1937–38.
NEW ZEALAND.

FIRE BRIGADES OF THE DOMINION

(REPORT ON THE) FOR THE YEAR ENDED 31ST MARCH, 1938, BY THE INSPECTOR OF FIRE BRIGADES.

Presented to both Houses of the General Assembly by Command of His Excellency.

THE INSPECTOR OF FIRE BRIGADES to the Hon. the MINISTER OF INTERNAL AFFAIRS.

Office of the Inspector of Fire Brigades,
Wellington, 9th September, 1938.

SIR,—

I have the honour to submit the thirtieth annual report for the year ended 31st March, 1938, on the working of the Fire Brigades Act, 1926.

FIRE DISTRICTS.

No new fire districts were created during the year, but the Whakatane Fire Board, which was gazetted during the previous year, commenced operations. The number of fire districts in operation at the end of the year was 55.

DOMINION FIRE WASTE.

The loss by fire in New Zealand during 1937 estimated on the usual basis—the actual amount paid out by insurance companies plus 12½ per cent. for uninsured loss—was £520,894, being a decrease of £3,135 on the previous year. Having regard to the improved method of collecting statistics, this represents a new low fire-loss record per head of population. The following table shows the fire losses in New Zealand, Great Britain, Canada, and United States of America for the past eleven years:—

	New Zealand Fire Loss.	Fire Loss per Head.			
		New Zealand.	Great Britain.	Canada.	United States of America.
	£	s. d.	s. d.	s. d.	s. d.
Average (1927–31)	1,332,032	18 1	5 0	17 5	16 0
1932	867,714	11 5	3 9	16 8	13 2
1933	644,781	8 4	4 7	12 11	8 10
1934	566,112	7 3	4 1	10 0	8 7
1935	607,410	7 9	4 0	8 9	8 1
1936	524,029	6 8	4 5	8 0	8 5
1937	520,894	6 6	4 9	8 4	8 1

It was anticipated that owing to the increase in replacement values, both of buildings and contents during the years 1936 and 1937, the national fire-loss returns would show a corresponding increase. The fact that they have not done so is very pleasing and should enable the insurance companies to establish a reserve to meet the increased losses which are inevitable when the present low fire-loss cycle is completed. A study of the figures shows that the decrease during the year under review is due almost entirely to the fact that a lesser number of large fires with loss exceeding £5,000 has occurred. The importance of this factor will be realized when it is seen that the loss in six fires only during the first four months of the current year exceeded £130,000.

FIRE LOSS IN FIRE DISTRICTS.

It will be seen from Tables II and IV attached that the loss in fire districts during the year ending 31st March, 1938, was £170,167, and in areas protected by Fire Boards £24,011, as compared with £199,592 and £3,248 respectively for the previous year. The differences are accounted for in the main by the fact that only two fires occurred in fire districts with loss exceeding £5,000 (confectionery factory,

Wellington, 9.28 a.m., loss £5,204, and motor-body builders, Auckland, 3 a.m., loss £12,687). The large fires in protected areas accounted for most of the loss. One at Belfast, Christchurch, cost £16,779, and the other at Heathcote Valley, Christchurch, £6,449. These high-loss fires are the principal factors in determining the fire loss in the fire districts which include most of the high-value block-risk areas. This is well illustrated by comparison with the previous year, the loss for 1936–37 being £76,608, representing 39 per cent. of the total loss, as compared with £17,891, which is only 15 per cent. of the fire district losses for 1937–38. The number of fires in fire districts requiring brigade attendance increased from 812 last year to 859.

Loss of Life in Fires.

The year under review is particularly notable on account of the large number of fatalities caused at or in connection with fires. There were twenty-two deaths, as compared with an avarage of twelve for the past five years. Of these, six were caused by the clothing of persons in front of ordinary heating fires becoming ignited. In six cases persons were trapped in burning buildings, and petrol and inflammable liquids were responsible for a further eight deaths. Although the latter figure is high, it is interesting to note that this is the first instance for some years where home dry-cleaning was not the cause of most fatalities in this class of fire. Four deaths were caused in the use of petrol in lamps or stoves, two in repairing or cutting empty petrol-containers, one while fuelling a motor-car, and one in home dry-cleaning.

Fire Fatalities in Licensed Hotels.

A series of fires calling for particular comment has recently occurred in hotels and boarding-houses. During a period of fifteen months no less than four of these fires have resulted in persons being burned to death, and in all cases the hotel was a wooden building. The fires in question were at Bealey Hotel, Bealey; Salvation Hotel, Thames; Royal Hotel, Kurow; and Commercial Hotel, Waihi.

These fatalities show the necessity for improving the conditions with respect to fire in premises used for accommodation of transient guests and particularly in wooden buildings. It is strongly recommended that consideration should be given to the requirement as a condition of license, first, that all bedrooms should discharge to an outside fire exit, and, secondly, that fire-alarm arrangements of a type which will effectively awaken all occupants in the event of fire should be installed. Practically all New Zealand hotels are now fitted with electricity, and the provision of a suitable alarm system is neither an expensive nor a difficult matter.

Fire-brigade Administration.

The proposals contained in my last annual report with regard to fire-brigade administration have been carried a stage further by discussions with the Council of Fire Underwriters, the executive of the Municipal Association, and at the annual conference of the United Fire Brigades' Association.

