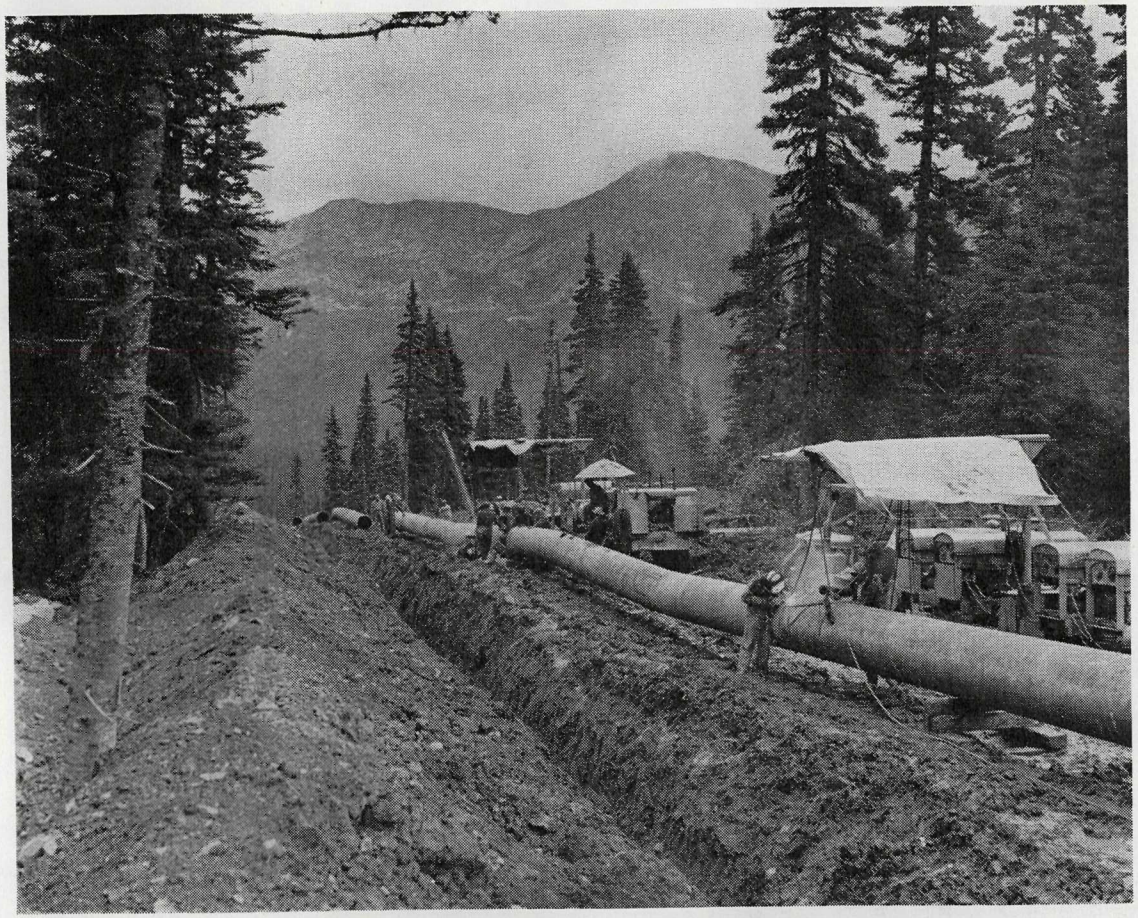
The Engineering Branch is also responsible for inspecting industrial roads to ensure that they can safely accommodate heavy-duty trucking. This involves the inspection of bridges and other structures.

The following is a list of the inspections carried out by the inspecting engineers under the *Industrial Transportation Act:*—

Logging-trucks inspected	648
Number of new logging-trucks put into service	105
Air-brake examinations conducted	520
Logging-truck operators certified	482
Royal Canadian Mounted Police examined and certified in air-brake operation	3
Air-brake lecture classes held in Vancouver for students of Vocational Curriculum Development Division, Burnaby	3
Students examined	27
Air-brake lecture classes held for students of Dominion-Provincial Vocational School, Nanaimo	4
Students examined	59
Lecture class held at Haney Correctional Institution on air-brakes	1
Students examined	11
Lecture classes held for mechanics for Department of Education	32
Mechanics examined and certified for Department of Education	41
Air-brake lecture class held for Mining Inspectors, B.C. Government	1
Accidents investigated on logging-truck roads	5
Fatal accidents on logging-truck roads	1

AIR-BRAKE LECTURES AND EXAMINATIONS HELD IN THE FIELD

	Number Attending	Number Examined
Port Alberni	48	29
Texada Island	26	14
Colwood	36	26
Duncan	52	31
Englewood	----	18
Golden	46	28
Cranbrook	----	8



Pipe-line construction in British Columbia often involves the traversing of rugged terrain, as this scene in the mountains of the Coast Range depicts.

AIR-BRAKE LECTURES AND EXAMINATIONS HELD IN THE FIELD—*Continued*

	Number Attending	Number Examined
Fernie	---	7
Creston	21	12
Port McNeill	---	10
Nakusp	26	13
Lumby	38	18
Englewood	---	6
Sechelt	41	20
Dominion-Provincial Vocational School, Nanaimo	52	52
Haney Correctional Institution, Haney	11	11
Totals	397	303

