T. A. McGAVIN SURVEYS

A CENTURY OF RAILWAYS AT AUCKLAND

Transport for a Major Metropolis

I WONDER what Aucklanders of the 1870s and 1880s would think if they could see their city now. In particular, I wonder how Frank B. Passmore or A. V. Macdonald, early managers of the Auckland Section of New Zealand Railways, would react to the scale of operations today, with huge goods trains moving thousands of tons of freight to and from the bustling, sprawling metropolis daily. Would they be astonished at the superlative air-conditioned comfort of such trains as the "Silver Fern" and the "Silver Star" on their daily journeys to and from Wellington over what is now the busiest main line in New Zealand?

A need for railway communication with the "interior" was felt in the infant settlement of Auckland at least by 1860, but it was war with the Maori tribes in the Waikato district that first stimulated action. Plans and estimates for a railway from Auckland southwards to the Waikato River were prepared in 1863, and in 1864 the Auckland Provincial Council passed an Act empowering the appointment of a Railway Commission for the purpose of constructing a £100,000 railway from Auckland to Drury, 22 miles, with a branch from Penrose to Onehunga. The gauge of the line was to be 4 ft. 8½ in. with rails weighing 56 pounds per yard.

Let us not dwell too long on this abortive effort. Construction did indeed begin in 1865, but within two years nearly all the money had been spent, and only a few miles of rails had been laid. Work came to a virtual standstill to the accompaniment of protracted disputes involving the provincial councillors, the engineers, and the contractors.

It was not until the General Government in 1870 adopted Julius Vogel's ambitious immigration and public works policy that a ray of hope appeared. The Railways Act of 1870 provided, among railways authorised to be constructed by contract with the Governor, for a line from Auckland to Tuakau, with a branch line to Onehunga, at not more than £4,000 per mile. It was stipulated in this Act that railways built under its provisions were

From the W. W. Stewart Collection.

An early stage in construction of the railway southward from Auckland in 1872, showing the embankment leading up to the Parnell Bridge and one of the 4ft. 8½in. gauge construction locomotives left over from the 1865-66 beginnings.

to have a width between the rails of 3 ft. 6 in., though some exceptions were made for extensions of railways in Canterbury, where a gauge of 5 ft. 3 in. was in use. The decision to adopt a standard gauge of 3 ft. 6 in. was based on the recommendations of Charles Fox and Sons Ltd., a London firm of consulting engineers, who outlined its advantages and quoted their experience with railways of this gauge in Canada, Norway, and elsewhere.

In the event, contracts entered into with the English firm of John Brogden and Sons on 10 August 1872 included one for 41 miles 34 chains of railway from Newmarket to Mercer for £168,924. A subsequent contract dated 19 July 1873 with the same firm covered the sections from Auckland to Newmarket, 1 mile 47 chains, and from Penrose to Onehunga, 2 miles 53 chains, for £58,049. The entire work was to be completed by the spring of 1875. With the completion of the 8-mile Auckland-Onehunga section in December 1873, this became the first of the so-called "Vogel railways" to be brought into use. It was also the first Government railway opened for traffic in the North Island, and was the first in New Zealand to be worked directly under the auspices of the General Government.

It should be noted, however, that two other railways authorised by the Railways Act 1870 had been opened for traffic by June 1873. These were extensions of the 5 ft. 3 in. gauge Canterbury Railways and were worked by the Provincial Government. Under the provisions of the Railways Act 1872, the provincially sponsored 8-mile 3 ft. 6 in. gauge Dunedin and Port Chalmers Railway was purchased in April 1873 by the General Government but its operation remained in the hands of the Provincial Government until the provincial organisation was abolished in 1876.

From a Burton Brothers photograph.

ABOVE: The first Auckland railway station at Fort Britomart tucked among a collection of sheds. This could not have been much earlier than 1884 for a "1" class 2-6-0 locomotive is standing outside the engine depot, nor much later because a new station was opened in 1885.

RIGHT, UPPER: The familiar picture of "Ada" on the first train from Auckland to Onehunga in December 1873.