The views expressed by the underwriters were, firstly, that the amalgamation of the existing Fire Boards either with the local authority for the district, or with other non-contiguous Fire Boards in a regional area, would not lead to increased efficiency, and, secondly, that the existing system of independent Fire Boards had a definite advantage in that the insurance representatives on these Boards were able to bring some degree of expert knowledge to assist in the development and administration of the fire-protection service.

It must be admitted that there is serious doubt whether regional amalgamation of Fire Boards would result in either greater efficiency or in saving of cost, except in the metropolitan areas where contiguous local authority districts are in question. Experience at both Auckland and Dunedin has evidenced a marked improvement in both respects under the metropolitan Fire Board control.

The services of the insurance members of Fire Boards have undoubtedly been of considerable value in the past in the majority of fire districts, and the services of individual members have been outstanding and, in fact, largely responsible for the excellent conditions existing in a number of towns. In individual cases, however, particularly in the South Island, there has been noted a tendency on the part of these members to restrict the Fire Board expenditure below the point at which a satisfactory standard of efficiency can be maintained. The overriding consideration is apparently the relationship of insurance contribution to premium income.

There appears, moreover, to have been no attempt on the part of the insurance members to set up any definite standards of equipment, training, or organization for towns of varying population, fire-fighting conditions, and property at risk. This is one of the most important and valuable functions which could have been expected from these members and one which, had it existed generally, would have gone a long way to justify the existing system of independent Fire Board control. Reference to the annual and average expenditure tables at the end of this report will illustrate the point and show the great variation in expenditure on the fire-protection service which exists in towns of comparative size and population.

The supervision over the administration of the fire service which will be exercised by the Central Insurance Council under the proposals set out below should be even more valuable to the service than the attendance of insurance members at quarterly Fire Board meetings. The members of the Council will undoubtedly obtain a wider experience by reason of the fact that the activities of all fire districts will come under their review, and comparisons can more readily be made as to the requirements of towns having similar conditions.

The proposals have not yet been fully considered by the Municipal Association. The view appears, however, to be generally held that the fire-protection service of a town is a civic function and one which should be controlled by the municipality. It is also maintained that an efficient service

can be provided by the latter at a much lower cost than by an independent controlling-authority owing to the fact that the general administration, keeping of accounts, supply of stores and equipment, and other functions of the Fire Board can be conveniently dove-tailed in with other municipal activities.

It is admitted that the fact that the insurance companies contribute to the cost of the fire service should be recognized by giving the insurance interests some say in the administration. The proposal set out below for supervision by a Central Insurance Council appears to meet this requirement. Certain difficulties have been raised with respect to liaison, but these could probably be overcome by the appointment of a representative of the Municipal Association to the Central Council. There would appear to be no objection to this.

As indicated in my last report, one of the most common objections by the municipalities to the formation of fire districts under the existing legislation is the fact that when a fire district is formed the municipal authority loses all control of the service, and particularly of expenditure, and has to pay whatever levies are demanded by the Fire Board. It is alleged that invariably a considerable increase in annual expenditure takes place, and the result in most cases is that, despite the insurance contribution, the cost of the fire-protection service to the local authority increases under Fire Board control.

There are several important factors which are lost sight of in this contention. In most cases a Fire Board has not been formed until the fire-protection service of a town has been allowed to reach a stage where complete reorganization is necessary. The Fire Board is also required to repay to the local authority the value of the existing plant and equipment estimated as a going concern. It must also be noted that in a number of cases it has been found on investigation that the Fire Brigade account of the local authority, on which the contention is based, is not charged with expenses such as rental, or, alternatively, interest and sinking fund on the cost of the station, plant, and equipment—the capital cost of these being buried in the general loan account. Administrative and other services rendered by the local authority staff are also not taken into consideration, but are, of course, always charged in the Fire Board accounts.

It has also been ascertained that in a number of cases where the local authority has claimed to operate an efficient service at a low cost the Brigade has, by the holding of social functions and collections from the public, contributed largely both to the capital and maintenance costs of the service. The brigade officers in most of these cases give their time voluntarily and should be free to devote their whole attention to the organization and training of the brigade. The insurance contribution, which it is proposed should be made general, will avoid the necessity at present existing for the brigade officers to carry the responsibility of the finance as well as of the fire-fighting.

It is important that any amendment in the existing law should not have the effect of reducing the standard of service which has been provided by the Fire Boards. This would be an essential condition of agreement to any proposals by both the fire underwriters and the volunteer firemen. The proposals for supervision by the Insurance Council and the right of the latter to proceed to arbitration if necessary with respect to proposals of the local authority, which are regarded as unsatisfactory from an efficiency point of view, would appear to offer the necessary safeguard.

Another factor which is giving some concern to the municipal authorities is the action taken by the Hon. the Minister of Internal Affairs in refusing to consent to the formation of additional Fire Boards. This is quite logical in view of the Government policy for the amalgamation of existing local authorities, but the effect is that in districts where a Fire Board does not already exist there is no method available by which the municipality can obtain any contribution from the insurance companies towards the cost of the fire-protection service. This is a matter of major concern to some of the larger boroughs owing to the fact that the improved conditions of service and other factors have resulted in considerably increased costs of operation during the last few years.

The discussions at the Fire Brigade Conference in New Plymouth in February last indicated that proposals on the lines indicated would be acceptable provided that the volunteer status of the brigades was not affected, that the association maintained its position as the authority representing the brigadesmen generally, and that the existing arrangements for financial support were not disturbed. The suggestion was made that a representative of the association should be appointed to the Central Insurance Council for liaison purposes, and in view of the fact that practically 90 per cent. of the firemen are volunteers this suggestion appears to be reasonable.