PIPE-LINES

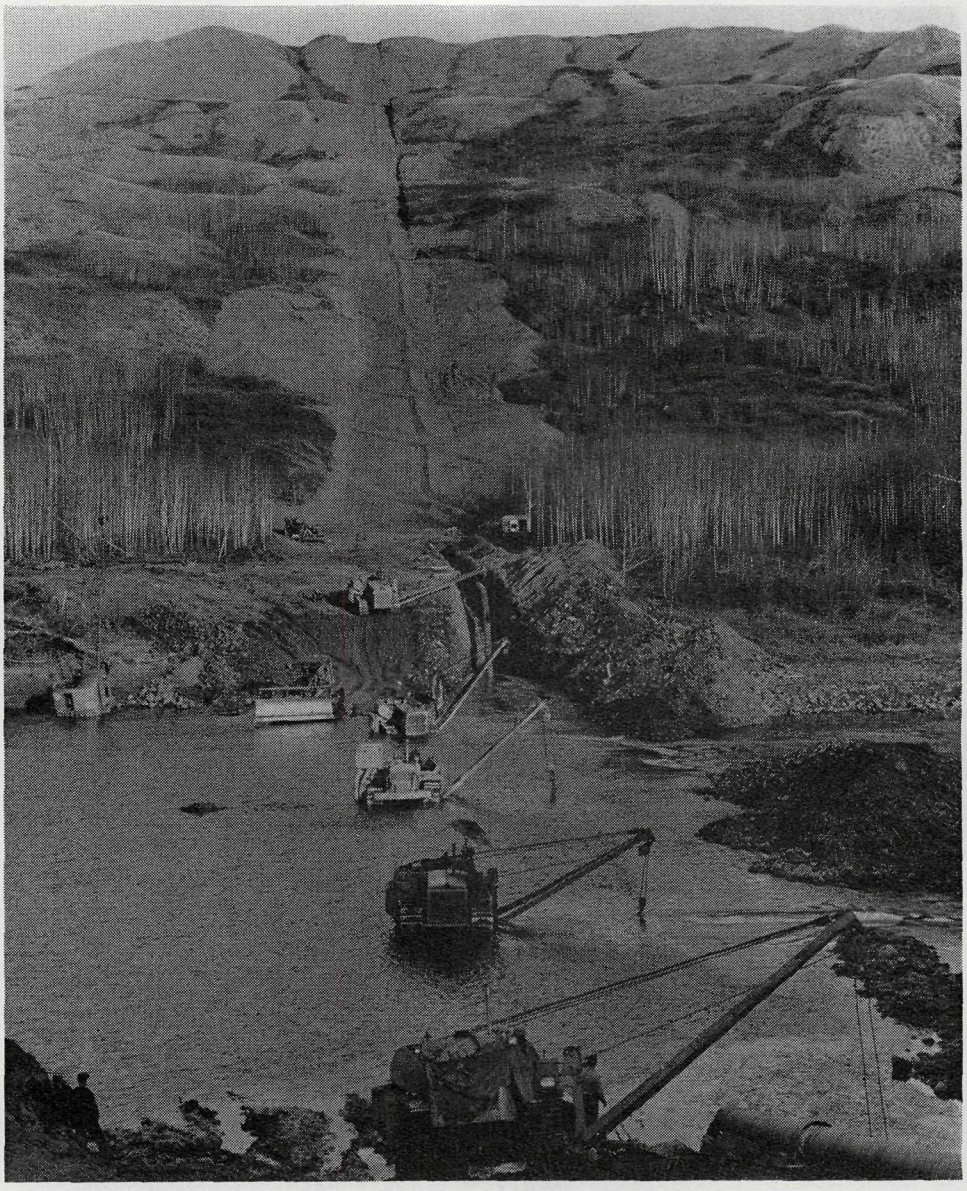
A major function of the Department of Commercial Transport is the administration of the *Pipe-lines Act,* which provides the Provincial Government with broad measures of authority over the construction and operation of oil and natural-gas pipe-lines.

Broadly speaking, the Department exercises control over all pipe-lines wholly within the Province used for the transmission of oil or gas, with control commencing at a point adjacent to the outside limits of the well-head to a point of distribution where the working-pressure is decreased to less than 100 pounds per square inch. Before leave may be granted for construction of such a pipe-line, a certificate must be obtained from the Minister approving all plans and specifications as to location, size and capacity, toll charges, and other matters pertaining to the operation of a pipe-line.

During the year the Department has been active processing and approving the pipe-lines contained in gathering systems within the approved petroleum and natural-gas leases. These gathering systems play a major role in the development of crude oil and natural gas in the known producing areas throughout the Province, and also provide a means for the movement of these products to the major transmission-lines for ultimate delivery to the established marketing facilities within the Province.

During the year three major pipe-line companies were granted certificates for construction of pipe-lines. They include the Magna Pipeline Company Limited, Gas Trunk Line of British Columbia Limited, and Trans-Prairie Pipelines Limited.

Magna Pipeline Company was granted a certificate in June, 1960, for the construction of a natural-gas pipe-line on Vancouver Island connected by a flexible pipe-line to be strung across the floor of the Strait of Georgia for the transmission of natural gas from the Lower Mainland to Vancouver Island. The pipe-line will cost approximately $13,000,000 and will be the largest project of its kind in the world where flexible pipe is used for the transmission of natural gas under the sea. Samples of the pipe, manufactured by British Insulated Callender's Cables Limited, the world's largest producer of submarine cable, were subjected to a series of exhaustive tests by the Department's Chief Inspector. Although the Magna pipe-line will operate at a working-pressure of 1,500 pounds per square inch, the Department's engineering tests proved that the flexible pipe is capable of withstanding pressures of up to 3,200 pounds per square inch. The pipe will be laid by cable ship for a distance of 21 miles and into depths of water of up to 800 feet across the



Important discoveries of vast reserves of natural gas in the north-eastern sector of the Province have been the spur to the construction of Gas Trunk Line of British Columbia Ltd. pipe-line. Here the pipe-line is laid across the Beatton River, a short distance east of Fort St. John.

Strait of Georgia from a point near Ladner to within the vicinity of Crofton on Vancouver Island. It will transport natural gas for distribution among consumers in the major centres on Lower Vancouver Island. A contract to supply the flexible pipe-line has already been let to British Insulated Callender's Cables Limited.

Some of the major oil companies in the world are associated with Gas Trunk Line of British Columbia Limited, a newly formed company which was granted a certificate on September 15th for the construction of a $93,000,000 natural-gas gathering system in North-eastern British Columbia. Sponsored by Pacific Petroleums Limited, the company is owned by producers in the Fort Nelson area, including Westcoast Transmission, Imperial Oil, Home Oil, Shell, Texaco, Phillips Petroleum, British American, El Paso Natural Gas, and others. When completed, Gas Trunk Line will extend approximately 250 miles, transporting gas from the Fort Nelson area to join the present Westcoast Transmission system at Chetwynd. The first phase of the project was completed last November at a cost of approximately $6,000,000. Initial capacity of the completed system will be 350,000,000 cubic feet a day when the transmission pressure is increased. Under long-term planning, it is estimated that Gas Trunk Line's system will be capable of reaching a maximum daily output of approximately 250,000,000 cubic feet a day by the winter season of 1961/62, increasing to approximately 450,000,000 cubic feet a day in the winter of 1962/63. This will be a big factor in the marketing of British Columbia's natural-gas reserves.