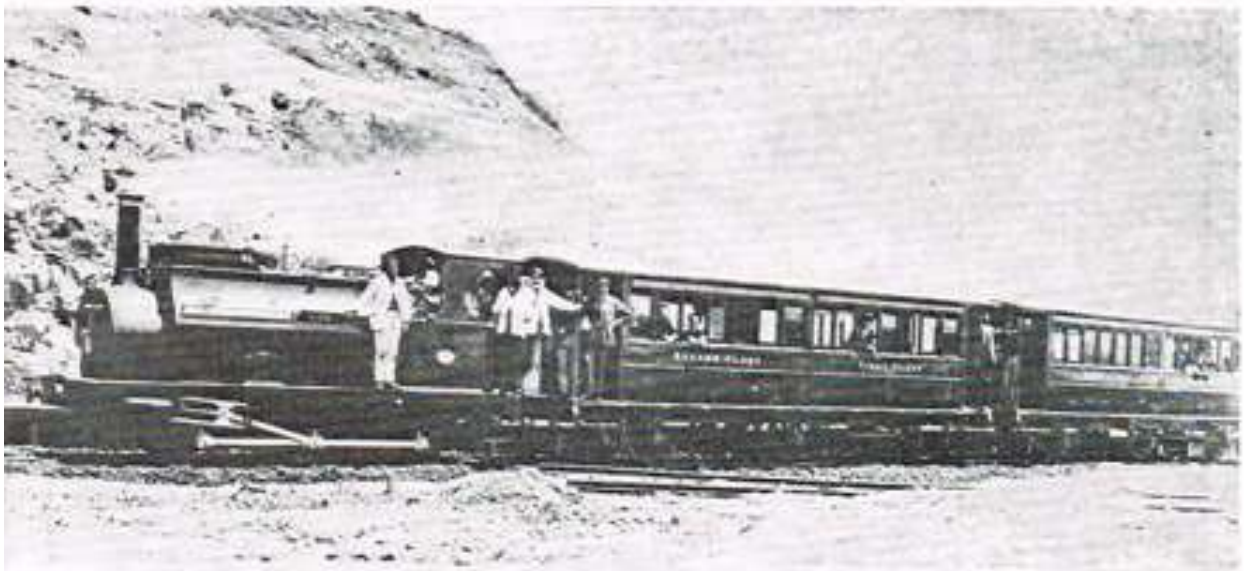
(Photograph courtesy New Zealand Railways)