The proposals intended to give effect to the desiderata set out in my last annual report were submitted to the interested parties in general terms only, and the following outline of the proposals modified to meet the views set out above is now submitted for further consideration:—

(1) That the administration of the fire-protection service in existing fire districts be handed back to the municipal authorities except in the Metropolitan areas or where, by reason of the contiguity of their respective districts, it is desirable that one authority should control the fire-protection service of the combined areas.

NOTES.—(*a*) Experience both in this and other countries shows that it is essential for efficiency of operation in contiguous areas that the respective fire brigades should either be under one control or that provision be made for co-operation and backing-up service. Of these alternatives, the former is definitely preferable. Typical cases for consideration are the Lower Hutt and Petone area, and the North Shore boroughs in Auckland. It would be practicable to operate these either as separate units or as part of the metropolitan organization. Neither of these alternatives has any great advantage from an efficiency point of view, and the question could therefore be left to the preference of the local authorities concerned.

(*b*) The above clause sets out the principle which is considered desirable. It could, if necessary to meet the wishes of the interests concerned and without greatly affecting the general efficiency of the scheme, be modified to retain the existing Fire Board organization in the secondary cities and the larger towns. It is suggested for consideration, however, that it would be difficult to justify the retention of an independent controlling authority in towns with a population of less than five thousand.

(2) That all municipal districts (whether boroughs or Town Boards) which are not already fire districts and which have, or are prepared to establish, a water-supply which is reasonably effective for fire-fighting purposes and a fire-brigade organization, be empowered to constitute their districts as fire districts.

NOTE.—It is a matter for consideration whether the legislation should provide for the constitution of fire districts after the taking of a poll of ratepayers, as under the present Fire Brigade Act, by vote of the municipal authority, or, in the event of agreement prior to preparation of the legislation, by inclusion in a schedule to the Act.

(3) That provision be made for the setting-up by the municipal authority of a Fire Brigade Committee consisting of not less than three members of the municipal authority. Such Fire Brigade Committee would, subject to such modifications as are considered necessary, have all the powers and duties of a Fire Board under the existing Fire Brigades Act. Provision should be made that the Fire Brigade Committee may, and if required by the Minister shall, co-opt not more than two representatives of insurance companies, resident in the district.

NOTE.—The provision regarding the co-opting of insurance members could, if necessary, be made specific by Schedule to the Act in the case of the larger towns, and this arrangement may be acceptable to all concerned in lieu of the retention of the existing Fire Board organization. There would appear to be no objection to a co-opted member being Chairman of the Committee. It is noted that in many cases at present an insurance member is Chairman of the Fire Board, although the local members are in the majority.

(4) That in order to give the insurance companies the share in the control of the fire service justified by their contributions, a Central Fire Council be established in Wellington, this Council to consist of not less than five representatives elected by the insurance companies, one member nominated by the Municipal Association, one member nominated by the United Fire Brigades' Association, and not more than two members appointed by the Government.

NOTES.—(*a*) In order to maintain the predominantly insurance character of the Council the provision could be made that a majority of insurance members be included in the statutory quorum. Provision for alternate representation in the event of illness or absence from Wellington might also be considered.

(*b*) In view of the fact that the Central Council would have general supervision over the whole fire-protection service it would probably involve a considerable number of meetings, particularly during the first few years. The payment of honoraria should therefore be considered.

(5) The functions of the Central Council would be—

(i) To consider and approve the annual estimates of expenditure in fire districts and the general provisions made for fire-protection:

(ii) To arrange for the inspection of brigades to an extent sufficient to establish a reasonable measure of co-ordination and standardization of plant, equipment, and training:

(iii) To carry out research work with respect to the organization and training of brigades and the development of plant and equipment for fire-fighting purposes.

NOTES.—(*a*) The provisions with respect to matters which would come under review of the Central Fire Council should be drawn as widely as possible. They should, for instance, permit the Council to make representations to the local committee with respect to matters such as the appointment or efficiency of officers, the character of plant and equipment required, fire-alarm system, and general turnout organization.

(*b*) The appointment of a technical executive officer will probably be essential both for inspection and general co-ordination work and also to deal with matters such as the service conditions of the brigade staffs. It will probably be found desirable to arrange with the controlling authorities of the senior brigades for inspection work to be carried out by approved officers of these brigades. Provision should therefore be made for payment to the controlling authority concerned for the time occupied in such work.

(*c*) Investigation and research, suggested as one of the Council's functions, would also probably be conveniently carried out through the senior brigades, and provision should be made for reimbursement to the authority concerned for the costs of these investigations.

(6) That in order to provide the necessary liaison between the local authority administering the fire-protection service and the Central Council, arrangements should be made that copies of all executive and technical reports submitted to the Fire Brigade Committee, and on which their decisions are based, should be forwarded to the Central Council.

NOTE.—The converse would also apply, and the reports of the inspection and executive officers of the Central Council with respect to individual districts would be forwarded to the local committee.

(7) That the costs of the local fire-protection service be divided equally between the municipal authority and the insurance companies operating in the district—levies to be made on the latter in the same manner as under the existing legislation—and that the cost of the Central Fire Council be met out of Government grant.