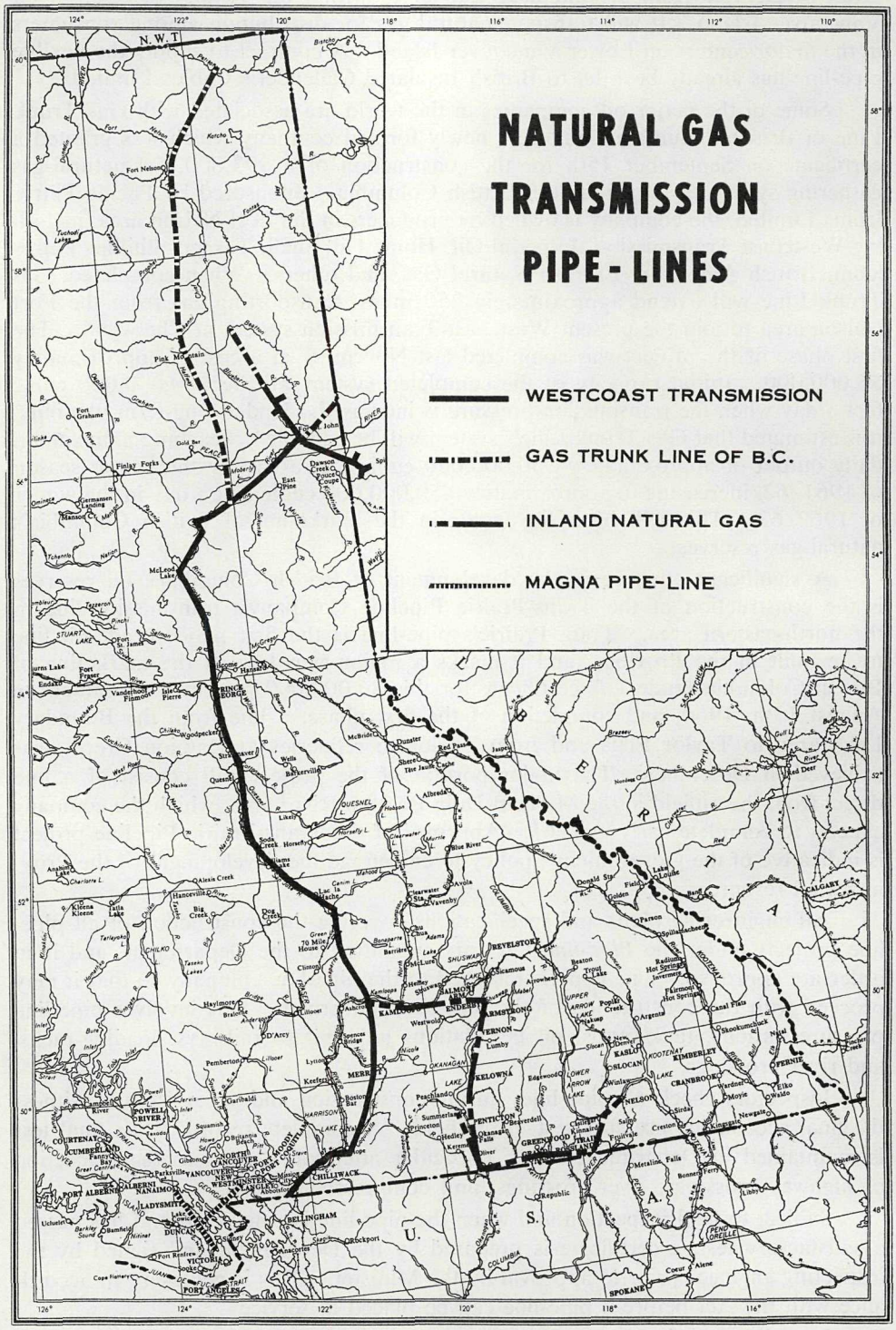
A significant advance in the development of British Columbia's oil reserves is the construction of the Trans-Prairie Pipeline Company's transmission-line in the north-eastern area. Trans-Prairie's pipe-line is the first major crude-oil line to be built in the Province, and it marks a major step toward the marketing of British Columbia crude. A certificate for this $6,000,000 project was granted on August 15th, 1960, and completion of the first phase, a line from the Boundary Lake area to Taylor Flats and from Taylor to refineries at Dawson Creek, was achieved in December. The major portion of the project will consist of a line direct from the oilfield in the Milligan-Doig-Beatton River area, which the company expects to complete early in 1961. Approval of the Trans-Prairie Pipeline project is indicative of the Government's policy to encourage the development of the Province's oil resources.

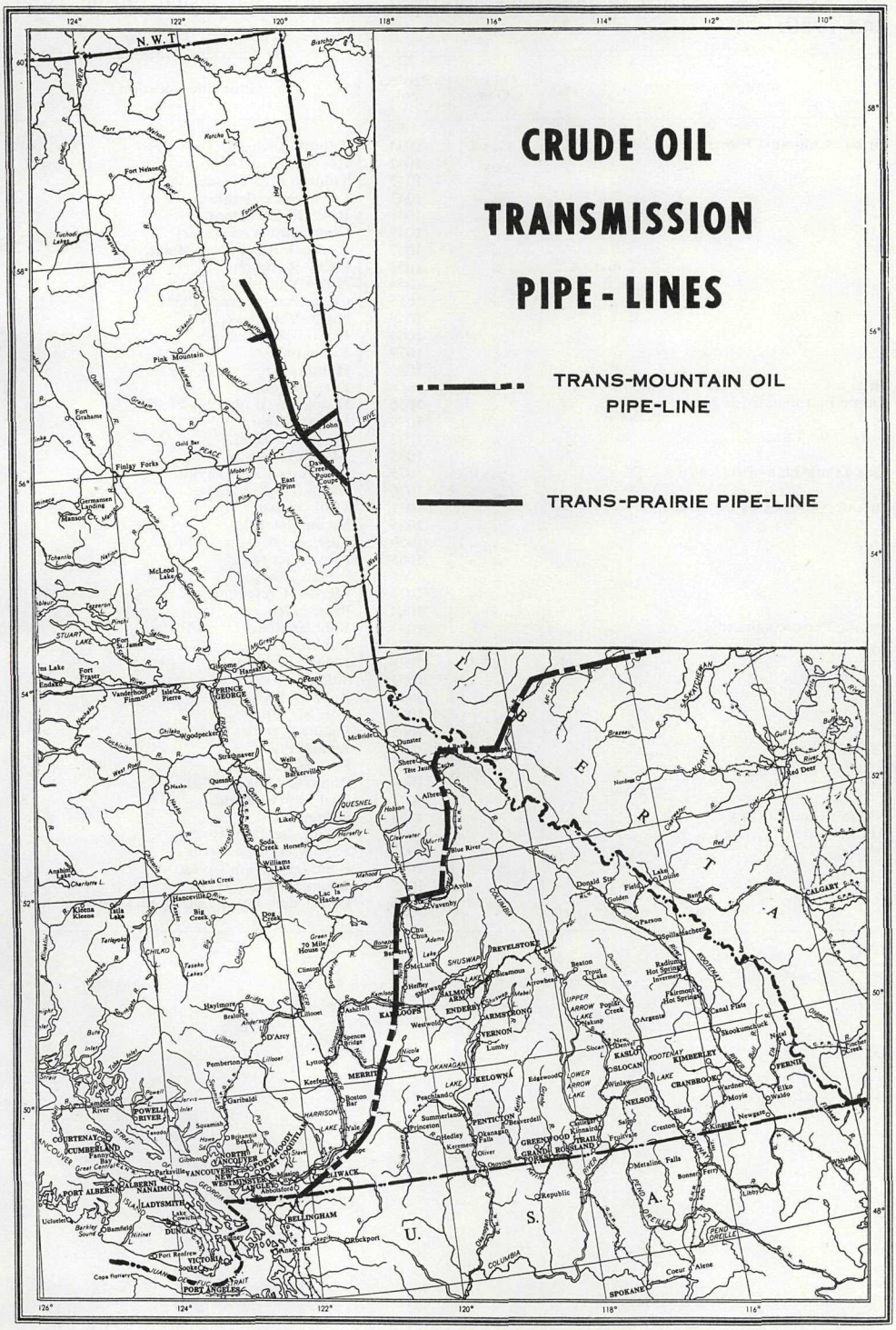
All engineering plans and specifications covering the construction of all pipeline projects under the *Pipe-lines Act* are submitted to the Department, and if in order are approved. One copy is returned to the pipe-line company so that it may proceed with the construction of the pipe-line concerned. This involves pipe-line pressure-stations, tank-farms, oil installations adjacent to railways, loading-racks, and river crossings.