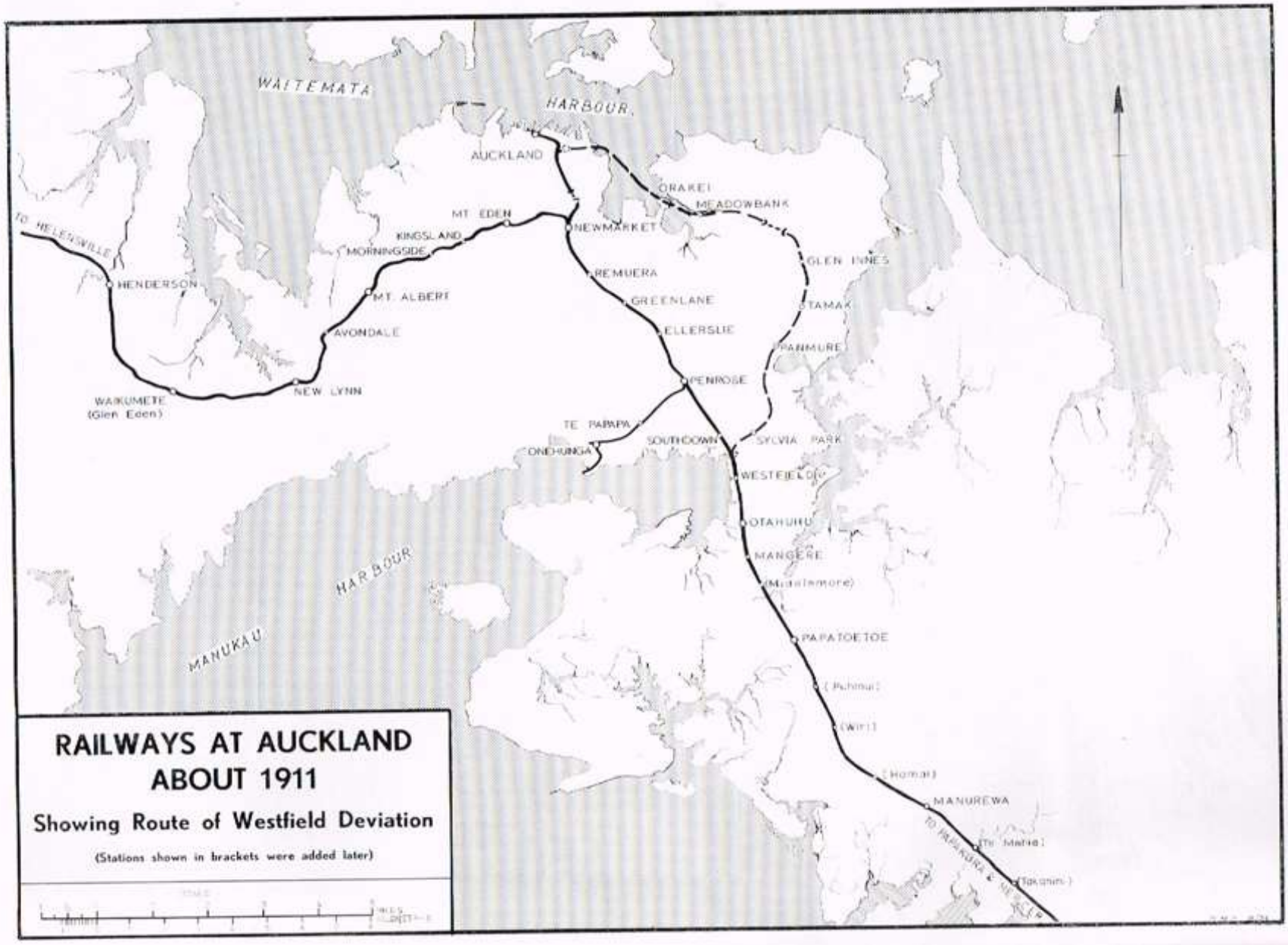
RIGHT, LOWER: Old Ellerslie station showing the old-style slotted-post semaphore signals.
(From an old print courtesy New Zealand Railways)

The first Auckland railway station was located near Fort Britomart, near the intersection of the present Anzac Avenue with Beach Road, and it was from here that Auckland's first scheduled train departed on its 8-mile journey to Onehunga on 24 December 1873. An opening ceremony had been held on 20 December, when the first train was run over the line, but there seems to have been relatively little public excitement about the occasion. As can be seen from the familiar picture, this first scheduled train comprised the 0-6-0 saddle-tank locomotive *Ada* (named after the daughter of the contractor's local foreman or manager, Mr Henderson, and later to become the NZR class "F") with a short train of 6-ton, 6-wheel passenger cars.

Meanwhile construction continued southward from Penrose towards Mercer. By 7 October 1874 the railway was sufficiently complete as far as Drury, 22 miles, for the contractors to run a special excursion from Drury to Auckland (and presumably back again) for the convenience of patrons of the Ellerslie Races. The entire railway to Mercer, on the eastern bank of the Waikato River 43 miles from Auckland, was finally completed and opened for traffic on 20 May 1875, more than four months ahead of the contract date.

Extension of the railway south of Mercer was authorised in 1873, and surveyors had located a route across the Whangamarino Swamp and onwards to Hamilton by 1875. Much of the railway beyond Mercer was built by a force of the Armed Constabulary known as the Volunteer Engineer-Militia, for the Government feared a renewal of





RAILWAYS AT AUCKLAND ABOUT 1911

Showing Route of Westfield Deviation

(Stations shown in brackets were added later)

hostilities by members of the Maori population who still harboured bitter memories of the recent war. Trains were running as far south as Newcastle, however, 74 miles, shortly afterwards renamed Ngaruawahia, before the end of August 1877, and construction gangs had reached Hamilton (on the site of the present Frankton) by Christmas. The first train reached Hamilton on a fine summer day early in 1878, and was welcomed by a crowd of some 300 people. In October 1879 a short branch was opened from the main line at Hamilton Junction to a new Hamilton station on the west bank of the Waikato River, which had been crossed at Ngaruawahia.