NOTE.—In the case of the smaller districts the saving in overhead resulting from the taking-over of administration by the local authority should compensate for the withdrawal of the small Government grant made under the existing legislation. It is presumed that the Government would be prepared to maintain, or perhaps even increase, the total amount of the existing grant to the service. Some equitable arrangement could probably be arrived at for distribution of this grant between the Central Fire Council and the cities where most of the Government property requiring fire-protection is situated.

(8) That, in order to limit the liability of the contributing local authority, a maximum be prescribed for the annual expenditure which could be enforced in each fire district, such maximum to be fixed by reference to the population on the lines suggested in the last report, on an empirical basis by Schedule to the Act, or other suitable means; and that provision be made that this limit of expenditure shall not be exceeded except with the consent of the municipality, the Central Council, and the Minister.

(9) That in the event of a difference of opinion arising between the Central Council and the Fire Brigade Committee of the municipality, the Council would have a right to have an investigation made by a member, and, if necessary, a technical representative also, whose expenses would be paid on the same basis as those of insurance members of Fire Boards under existing legislation. In the event of failure to agree after this investigation and discussion with the Fire Brigade Committee the question at issue to be decided by arbitration.

(10) That with respect to the raising of loan-moneys provision be made that, except in the case of united fire districts, loans for fire-protection purposes will be raised by the municipality. This will enable them to be treated as trustee securities, which is not possible under the existing legislation.

(11) That the estimates of expenditure of the independent controlling-authorities existing under the amended legislation be forwarded to the Central Council for review. In the event of it being determined to maintain the existing system of Ministerial approval of all fire-district estimates, such estimates to be forwarded through the Central Council, which shall have the right of comment and recommendation to the Minister.

Causes of Fire.

The causes of fire in fire districts are set out in Table I attached. An examination of the table discloses no reasons for modification of the inferences drawn in the last annual report. As is but natural, the year's returns show considerable fluctuations in some cases both from the previous year and from the average, but a comparison of the long-term tables for the cities brings out clearly the major causes of fire loss. The losses shown as "cause unknown" bear, as usual, a high ratio to the total loss, but this is not indicative of the existence of causes of high fire losses other than those enumerated. The fact is that in a number of fires shown as "cause unknown" total destruction of the building occurred, thus removing any evidence of the cause.

Inspections.

The inspection work carried out was less than in previous years owing to my absence from duty for two months due to ill-health. About half of the brigades were inspected during the year. Close touch was kept with the activities of all districts by means of newspaper-cuttings, and, where necessary, several visits were made. The conditions found were generally satisfactory, and it is pleasing to report that most of the brigades are maintaining a high standard of training. Tests on the water-supply were made in a considerable number of towns, and recommendations made to the Boards concerned as to the development of the brigade organization and the purchase of new plant and equipment.

A number of reports were also made with regard to the fire-protection of Government buildings and to the local Government Loans Board on loan proposals for fire-protection, water-supply, and water-reticulation services.

Attached are statistical tables covering both the year under review and also averages taken over a period of years.

I have, &c.,
R. Girling-Butcher,
Inspector of Fire Brigades.

Table I.—Causes of Fire.