Inspectors check all pipe-lines during construction and supervise and witness the final acceptance pressure test in the field. A complete record of the final test is maintained in Department files. Particular attention is paid to the inspection of highway crossings, river crossings, and compressor-stations.

Subject to field inspection and when the pipe-line is completed and has passed a satisfactory test, a certificate is prepared by the Department and signed by the inspecting engineer prior to approval by the Minister. This is necessary in accordance with the Act before a pipe-line can be placed in service.

In addition to the above, Inspectors make periodic field inspections to see that pipe-lines are being maintained in the interest of public safety.


NATURAL GAS
TRANSMISSION
PIPE-LINES
WESTCOAST TRANSMISSION
GAS TRUNK LINE OF B.C.
INLAND NATURAL GAS
MAGNA PIPE-LINE
N.W.T.
ALBERTA
U.
S.A.
VANCOUVER
VICTORIA
PRINCE GEORGE
KAMLOOPS
KELOWNA
PENTICTON
NELSON
CRANBROOK
FERNIE
CALGARY
EDMONTON
SPOKANE
BELLINGHAM
FORT NELSON
FORT ST. JOHN
DAWSON CREEK
PEACE RIVER
QUESNEL
WILLIAMS LAKE
PRINCE RUPERT
TERRACE
KITIMAT
PORT ALBERNI
NANAIMO
CHILLIWACK
REVELSTOKE
ARMSTRONG
VERNON
TRAIL
ROSSLAND
GREENWOOD
KIMBERLEY
CRESTON
GOLDEN
BANFF
JASPER
LETHBRIDGE
MEDICINE HAT
PEACE RIVER
FORT NELSON
FORT ST. JOHN
DAWSON CREEK
MACKENZIE
PARSNIP
PEACE
FINLAY
OMINECA
SKEENA
NASS
STIKINE
LIARD
FRASER
THOMPSON
COLUMBIA
KOOTENAY
OKANAGAN
SHUSWAP
CARIBOO
CHILCOTIN
BULKLEY
NECHAKO
PEACE RIVER
ROCKY MOUNTAIN TRENCH
PACIFIC OCEAN
STRAIT OF GEORGIA
JUAN DE FUCA STRAIT
QUEEN CHARLOTTE ISLANDS
VANCOUVER ISLAND
124°
122°
120°
118°
116°
114°
112°
110°
60°
58°
56°
54°
52°
50°
48°
126°


CRUDE OIL
TRANSMISSION
PIPE - LINES
TRANS-MOUNTAIN OIL PIPE-LINE
TRANS-PRAIRIE PIPE-LINE
N.W.T.
U. S. A.
ALBERTA
PRINCE GEORGE
KAMLOOPS
KELOWNA
PENTICTON
VANCOUVER
VICTORIA
BELLINGHAM
CALGARY
SPOKANE

Following is a list of pipe-lines approved, installed, and tested during 1959 and 1960:—

Name of Company	Oil or Gas	Project No.	Pipe-line Location
British Columbia Electric Co. Ltd.	Gas	1034	Tilbury–Ladner.
	,,	1041	Roebuck Road–Tilbury.
	,,	1042	Tilbury–Fraserview.
	,,	1043	LaFarge Co. lateral.
	,,	1044	B.A. Oil Co. lateral.
	,,	1045	Coquitlam–Vancouver.
	,,	1047	Roebuck Road–Port Mann.
	,,	1052	Delta–Richmond.
	,,	1054	North Vancouver.
	,,	1055	Coquitlam–Burrard Plant.
	,,	1058	North Vancouver.
	,,	1064	Huntingdon–Langley.
	,,	1079	Richmond.
	,,	1083	*Huntingdon.*
British Columbia Power Commission	,,	1068	Fort Nelson.
Dome Petroleums Ltd.	,,	1056	Dome Basco Bubbles Field.
	,,	1070	Laprise Field.
Fargo Oils Ltd.	,,	1032	Blueberry Field.
	,,	1033	Alaska Highway.
Gas Trunk Line of B.C. Ltd.	,,	1075	Boundary Lake–Taylor.
	,,	1076	Buick Creek–Laprise.
Inland Natural Gas Co. Ltd.	,,	1031	Trail–Tadanac lateral.
	,,	1035	Savona lateral.
	,,	1059	Castlegar–Celgar.
	,,	1065	Prince George.
	,,	1066	Prince George.
	,,	1078	Merritt–Craigmont.
	,,	1084	Prince George.
Pacific Petroleums Ltd.	,,	1037	Bubbles Field.
	,,	1038	Bubbles Field.
	,,	1039	Jedney Field.
	,,	1051	Buick Creek.
	,,	1057	Bubbles Field.
	,,	1060	Fort St. John.
	,,	1061	Pacific–Bubbles Field.
	,,	1062	Jedney Field.
	,,	1067	Fort St. John.
	,,	1069	Boundary Lake Field.
	,,	1077	East Laprise Field.
Sinclair Canada Oil Co.	,,	1053	Jedney Field.
Trans-Prairie Pipeline Co. Ltd.	Oil	1071	Taylor–Beatton River.
	,,	1072	Taylor–Dawson Creek.
	,,	1073	Boundary Lake–Taylor.
	,,	1085	Boundary Lake Field.
	,,	1086	Taylor tank-farm, loading-racks and refinery.

COMMERCIAL VEHICLE BRANCH

GEORGE LINDSAY, SUPERINTENDENT OF MOTOR-VEHICLES
J. G. M. LOCK, DIRECTOR OF OPERATIONS

The licensing of commercial vehicles in British Columbia is carried out by motor-vehicle offices under the supervision of the Superintendent of Motor-vehicles and through the co-operation of Government Agents' offices of the Department of Finance. Licensing of commercial vehicles comprises registration, annual licensing or quarterly licensing, and includes the issuance of trailer licences, temporary operation and non-resident permits. Many of the latter are issued by weigh-station personnel, and funds from this source are accounted for through motor-vehicle offices and through Government Agents, a procedure which requires the assistance and co-operation of employees of the Finance Department.