The main line south was opened to Te Awamutu, 100 miles from Auckland, on 1 July 1880, but here the railhead remained for nearly seven years. A few miles away was the Puniu River, the frontier beyond which the Maori King's warriors had retreated after their last battle with the Europeans. It was a frontier beyond which few white men dared to venture.

To serve the district north of Auckland, a 16-mile "portage" railway was opened on 29 October 1875 from Riverhead on the Waitemata Harbour to Helensville on an arm of the Kaipara Harbour. To link this isolated line with the Auckland-Te Awamutu main stem, construction of a 22-mile railway westward from Newmarket was put in hand. Opened section by section, it was linked at Kumeu with the Helensville line on 18 July 1881, from which date the three miles between Kumeu and Riverhead were closed.

Thus, by July 1881, the Auckland Section of New Zealand Railways had attained its basic shape, with railheads at Te Awamutu and Helensville, and 139 route miles of line. The next extensions were to be eastward from Hamilton into the productive areas of the Waikato district. Construction southward from Te Awamutu and northward from Helensville followed later, but let us pause here to consider the character of this Auckland Section in the decade of the 1880s.

TABLE 1 — MILEAGE STATISTICS, 1880-1908, AUCKLAND SECTION

Year	Route Miles Open	Revenue Train Miles	Total Locomotive Miles
1880-81	115	212,276	271,449
1881-82	139	276,784	357,527
1882-83	139	304,819	399,446
1883-84	139	339,702	444,299
1884-85	168	339,201	461,323
1885-86	211	409,127	541,989
1886-87	236	420,562	563,927
1887-88	249	379,398	500,529
1888-89	249	351,882	425,685
1889-90	254	341,402	420,427
1890-91	265	338,565	408,063
1891-92	265	354,160	429,387
1892-93	265	344,910	421,386
1893-94	288	375,123	451,308
1894-95	296	413,883	501,900
1895-96	309	432,042	518,510
1896-97	309	444,866	543,632
1897-98	312	469,827	574,518
1898-99	332	502,675	621,036
1899-00	327	575,482	703,989
1900-01	330	646,718	807,653
1901-02	341	693,589	887,240
1902-03	341	741,589	968,534
1903-04	374	836,876	1,076,968
1904-05	374	864,107	1,104,263
1905-06	393	920,272	1,175,643
1906-07	393	1,013,265	1,305,427
1907-08	395	1,163,824	1,481,204

BY March 1882, after the Helensville Section had been incorporated, equipment available included 23 locomotives, 62 passenger cars (all of the 6-wheel or 4-wheel variety), 20 four-wheel brake vans, and 525 four-wheel wagons. More details of these will be found in the tabulated summary. The number of employees totalled 398, who maintained train services that accumulated 276,784 train-miles over the 12 months from April 1881 to March 1882, carried 340,769 passengers, and moved 76,116 tons of goods. Revenue for the year amounted to £72,127, and expenditure to £49,295.

Train services shown in the working timetable dated 1 April 1882 had as their primary components a daily mixed train each way between Auckland and Te Awamutu, crossing at Rangiriri, a mixed train from Auckland to Hamilton and back, another from Mercer to Auckland and