—	Cities over 20,000 Population: Seven-year Average, 1/4/31–31/3/38.						All Fire Districts: Year ending 31st March, 1938.					
	Dwellings.		Business Premises.		Total.		Dwellings.		Business Premises.		Total.	
	Number of Fires.	Fire Loss.	Number of Fires.	Fire Loss.	Number of Fires.	Fire Loss.	Number of Fires.	Fire Loss.	Number of Fires.	Fire Loss.	Number of Fires.	Fire Loss.
		£		£		£		£		£		£
Defective electrical installations	1·1	50	1·4	51	2·6	101	1	5	1	77	2	82
Electric irons and radiators left on	16·7	2,779	7·3	2,432	24·0	5,211	18	4,359	11	2,742	29	7,101
Short circuits and overheating	6·4	304	15·4	1,888	21·9	2,192	15	460	24	6,488	39	6,948
Other electrical faults	2·1	191	4·7	384	6·9	575	5	1,612	15	955	20	2,567
Gas explosions	1·0	61	0·4	2	1·4	63	1	4	1	2	2	6
Gas-rings, &c., left on or in contact with curtains, &c.	6·7	614	4·0	299	10·7	913	9	2,118	8	128	17	2,246
Defective gas-installations	3·3	113	0·9	96	4·1	209	6	259	1	73	7	332
Candles in contact with curtains, &c.	5·9	546	0·6	2	6·4	547	3	15	1	1	4	16
Lamps, stoves—overturned or exploded	2·3	87	1·1	27	3·4	115	3	4	1	120	4	124
Miscellaneous, due to naked lights	4·6	653	3·3	163	7·9	816	11	392	5	754	16	1,146
Defective chimneys and flues	18·1	1,481	4·6	261	22·7	1,742	26	2,338	7	4,472	33	6,810
Defective hearths, fireplaces, and furnaces	19·0	860	2·9	295	21·9	1,155	24	1,778	5	194	29	1,972
Defective hot-water systems	1·7	291	0·7	79	2·4	370	3	226	4	547	7	773
Lighted match dropped	16·0	2,514	9·6	4,168	25·6	6,682	5	214	6	475	11	689
Children playing with matches	9·0	215	2·6	127	11·6	342	23	244	4	32	27	276
Smoking in bed	4·3	193	..	..	4·3	193	9	937	..	..	9	937
Cigarette or cigar butts dropped	11·0	1,074	11·3	3,745	22·3	4,820	23	1,810	11	3,535	34	5,345
Ashes from pipes, sparks from cigarettes	2·4	321	0·6	52	3·0	373	3	1,600	1	4	4	1,604
Rats chewing matches	0·6	10	0·6	156	1·1	166	1	1,310	..	..	1	1,310
Miscellaneous causes—smoking and matches	4·7	353	2·1	904	6·9	1,258	17	1,135	7	4,744	24	5,879
Sparks from fireplaces, furnaces, &c.	34·7	3,190	11·3	1,050	46·0	4,151	63	4,874	11	805	74	5,679
Airing clothes before a fire	4·0	926	2·1	164	6·1	1,090	8	424	7	273	15	697
Ashes placed in wooden boxes, &c.	9·7	434	4·0	131	13·7	564	24	967	5	22	29	989
Heating tar, polishes, &c.	5·7	232	9·4	1,961	15·1	2,193	9	160	24	7,380	33	7,540
Spontaneous combustion	2·0	334	5·9	3,790	7·9	4,124	2	353	14	2,366	16	2,719
Allowing benzine, &c., near naked lights	6·7	335	4·9	519	11·6	853	6	99	8	608	14	707
Arson	3·7	396	1·9	641	5·6	1,037	3	1,489	4	492	7	1,981
Suspicious origin	8·3	2,802	5·4	7,336	13·7	10,138	7	3,032	4	3,304	11	4,336
Overheating of and sparks from machinery	..	..	5·4	1,394	5·4	1,394	..	..	6	568	6	568
Sparks from bush and gorse fires	3·6	129	1·0	33	4·6	162	3	28	2	71	5	99
Sparks from rubbish fires	6·4	265	3·4	160	9·9	425	8	702	6	132	14	924
Sparks from chimneys, locomotives, &c.	8·6	168	8·9	928	17·5	1,095	12	77	9	229	21	306
Blow-lamps used for burning off paint	15·7	677	1·4	25	17·1	702	20	1,182	2	1,659	22	2,841
Fires spread from other buildings	7·4	1,696	3·3	113	10·7	1,809	4	40	7	969	11	1,009
Miscellaneous known causes	12·7	578	19·0	2,187	31·7	2,765	21	521	21	3,765	42	4,286
Unknown causes	73·1	23,557	56·6	63,633	129·7	87,190	99	20,722	121	68,681	220	89,403
Total	339·2	48,339	218·0	99,196	557·4	147,535	495	53,590	364	116,577	859	170,167
Loss per fire—												
Known causes	..	93	..	220	..	141	..	83	..	197	..	126
Unknown causes	..	322	..	1,124	..	672	..	209	..	568	..	406
All causes	..	143	..	455	..	265	..	108	..	320	..	198

TABLE II.—MISCELLANEOUS STATISTICS FOR FIRE DISTRICTS FOR YEAR ENDING 31ST MARCH, 1938.