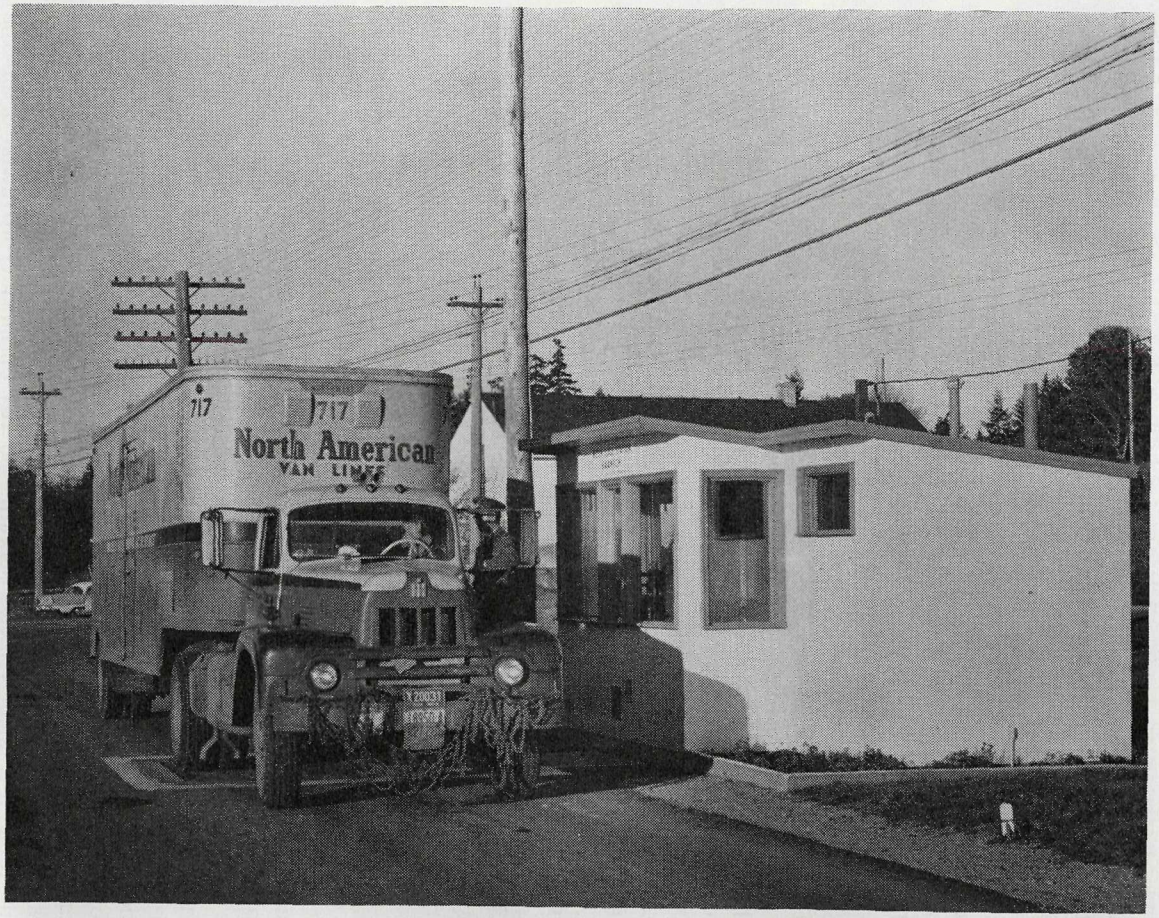
The main function of the Operations Branch is the protection of highways and bridges throughout the Province by checking commercial vehicles to ensure that they comply with size and weight regulations.

Under the Director of Operations, the Department maintains twenty-seven weigh-stations and six mobile scales, employing a supervisor, six regional weighmasters, and sixty-nine weighmasters. Weigh-stations are now recognized as centres where truckers may obtain operating permits, advice, and information, and it is encouraging to report that in this regard the Department enjoys the co-operation and support of the trucking industry.

The Director of Operations maintains a continuing record of bridge and road restrictions within the Province through information supplied by the Department of Highways, and by means of this information is able to provide a service to out-of-Province and long-distance commercial operators who wish advice on routes and allowable weights before starting their trips. Many calls are received at his office for assistance of this nature, and this service has proven to be of tremendous value to the trucking industry.

During the course of the year the Road Users Inquiry Commission, which was appointed in 1958 and submitted a report in 1959, was reconvened by the Government to re-examine the *Department of Commercial Transport Act* and ancillary legislation, and also to provide some sections of the trucking industry with the opportunity to express views which had not been heard during the hearings of 1958.

Some changes in regulations resulted from recommendations brought down by this Commission in 1960. Chief among these, and one which was of vital concern to the logging industry, was the relaxation of load limitations and the introduction of restricted-route permits authorizing the transportation of heavier loads of logs or poles, saw-timber cants, and rough green lumber. Another important change provided for a flat fee to be charged for oversize permits for all types of trucks. The introduction of quarterly licensing, the provision of a ninety-day permit for non-resident vehicles operating strictly on an interprovincial or international basis, provisions allowing for axle tolerances for all trucks, the reduction of highway-crossing charges to a flat nominal annual fee, and the exemption of farm implements from conforming to size and weight requirements were other concessions which have benefited the trucking industry. In addition, on some main highways, trucks have since been permitted to license for heavier loads as a result of improved standards in highway construction. These and other revisions implemented in 1960 have contributed materially to the benefit of the trucking industry.



Saanich weigh-station is one of twenty-seven similar units located at strategic points throughout the Province to service the trucking industry.

Among the weigh-stations which are located at strategic points throughout the Province, from the United States border to the Yukon boundary, some key scales are kept open on a twenty-four-hour basis to provide truckers with a degree of service that was not possible in the past. The versatile portable scale is a proven success, providing an invaluable measure of control in the remote areas of the Province. With the co-operation of motor-vehicle offices and Government Agents, the number of locations where truckers may obtain assistance and operating permits has increased from thirty-five to eighty-five.

During the latter part of 1959 and 1960, fifteen new weigh-scales were built in the Province at control points and six portable scale units were placed in operation. Because of their mobility, portable scales are used to patrol areas between the permanent scales and are operated from headquarters located at Victoria, New Westminster, Kamloops, Nelson, Prince George, and Dawson Creek. Frequently these units are made available to commercial-vehicle operators who wish to determine the correct weight of their equipment and loads before starting out on a trip. Quite often this service saves the operator a great deal of time and inconvenience and eliminates the necessity of a heavy load being moved over the highway before the correct weight of the vehicle and load can be determined. This reduces damage to highways, lessens the danger of accidents, and is a part of the over-all programme to control movements of overweight and oversize loads for the protection of highways and the general public.

Special surveys initiated during the year by the Director of Operations, with the assistance of the Supervisor of Weigh Scales, have provided valuable information for improving the efficiency of weigh-station operations, reducing the time required to render service to the industry and relieving truckers of some of the " paper work " involved in certain aspects of reporting.

It is interesting to note that the establishment of weigh-stations at chief points of entry into the Province has accounted for the collection of revenues under the *Motive-fuel Use Tax Act* and for non-resident permits, which would likely have been lost otherwise.

During the twelve-month period from January 1st to December 31st, 1960, Department weigh-station personnel were responsible for checking a total of 1,328,300 vehicles to ensure that they were properly licensed and were complying with oversize or overweight regulations.

Throughout the year, weigh-stations were also actively engaged in the performance of a number of duties relative to the operation of the Department of Agriculture, the British Columbia Forest Service, the Finance Department, the Department of Highways, and the Motor Carrier Branch of the Public Utilities Commission.