TABLE 2 — TRAFFIC FIGURES, 1880-1908, AUCKLAND SECTION

Year	Ordinary Passenger Journeys	Number of Season Tickets	Total Goods Tonnage
1880-81	300,902	—	71,393
1881-82	340,769	—	76,116
1882-83	399,103	928	88,346
1883-84	375,417	1,148	106,996
1884-85	411,745	1,385	121,058
1885-86	436,490	1,668	149,418
1886-87	415,895	1,733	123,802
1887-88	393,985	1,589	127,957
1888-89	340,305	1,580	130,058
1889-90	351,000	1,489	135,403
1890-91	371,296	1,819	151,281
1891-92	383,857	2,142	160,810
1892-93	395,146	2,144	154,002
1893-94	425,382	2,097	157,989
1894-95	416,736	3,626	158,740
1895-96	478,861	5,735	164,527
1896-97	582,280	7,880	182,599
1897-98	612,859	8,079	197,835
1898-99	671,196	9,144	213,572
1899-00	745,982	10,630	230,554
1900-01	889,545	16,159	248,548
1901-02	1,124,710	20,887	274,663
1902-03	1,212,197	26,905	319,887
1903-04	1,211,286	26,827	361,543
1904-05	1,170,428	31,329	394,283
1905-06	1,213,553	31,483	444,150
1906-07	1,329,374	38,557	541,019
1907-08	1,498,942	42,709	597,269

back, and five each way between Auckland and Onehunga. There were a few other workings in the suburban area, such as shuttle connections between Onehunga and Penrose. On the Kaipara Branch, three mixed trains were scheduled daily in each direction between Auckland and Helensville.

Maximum authorised speeds were 20 m.p.h. between Auckland and Mercer and on the Kaipara Branch, and 25 m.p.h. south of Mercer, except over the Ohaupo Swamp, where a limit of 12 m.p.h. was imposed. These modest speed limits, plus stops at practically all stations, led to fairly lengthy journey times. The 6.45 a.m. train from Auckland, for example, was not due to reach Hamilton, 85 miles, until 2 p.m. It was due to leave again at 2.5 p.m. and to be back in the city at 8.40 p.m.

The 8.30 a.m. train to Te Awamutu, however, was somewhat faster, being due to reach Hamilton Junction, 84 miles, at 2.8 p.m. and Te Awamutu, 100 miles, at 3.3 p.m. The average time taken between Auckland and Helensville was about 3 hours, the best allowance being 2 hr. 50 min. It is interesting to observe that the 6.25 a.m. from Helensville in 1882, due in Auckland at 9.30 a.m., is represented today by the 6.45 a.m., due at 8.34 a.m., and with six extra stops over its 38-mile run (26 compared with 20 in 1882).

Between Auckland and Onehunga, the standard time allowance in 1882 was 35 minutes. Stops were made at Newmarket Junction, Remuera, Green Lane, Ellerslie, Penrose Junction, and Te Papapa. All these stations are still in existence (although not the original buildings), but through train service between Auckland and Onehunga began to fade away after the advent of public street transport, especially the electric trams of September 1903. A relic of the Penrose-Onehunga shuttle service connecting with some main-line suburban trains survived, however, until as late as February 1975.

Perusal of the tabulated statistics covering the 28 years from 1880 to 1908, while the Auckland Section remained a self-contained entity, shows that traffic, activity, and development generally was rather static until about the middle 1890s, but in the last ten years of the period passenger and freight business virtually trebled. Extensions of route mileage in the 1880s and early 1890s appear to have attracted very little additional traffic. The initial extensions of the main trunk southward from Te Awamutu, for example, in 1887 to Otorohanga and then to the village of Te Kuiti, attracted no more than two trains per week at first!

The railway from Frankton to Rotorua was completed in December 1894, however, while Paeroa was reached from Morrinsville through Te Aroha in December 1895, and Thames in December 1898. It was from this period that railway activity in the Auckland district began to boom.