District.	Population.	Rateable Capital Value.	Insurance Companies Premium Income.	Number of Fire Calls.	Fires involving Loss of Property.	Insurances on Property involved in Fires.	Insured Fire Loss, Buildings and Contents.	Uninsured Fire Loss, Buildings and Contents.	Total Fire Loss.	Authorized Expenditure for Year ending March, 1939.
		£	£			£	£	£	£	£
Auckland Metropolitan	178,200	68,330,064	194,448	950	198	2,686,744	34,010	3,401	37,411	40,040
Balclutha ..	1,710	298,692	1,593	13	4	1,100	505	125	630	468
Birkenhead ..	3,450	772,386	3,815	5	2	500	63	27	90	590
Cambridge ..	2,270	637,505	2,773	6	..	..	..	..	..	540
Christchurch ..	93,400	27,433,885	92,963	393	95	283,027	8,350	940	9,290	16,900
Dannevirke ..	4,430	1,408,885	5,291	16	9	6,505	725	60	785	860
Dargaville ..	2,240	503,282	2,957	7	5	2,070	5,643	350	5,993	630
Dunedin ..	77,420	20,287,692	77,338	651	91	231,935	8,522	520	9,042	19,300
Eltham ..	1,900	372,627	1,699	4	4	1,650	37	20	57	528
Feilding ..	4,700	1,447,454	5,006	11	2	4,445	1,309	..	1,309	760
Foxton	1,590	251,861	1,321	7	5	8,875	3,221	1,314	4,535	380
Gisborne ..	13,850	4,016,757	18,600	38	15	49,307	5,682	218	5,900	2,141
Greymouth ..	8,340	1,419,105	7,567	16	7	4,265	1,197	440	1,637	1,065
Hamilton ..	17,450	5,390,822	16,123	88	15	61,313	6,600	149	6,749	5,664
Hastings ..	13,300	3,697,432	14,256	51	12	8,410	1,990	528	2,518	2,415
Hawera ..	4,760	1,372,974	6,550	23	10	16,745	407	8	415	1,993
Hikurangi ..	1,020	122,655	757	3	2	760	21	3	24	196
Hokitika ..	2,730	407,272	3,128	5	1	3,000	25	..	25	617
Invercargill ..	22,300	5,660,288	22,748	138	31	121,378	11,985	350	12,335	5,682
Kaiapoi ..	1,610	291,680	1,859	3	2	1,525	80	..	80	548
Kaitangata ..	1,340	102,192	1,028	2	2	1,850	1,352	250	1,602	128
Lawrence ..	660	57,840	590	1	..	..	..	..	..	100
Levin	2,720	781,102	3,144	8	2	4,052	512	..	512	559
Masterton ..	9,350	2,657,392	10,936	47	15	31,114	5,326	86	5,412	4,085
Milton	1,400	237,428	1,905	5	3	700	90	15	105	225
Morrinsville ..	1,920	478,167	2,226	18	1	400	149	..	149	632
Napier	15,700	4,337,081	22,999	49	12	23,955	890	24	914	4,910
Nelson	11,400	3,142,699	14,872	34	7	10,495	1,139	3	1,142	2,924
New Plymouth ..	17,150	4,816,374	15,427	47	11	20,670	1,547	343	1,890	3,428
Oamaru	7,560	1,551,288	7,073	11	4	7,800	2,160	70	2,230	1,195
Ohakune ..	1,390	99,670	901	11	1	675	1	10	11	436
Opotiki ..	1,480	343,789	1,756	7	4	6,250	185	..	185	530
Otaki	1,780	304,616	1,616	..	..	..	..	..	..	378
Pahiatua ..	1,710	376,547	3,045	5	4	2,600	1,618	..	1,618	870
Palmerston North	22,900	6,581,283	26,267	168	40	90,370	9,148	1,878	11,026	10,360
Petone	11,050	3,315,058	13,807	33	11	6,431	1,227	420	1,647	2,335
Port Chalmers ..	2,100	302,691	1,687	5	..	..	..	..	..	242
Pukekohe ..	2,630	851,039	2,394	7	5	4,825	478	100	578	790
Rotorua ..	6,440	1,454,436	6,672	24	4	3,410	1,318	40	1,358	1,276
Taihape ..	2,190	415,667	3,205	..	..	..	..	..	..	471
Taumarunui ..	2,730	587,738	2,559	6	1	500	258	..	258	559
Tauranga ..	3,660	1,016,628	4,393	13	2	2,140	360	488	848	671
Te Aroha ..	2,420	759,055	3,916	9	3	2,033	889	50	939	470
Te Awamutu ..	2,410	706,644	2,947	9	3	1,810	298	8	306	589
Timaru	17,650	4,946,600	15,100	60	12	24,060	750	35	785	3,380
Waihi	3,990	300,641	2,381	25	7	19,365	4,200	7	4,207	610
Waipukurau ..	2,090	466,028	2,566	7	3	17,335	815	40	855	400
Wairoa	2,550	547,973	3,513	10	2	7,390	74	15	89	641
Waitara ..	2,020	334,522	1,886	3	2	730	60	35	95	314
Wanganui ..	23,350	6,044,135	26,714	170	42	47,207	4,691	413	5,104	8,382
Wellington ..	117,960	44,499,155	158,369	1,108	127	1,002,964	23,176	594	23,770	41,400
Westport ..	4,280	566,580	4,054	13	6	15,600	704	10	714	700
Whakatane ..	1,860	432,595	2,211	9	2	3,250	..	49	49	866
Whangarei ..	7,350	2,384,920	7,828	21	11	11,850	1,628	1,316	2,944	705
Woodville ..	1,040	171,334	1,147	..	..	..	..	..	..	367
	774,840	240,074,225	861,924	4,373	859	4,865,385	155,415	14,752	170,167	197,245

Table IIIA.—Average Statistics for all Fire Districts which have been in Operation for the Fifteen Years 1924–38.