Checks were made and records filed on the number of cattle and hay shipments for the Department of Agriculture. For the Forest Service, checks on forest-product shipments, including Christmas trees, were kept, and weighmasters were authorized to issue fire permits. The issuance of motive-fuel use permits and the checking of machinery shipments were carried out for the Finance Department, while traffic and other special surveys were conducted for the Highways Department. In addition, inspections of vehicles for operating authority were instigated to assist the Motor Carrier Branch of the Public Utilities Commission. This is a service which was not formerly provided, and one which was requested by the trucking industry and approved by the Government.

ANNUAL COMMERCIAL-VEHICLE LICENCE FEES, CANADIAN PROVINCES

Gross Vehicle Weight in Pounds	B.C.	Alta.	Sask.	Man.	Ont.	N.B.	N.S.	P.E.I.	Nfld.	Average
4,000	$20	$40	$25	$30	$20	$18	$16	$18	$20	$23
6,000	30	50	67	30	25	29	23	29	30	35
8,000	50	65	110	60	50	46	43	46	45	57
10,000	75	75	110	90	68	67	64	67	65	76
12,000	95	85	150	120	88	86	89	86	85	98
14,000	115	100	175	150	103	107	117	100	105	119
16,000	135	120	200	180	118	130	150	122	140	144
18,000	155	140	225	210	151	155	187	146	175	172
20,000	175	160	250	240	179	192	208	182	210	200
22,000	195	180	275	270	208	222	229	211	230	224
24,000	215	200	300	300	239	266	250	242	250	251
26,000	235	230	325	330	273	301	271	275	270	279
28,000	255	260	350	360	309	324	292	310	290	306
30,000	280	290	375	390	356	347	313	347	315	335
32,000	305	320	405	420	391	370	334	370	345	362
34,000	330	350	435	450	427	393	355	393	375	390
36,000	355	390	465	480	463	416	376	416	405	418
38,000	380	430	495	510	502	439	.....	439	450	456
40,000	405	470	525	540	542	462	.....	462	450	482

NOTE.—Above this weight, trailer combinations make it difficult for direct comparison.
Province of Quebec not listed as it is the only Province now licensing by tare (unladen) weight.

GENERAL OFFICE, ACCOUNTS, PERSONNEL RECORDS

D. I. EWAN, SENIOR CLERK

Close liaison with the Motor-vehicle Branch and with the Finance Department is maintained by the Department's accounting office in Victoria regarding the depositing of fees collected by weighmasters. In this respect, weigh-stations were responsible for the collection of over $500,000 during the year.

In addition to regular administrative duties, a comparatively small accounting staff of four is responsible for auditing all oversize and overweight permits issued in the field, and during the past year this involved the checking of upwards of 2,000 permits a month. It is also responsible for the establishment and monthly invoicing of charge accounts where operators have obtained term, overweight, and oversize permits, which allows them to operate in a specified area without obtaining single-trip permits for each trip.

The decline in motor-vehicle registrations as indicated in Chart No. 3 is largely attributable to the transfer of privately owned station wagons from the commercial-vehicle class to passenger-car class. The marked reduction shown in trailer fees in Chart No. 1 is the result of licensing the complete vehicle for its gross vehicle weight by a licence on the tractor unit and placing a nominal annual licence fee of $10 on commercial trailers. Chart No. 2 shows that commercial-vehicle revenue from licences and permits continues to increase substantially. In addition to this revenue, commercial vehicles contribute almost twice that amount in fuel taxes. The revenue from fuel taxes contributed by both passenger-cars and commercial vehicles is shown in Table No. 1.

The establishment of the Department was increased by the addition of a Public Information Officer, this position representing the only increase of staff during the year.

Turnover of staff was normal during the first full year of operation. The position of Supervisor of Weigh Scales, which became vacant, was filled by means of an open competition. To arrange for suitable supervision of field staff in the six regions

of the Province, weighmaster supervisors were appointed. Replacements in other categories were obtained by the recruitment of personnel at the starting level.

The newly implemented group insurance programme was favourably received by all personnel, with the result that all but two of the eligible members availed themselves of this added protection.