The first "express" train service on the Auckland Section was a once-a-week effort in the summer of 1894-95 from Rotorua to Auckland on Mondays and back on Tues-

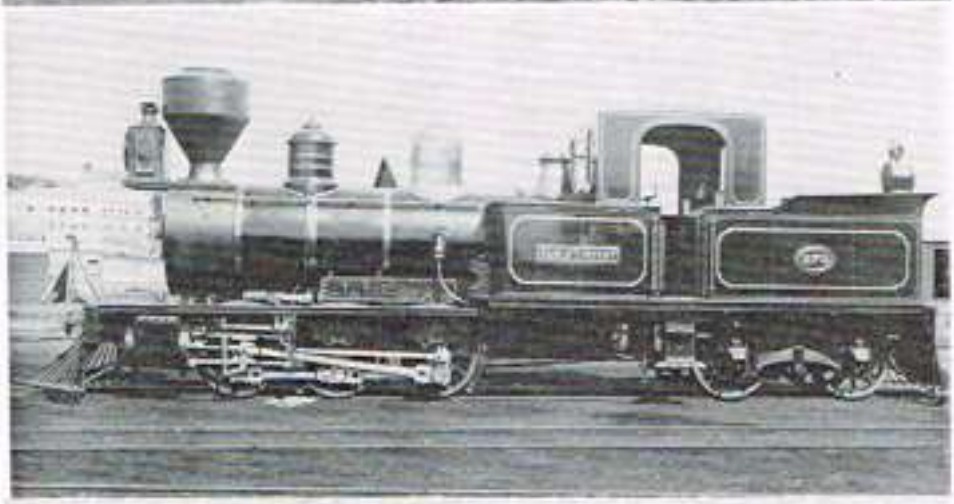
TABLE 3 — FINANCIAL RESULTS, 1880-1908, AUCKLAND SECTION

Year	Passenger Revenue	Goods Revenue	Total Revenue	Total Expenditure	Net Revenue
	£	£	£	£	£
1880-81	27,420	31,824	59,244	39,990	19,254
1881-82	33,881	38,246	72,127	49,295	22,832
1882-83	37,090	44,085	81,175	53,880	27,295
1883-84	36,683	55,470	92,153	64,074	28,079
1884-85	44,738	61,625	106,363	72,089	34,274
1885-86	47,695	72,638	120,333	82,404	37,929
1886-87	48,450	60,283	108,733	89,505	19,228
1887-88	45,649	65,359	111,007	87,057	23,950
1888-89	40,140	62,799	102,939	69,730	33,209
1889-90	40,626	63,505	104,131	75,780	28,351
1890-91	41,950	69,720	111,670	69,328	42,342
1891-92	41,995	71,441	113,437	73,681	39,756
1892-93	43,867	72,994	116,861	76,422	40,439
1893-94	46,356	75,347	121,703	79,170	42,533
1894-95	46,535	77,898	124,434	85,571	38,863
1895-96	51,474	78,966	130,440	87,584	42,856
1896-97	56,922	81,805	138,727	88,931	49,796
1897-98	61,184	86,933	148,117	91,293	56,824
1898-99	67,313	92,106	159,419	101,432	57,987
1899-00	73,406	95,833	169,239	112,820	56,419
1900-01	80,309	105,798	186,107	127,953	58,154
1901-02	97,536	116,817	214,353	139,028	75,325
1902-03	103,774	132,568	236,342	148,850	87,492
1903-04	118,795	154,825	273,620	166,653	106,967
1904-05	126,666	172,357	299,023	187,957	111,066
1905-06	139,597	194,499	334,096	211,682	122,414
1906-07	154,273	238,075	392,347	251,502	140,845
1907-08	175,400	263,697	439,097	298,496	140,601

days. A time of 8 hr. 40 min. was allowed to cover the 171 miles. The service became thrice-weekly during the next four summers, and in 1899 was first retained on a year-round basis. Daily running was introduced in October 1902 when the schedule was reduced to 7 hr. 50 min. following relaxation of the maximum speed over some sections to 40 m.p.h. and the provision of Westinghouse continuous air brakes on the trains.

Whereas in the early 1880s all passenger cars on the Auckland Section were of the four-wheel or six-wheel variety, bogie cars were introduced in 1884 and were steadily increased in number. The last survivors of the old cars disappeared in 1900, but 4-wheel brake vans lasted for several more years. Postal cars appeared on the Auckland Section in 1902, and refreshment cars in 1904. The latter were used between Auckland and Putaruru on the Rotorua expresses, one in each direction and one spare, but from 1915 until their final withdrawal at the end of July 1917 their running was confined to the Mercer-Morrinsville section.