District.	Population.	Municipal Rates.	Rates per Head.	Insurance Premiums.	Insurance Premiums per Head.	Number of Fires.	Fires per 1,000 of Population.	Highest Fire Loss in any Individual Year.	Fire Loss.	Fire Loss per Head.	Loss per Fire.	Fire Brigade Expenditure.	Expenditure per Head.	District.
		£	£ s. d.	£	£ s. d.			£	£	£ s. d.	£	£	s. d.	
Auckland Metropolitan*	133,496	659,023	4 18 9	180,587	1 7 1	191	1·43	114,709	61,246	0 9 2	320	25,128	3 9	Auckland Mtrpn.*
Balclutha	1,579	3,746	2 7 5	2,002	1 5 4	2	1·34	7,090	827	0 10 6	376	316	4 0	Balclutha.
Christchurch	88,749	235,020	2 12 11	110,818	1 5 0	129	1·43	95,575	39,193	0 8 10	305	13,227	3 0	Christchurch.
Dannevirke	4,408	11,422	2 11 10	7,385	1 13 6	3	0·69	8,680	1,037	0 4 8	340	692	3 1	Dannevirke.
Dargaville	2,073	12,421	5 19 10	3,532	1 14 1	5	2·28	5,993	2,366	1 2 10	500	555	5 4	Dargaville.
Dunedin Metropolitan	69,591	197,661	2 16 10	80,185	1 3 0	105	1·51	59,793	25,400	0 7 3	242	14,450	4 2	Dunedin Mtrpltn.
Feilding	4,497	16,258	3 12 3	6,522	1 9 0	6	1·23	5,044	1,638	0 7 3	296	717	3 2	Feilding.
Foxton	1,720	4,859	2 16 6	1,789	1 0 10	4	2·21	6,830	2,590	1 10 1	682	455	5 3	Foxton.
Gisborne	13,855	62,338	4 10 0	22,779	1 12 11	21	1·52	24,240	10,747	0 15 6	510	2,492	3 7	Gisborne.
Greymouth	6,471	17,760	2 14 11	7,514	1 3 2	9	1·36	32,174	8,065	1 4 11	913	1,025	3 2	Greymouth.
Hamilton	15,533	59,336	3 16 5	20,482	1 6 4	19	1·24	25,746	4,426	0 5 8	230	2,832	3 8	Hamilton.
Hastings	11,599	36,698	3 3 3	15,958	1 7 6	17	1·51	24,504	6,868	0 11 10	393	1,854	3 2	Hastings.
Hawera	4,682	15,802	3 7 6	7,699	1 12 11	8	1·69	11,876	1,715	0 7 3	216	1,230	5 3	Hawera.
Hokitika	2,537	3,972	1 11 4	2,935	1 3 1	5	1·85	8,591	2,302	0 18 1	491	591	4 8	Hokitika.
Invercargill	19,824	71,965	3 12 7	23,428	1 3 8	36	1·80	47,221	13,453	0 13 7	378	5,279	5 4	Invercargill.
Kaiapoi	1,701	2,272	1 6 9	2,357	1 5 9	4	2·23	25,984	3,335	1 19 4	882	640	7 6	Kaiapoi.
Kaitangata	1,459	1,706	1 3 5	1,109	0 15 2	2	1·23	4,343	931	0 12 7	517	157	2 2	Kaitangata.
Lawrence	663	1,307	1 19 5	706	1 1 3	1	1·79	3,770	393	0 11 10	330	93	2 10	Lawrence.
Levin	2,607	6,396	2 9 0	3,739	1 8 8	5	1·81	9,745	1,945	0 14 11	411	612	4 8	Levin.
Masterton	8,678	27,541	3 3 6	12,553	1 8 11	13	1·51	18,539	5,867	0 13 6	447	2,125	4 11	Masterton.
Milton	1,509	4,071	2 13 11	2,178	1 8 10	2	1·01	1,000	152	0 2 0	99	184	2 5	Milton.
Napier	15,857	58,375	3 13 7	26,769†	1 13 9†	20‡	1·27	32,161	10,657‡	0 13 5	531	4,060	5 1	Napier.
New Plymouth ..	15,560	56,438	3 12 6	18,528	1 3 10	16	1·01	9,593	4,700	0 6 0	300	2,023	2 7	New Plymouth.
Oamaru	7,450	26,609	3 11 5	7,914	1 1 3	7	0·89	23,878	4,088	0 11 0	614	1,090	2 11	Oamaru.
Ohakune	1,465	2,349	1 12 0	1,342	0 18 4	5	3·37	11,825	2,978	2 0 8	604	405	5 6	Ohakune.
Palmerston North ..	20,443	72,477	3 10 11	30,342	1 9 8	35	1·73	31,637	12,643	0 12 4	358	4,228	4 1	Palmerston North.
Petone	10,540	27,001	2 11 2	13,413	1 5 5	9	0·89	5,070	1,784	0 3 5	190	1,713	3 3	Petone.
Port Chalmers ..	2,488	4,622	1 17 2	2,191	0 17 7	3	1·06	2,135	686	0 5 6	260	245	2 0	Port Chalmers.
Rotorua	5,229	9,716	1 17 2	7,002	1 6 10	8	1·66	7,416	2,442	0 9 4	289	1,067	4 1	Rotorua.
Taumarunui	2,510	8,403	3 6 11	3,190	1 5 5	6	2·44	7,942	2,116	0 16 10	345	520	4 1	Taumarunui.
Tauranga	2,965	8,078	2 14 6	4,228§	1 8 5§	4	1·41	11,457	2,395	0 16 2	571	647	4 4	Tauranga.
Te Aroha	2,427	6,380	2 12 7	3,829	1 11 7	4	1·71	4,426	1,718	0 14 2	414	587	4 10	Te Aroha.
Timaru	16,626	54,756	3 5 10	17,662	1 1 3	17	1·01	19,457	4,600	0 5 6	275	2,569	3 1	Timaru.
Waihi	3,510	4,899	1 7 11	2,767	0 15 9	10	2·77	5,909	2,857	0 16 3	294	682	3 11	Waihi.
Waitara	1,850	4,309	2 6 7	2,471	1 6 9	2	0·82	5,044	1,470	0 15 11	974	232	2 6	Waitara.
Wanganui	24,245	97,629	4 0 6	34,066	1 10 1	38	1·55	14,074	7,773	0 6 5	207	7,114	5 10	Wanganui.
Whangarei	7,011	25,643	3 13 2	8,037	1 2 11	8	1·15	36,569	5,500	0 15 8	682	1,007	2 11	Whangarei.
	537,407	1,919,258	3 11 5	700,008	1 6 0	776	1·44	..	262,903	0 9 9	339	102,843	3 10	
Fourteen years' average, whole Dominion	1,499,861	5,424,028	3 12 4	1,825,673	1 4 4	¶	¶	1,636,119	980,750	0 13 3	¶	..	..	Fourteen years' average, whole Dominion.

* Includes statistics for Onehunga, Mount Roskill, and Newmarket Fire Boards from date of inception to date of incorporation in Auckland Metropolitan Fire Board. † Eleven-year average. ‡ Fourteen-year average. § Twelve-year average.
¶ Figures not available.