CHART No. 1

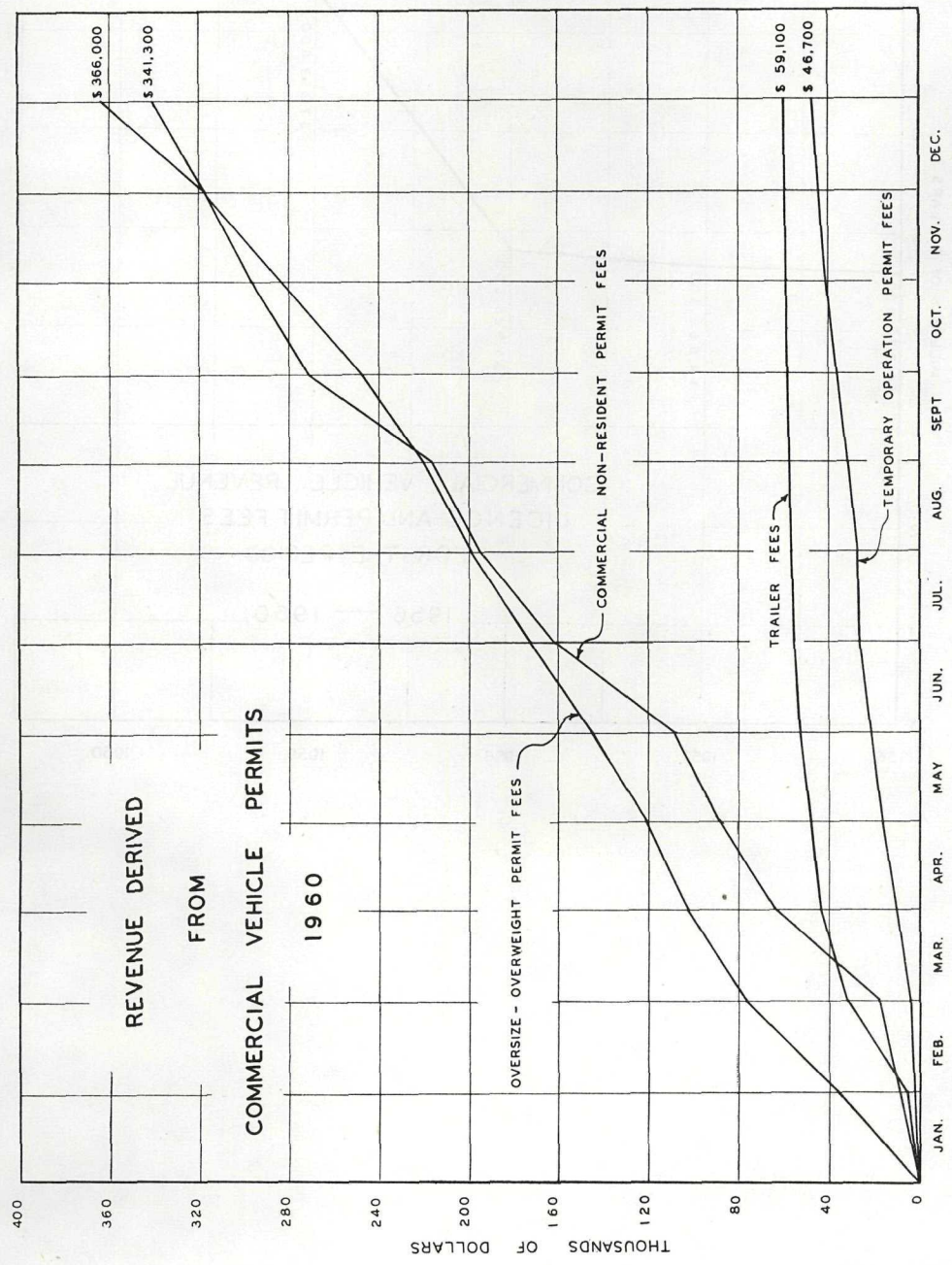


CHART NO. 2

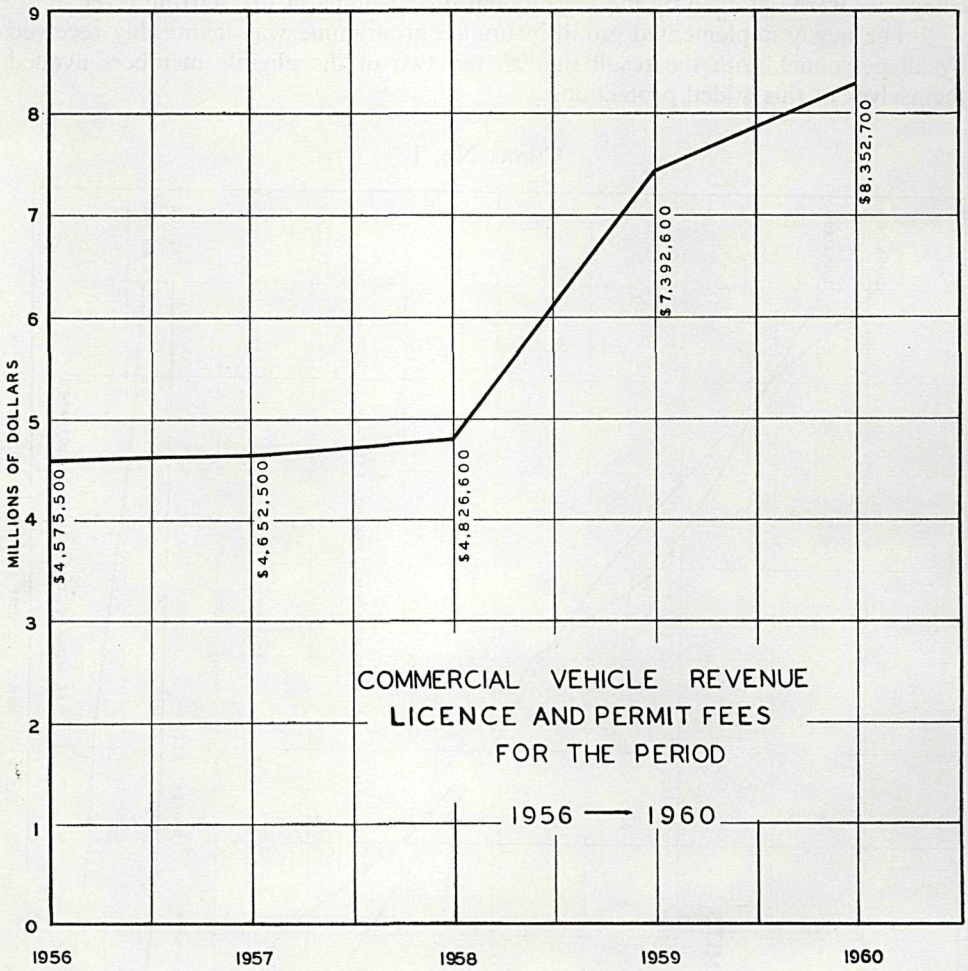

MILLIONS OF DOLLARS
0
1
2
3
4
5
6
7
8
9
1956
1957
1958
1959
1960
$4,575,500
$4,652,500
$4,826,600
$7,392,600
$8,352,700
COMMERCIAL VEHICLE REVENUE
LICENCE AND PERMIT FEES
FOR THE PERIOD
1956 — 1960