As the tabulation shows, all locomotives on the Auckland Section prior to 1883 were relatively small tank designs, the largest being the 30-ton "R" class 0-6-4T Single Fairlie type. The first tender locomotives at Auckland were six of the 2-6-0 type "J" class, each of which turned the scales at 38 tons ready for service. "Big power" followed two years later in



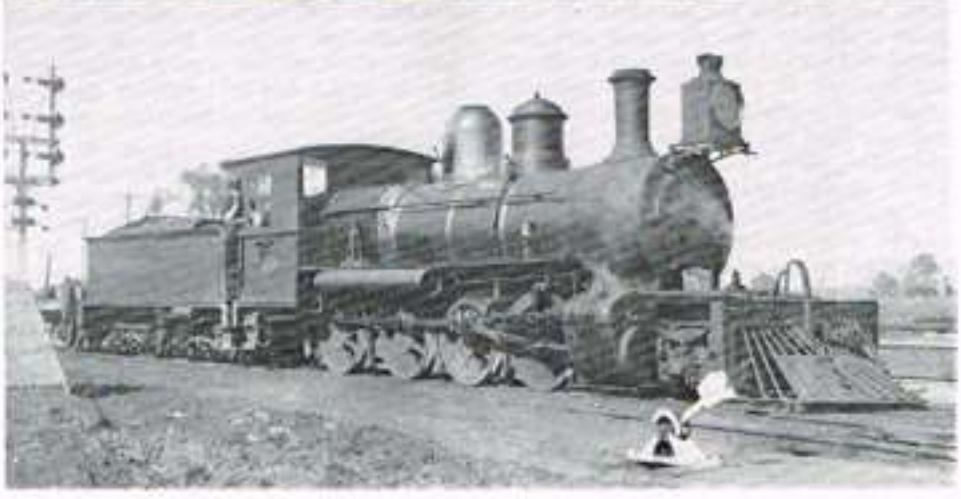


TABLE 4 — PASSENGER CARS AND VANS ON THE AUCKLAND SECTION, 1880-1908

Class	D	C	B	A 1st	A Comp.	A 2nd	Refresh.	Total Cars	A Postal	F 4-wheel	F Bogie	Total Vans	
1880-81	20	30	—	—	—	—	—	50	—	12	—	12	1880-81
1881-82	32	30	—	—	—	—	—	62	—	20	—	20	1881-82
1882-83	32	30	—	—	—	—	—	62	—	21	—	21	1882-83
1883-84	32	30	—	—	—	—	—	62	—	20	—	20	1883-84
1884-85	32	29	—	—	12	2	—	75	—	26	—	26	1884-85
1885-86	32	26	—	—	14	3	—	75	—	26	—	26	1885-86
1886-87	32	25	—	2	15	7	—	81	—	30	—	30	1886-87
1887-88	27	23	—	2	17	9	—	78	—	30	—	30	1887-88
1888-89	26	21	2	1	19	8	—	77	—	30	2	32	1888-89
1889-90	20	15	4	2	23	8	—	72	—	30	2	32	1889-90
1890-91	16	15	4	2	25	8	—	70	—	26	5	31	1890-91
1891-92	16	13	4	2	27	8	—	70	—	25	6	31	1891-92
1892-93	12	12	4	2	27	8	—	65	—	22	8	30	1892-93
1893-94	11	11	4	4	29	7	—	66	—	22	8	30	1893-94
1894-95	10	9	5	4	30	8	—	66	—	21	8	29	1894-95
1895-96	10	9	5	4	30	10	—	68	—	21	8	29	1895-96
1896-97	8	7	5	4	32	12	—	68	—	19	10	29	1896-97
1897-98	8	6	5	4	36	14	—	73	—	19	10	29	1897-98
1898-99	6	6	5	4	38	20	—	79	—	17	12	29	1898-99
1899-00	5	6	5	4	46	22	—	89	—	17	13	30	1899-00
1900-01	—	—	5	5	49	24	—	83	—	16	17	33	1900-01
1901-02	—	—	5	8	55	26	—	95	—	16	21	37	1901-02
1902-03	—	—	13	10	57	27	—	107	3	14	23	37	1902-03
1903-04	—	—	13	13	63	34	—	123	3	14	29	43	1903-04
1904-05	—	—	13	13	68	40	3	137	3	12	33	45	1904-05
1905-06	—	—	13	13	69	42	3	140	3	12	37	49	1905-06
1906-07	—	—	13	12	74	49	3	151	3	12	41	53	1906-07
1907-08	—	—	5	13	76	53	3	150	3	5	50	55	1907-08