Table IIIb.—Average Statistics for other Fire Districts.

District.	Period of Average. (Years.)	Population.	Municipal Rates.	Rates per Head.	Insurance Premiums.	Insurance Premiums per Head.	Number of Fires.	Fires per 1,000 of Population.	Highest Fire Loss in any Individual Year.	Fire Loss.	Fire Loss per Head.	Loss per Fire.	Fire Brigade Expenditure.	Expenditure per Head.	District.
			£	£ s. d.	£	£ s. d.			£	£	£ s. d.	£	£	s. d.	
Birkenhead ..	6	3,432	12,706	3 14 6	3,986	1 3 2	2	0·48	802	204	0 1 2	123	527	3 1	Birkenhead.
Cambridge ..	7	2,206	7,579	3 8 9	3,109	1 8 2	3	1·18	3,175	1,142	0 10 4	439	472	4 3	Cambridge.
Eltham	14	2,009	6,517	3 4 11	2,451	1 4 5	3	1·60	2,672	921	0 9 2	287	453	4 6	Eltham.
Hikurangi ..	10	1,173	2,283	1 18 11	1,084	0 18 6	1	1·18	1,204	342	0 5 10	246	209	3 7	Hikurangi.
Morrinsville ..	2	1,885	8,529	4 10 6	2,311	1 4 6	1	0·27	149	75	0 0 10	150	581	6 2	Morrinsville.
Nelson	5	11,282	37,115	3 5 10	16,064	1 8 6	11	0·94	3,924	1,896	0 3 4	179	2,169	3 10	Nelson.
Opotiki	9	1,362	3,950	2 18 0	1,362	1 9 4	3	2·29	3,609	732	0 10 9	235	521	9 5	Opotiki.
Otaki	13	1,645	4,619	2 16 2	1,840*	1 2 4*	3	1·82	6,659	1,242	0 15 1	414	348	4 3	Otaki.
Pahiatua	12	1,565	4,145	2 12 11	3,339	2 2 8	3	1·86	11,775	2,456	1 11 4	844	405	5 2	Pahiatua.
Pukekohe	12	2,528	12,462	4 18 7	3,080	1 4 4	3	1·13	5,680	748	0 5 11	262	694	5 6	Pukekohe.
Taihape	8	2,355	9,084	3 17 1	3,601	1 10 7	1	0·53	856	174	0 1 6	139	522	4 5	Taihape.
Te Awamutu ..	11	1,972	10,087	5 2 3	3,285	1 13 4	3	1·52	4,510	980	0 9 6	327	501	5 1	Te Awamutu.
Waipukurau ..	12	1,985	6,438	3 4 5	3,023	1 10 6	4	1·81	7,167	1,534	0 15 5	427	350	3 6	Waipukurau.
Wairoa	12	2,481	10,372	4 3 7	4,035	1 12 6	5	1·91	101,707†	10,874†	4 7 8	2,289	570	4 7	Wairoa.
Wellington ..	12	111,283	477,972	4 5 11	184,311	1 13 1	176	1·58	294,070	77,973	0 14 0	444	28,789	5 2	Wellington.
Westport	14	4,014	9,352	2 6 7	4,247	1 1 2	5	1·35	11,989	3,058	0 15 3	563	647	3 2	Westport.
Whakatane ..	1	1,860	..	..	2,211	1 3 10	2	1·08	49	49	0 0 6	25	..	..	Whakatane.
Woodville ..	7	1,085	2,861	2 12 9	1,365	1 5 2	2	2·24	4,116	1,053	0 19 5	433	369	6 10	Woodville.

* Eight-year average. † Fire-loss figures corrected in accordance with returns supplied subsequently.

Table IV.—Areas protected by Fire Boards.

District.	Population.	Rateable Capital Value.	Number of Fire Calls.	Fires involving Loss of Property.	Insured Fire Loss, Buildings and Contents.	Uninsured Fire Loss, Buildings and Contents.	Total Fire Loss.	Protected by	Remarks.
		£			£	£	£		
Belfast (works only) ..	..	..	1	1	16,779	..	16,779	Christchurch Fire Board	Payment for attendances.
Fairfield	..	..	..	..	..	..	..	Hamilton Fire Board	County pays £25 p.a. plus £5 for every call in excess of five.
Feilding (works only) ..	..	..	..	..	..	..	..	Feilding Fire Board	Payment for attendances.
Hamilton (hospital only) ..	..	..	..	..	..	..	..	Hamilton Fire Board	Nominal payment.
Hawera	605*	210,000	..	..	..	..	..	Hawera Fire Board	County pays £75 p.a. to Fire Board.
Mangere	765*	522,000	..	..	..	..	..	Auckland Metropolitan Fire Board ..	County pays £75 p.a. plus £5 for every call in excess of ten.
New Lynn	3,570	..	..	..	..	..	..	Auckland Metropolitan Fire Board ..	Borough pays £100 p.a. plus £5 for every call in excess of ten.
Cashmere	12,000*	..	45	11	7,105	127	7,232	Christchurch Fire Board	County pays £300 p.a. to Fire Board.
Fendalton									County pays £450 p.a. to Fire Board.
Riccarton									Borough pays £450 p.a. to Fire Board.
West Harbour (works only)	..	..	..	..	..	..	..	Dunedin Metropolitan Fire Board ..	Payment for attendances.
	..	..	46	12	23,884	127	24,011		

* Estimated.

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