CHART NO. 3

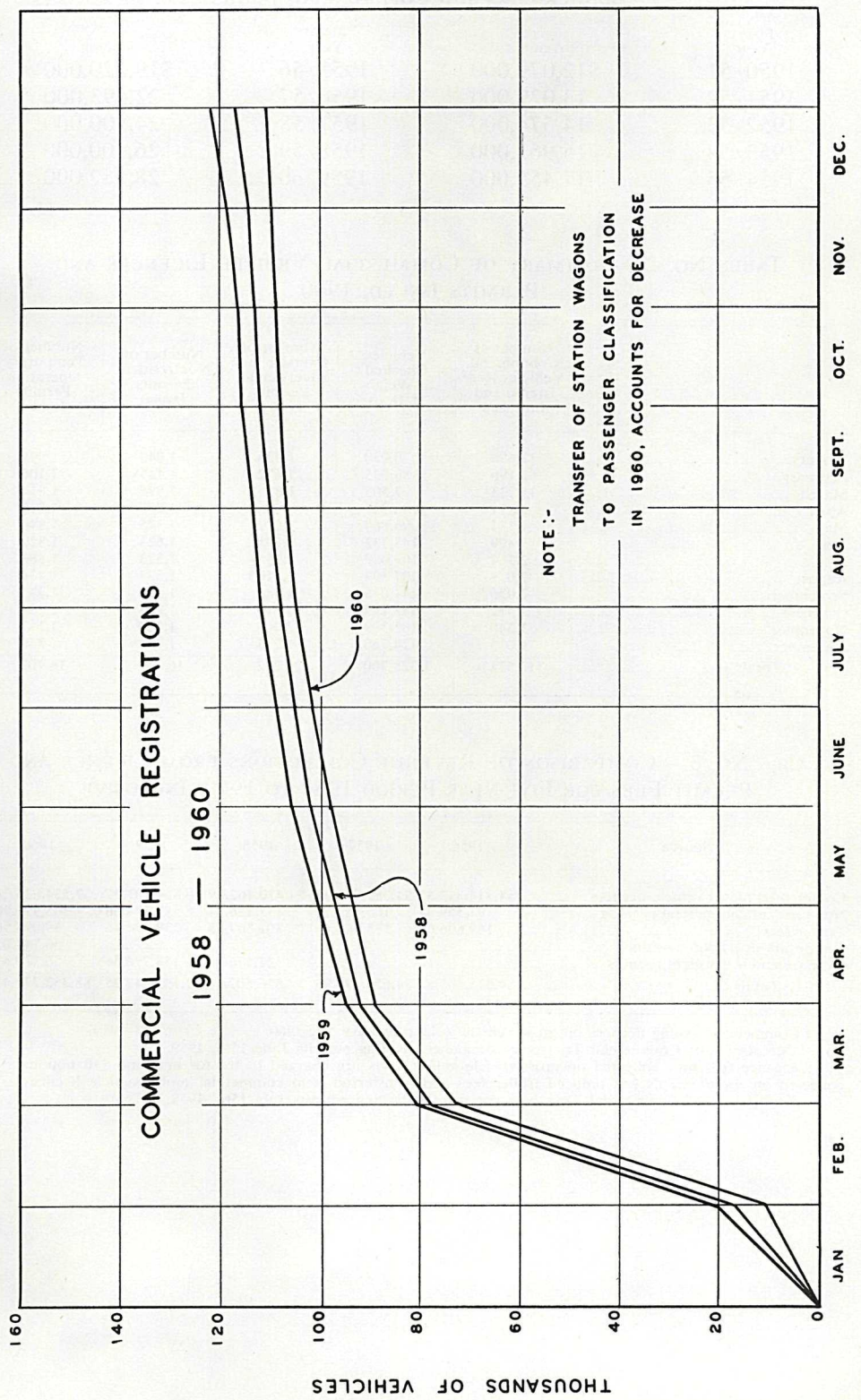

COMMERCIAL VEHICLE REGISTRATIONS
1958 — 1960
1960
1958
1959
NOTE:-
TRANSFER OF STATION WAGONS
TO PASSENGER CLASSIFICATION
IN 1960, ACCOUNTS FOR DECREASE
THOUSANDS OF VEHICLES
160
140
120
100
80
60
40
20
0
JAN
FEB.
MAR.
APR.
MAY
JUNE
JULY
AUG.
SEPT.
OCT.
NOV.
DEC.

TABLE NO. 1.—REVENUE FROM GASOLINE AND MOTIVE-FUEL USE TAXES FOR PASSENGER-CARS AND COMMERCIAL VEHICLES

Fiscal Year	Amount	Fiscal Year	Amount
1950/51	$12,079,000	1955/56	$19,820,000
1951/52	13,079,000	1956/57	22,593,000
1952/53	14,574,000	1957/58	24,500,000
1953/54	15,963,000	1958/59	26,100,000
1954/55	17,455,000	1959/60	28,582,000

TABLE NO. 2.—SUMMARY OF COMMERCIAL VEHICLE LICENCES AND PERMITS ISSUED, 1960

	Number of Commercial Vehicles Registered and Licensed	Vehicles Checked at Weigh-stations	Number of Oversize and Overweight Permits Issued	Number of Non-resident Permits Issued	Number of Temporary Operation Permits Issued
January	12,698	70,030	1,536	1,040	996
February	61,190	88,035	1,672	1,145	1,106
March	15,133	97,508	1,895	1,996	1,814
April	5,571	108,929	1,486	1,238	1,816
May	4,134	96,860	2,002	1,345	1,846
June	3,499	143,732	2,295	1,623	1,820
July	2,364	109,089	1,951	1,523	1,386
August	2,039	107,593	1,810	1,337	1,434
September	2,036	141,048	1,884	1,601	1,343
October	1,532	135,297	2,219	1,258	1,184
November	1,340	105,399	2,009	1,160	1,117
December	1,035	124,780	1,213	1,480	840
Totals	112,571	1,328,300	21,972	16,746	16,702

TABLE NO. 3.—COMPARISON OF REVENUE COLLECTIONS FROM LICENCE AND PERMIT FEES FOR FIVE-YEAR PERIOD 1956 TO 1960, INCLUSIVE

Source	1956	1957	1958	1959	1960
Commercial motor-vehicle licences	$4,314,313.81	$4,359,750.33	$4,470,162.49	$6,804,101.57	$7,534,836.28[1]
Non-resident commercial permits	91,559.41	106,882.19	133,716.34	189,374.66[2]	365,971.90
Trailer fees	169,696.62	185,866.41	201,547.95	239,374.46	59,096.50[3]
Temporary operation permits					36,744.05
Oversize and overweight permits			21,176.00	159,796.56[4]	356,128.68
Totals	$4,575,569.84	$4,652,498.93	$4,826,602.78	$7,392,647.25	$8,352,777.41

[1] Commenced issuing licences on gross vehicle weight January 1st, 1960.

[2] Department of Commercial Transport commenced issuing permits June 15th, 1959.

[3] Licence fees now collected on gross-vehicle-weight basis are charged to tractor unit and $10 nominal fee collected on trailer. This has reduced trailer fees and transferred it to commercial motor-vehicle licences.

[4] Department of Commercial Transport commenced issuing permits July 15th, 1959.

LOCATION OF OFFICES AND WEIGH-SCALES THROUGHOUT THE PROVINCE WHERE OPERATING PERMITS ARE ISSUED AND TRUCKS MAY BE WEIGHED.

Headquarters, Department of Commercial Transport, Victoria, B.C.
Motor-vehicle Branch, 1730 West Georgia Street, Vancouver, B.C.
Engineering Branch, Department of Commercial Transport,
636 Burrard Street, Vancouver, B.C.

WEIGH-SCALES

Location	Hours Open	Location	Hours Open
Abbotsford	16	Lower Post	Intermittent
Cache Creek	8	Parksville	8
Dawson Creek	24	Pattullo Bridge	24
Deas Island Tunnel North	4	Prince George	24
Deas Island Tunnel South	4	Quesnel	16
Douglas	24	Rossland	16
Duncan	8	Ruskin	8
Fernie	24	Rutland	8
Flood	24	Saanich	8
Fort St. John	24	Tupper	24
Golden	16	Vernon	8
Kaleden	16	Williams Lake	16
Kamloops	16	Yahk	16

PORTABLE SCALES

Dawson Creek.
Kamloops.
Lower Mainland.
Nelson.
Prince George.
Victoria.

GOVERNMENT AGENTS' OFFICES

Alberni.
Ashcroft.
Atlin.
Burns Lake.
Clinton.
Courtenay.
Cranbrook.
Creston.
Duncan.
Fernie.
Fort Nelson.
Fort St. John.
Golden.
Grand Forks.
Gulf Islands (Ganges).
Kamloops.
Kaslo.
Kelowna.
Kitimat.
Lillooet.
Merritt.
Nelson.
Nanaimo.
New Westminster.
Oliver.
Penticton.
Pouce Coupe.
Powell River.
Prince George.
Prince Rupert.
Princeton.
Quesnel.
Revelstoke.
Rossland.
Salmon Arm.
Sechelt.
Smithers.
Squamish.
Terrace.
Vancouver.
Vanderhoof.
Vernon.
Victoria.
Williams Lake.

MOTOR-VEHICLE BRANCH OFFICES

Abbotsford.
Chilliwack.
Cloverdale.
Dawson Creek.
Kamloops.
Mission.
New Westminster.
North Vancouver.
Point Grey (Vancouver).
Trail.
Vancouver.
Vancouver East.
Victoria.

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