LEFT, UPPER: An 18-ton "L" class 2-4-0 tank locomotive, one of ten supplied by the Avonside Engine Company in 1877. This view shows one of the four on the Auckland Section with its pre-1882 number. Note the old-style cattle truck in the background.

From the W. W. Stewart Collection.

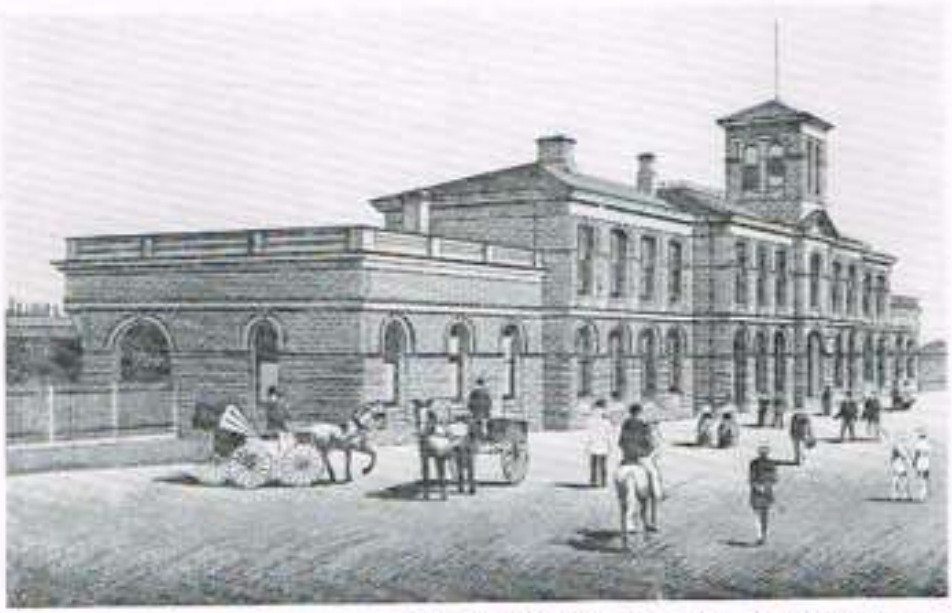
LEFT, CENTRE: Class "R" 0-6-4T Single Fairlie locomotive No. 275 was one of three of its type at Auckland through the 1880s and 1890s. At 30 tons ready for service, it was one of the larger locomotives on the Section.

From the W. W. Stewart Collection.

LEFT, LOWER: For many years, from 1885 until the advent of some "Q" class Pacifics in 1901, the 51-ton "P" class 2-8-0 locomotives were the largest and most powerful at Auckland. Here is No. 269 in later years.

Photograph: W. W. Stewart.

the shape of three 51-ton 2-8-0 type "P" class locomotives for heavy goods service. During the 1890s a start was made on conversion of some "F" 0-6-0 saddle-tank locomotives, first to "Fa" class side-tank locomotives and then to the "Fb" class 0-6-2 type; and the four "L" class 2-4-0T locomotives, first to the "La" class 4-4-0T and ultimately to the 4-4-2T type. But there was no major change in the motive power situation at Auckland until the turn of the century. In response to the rapidly increasing traffic demand at this period, four "N" class 2-6-2 locomotives, three "Q" class 4-6-2 locomotives (later six), and two "Wd" class 2-6-4T locomotives — all from the Baldwin Locomotive Works — were allocated to Auckland in 1901. Seven years later, when the Auck-



From an old print courtesy New Zealand Railways.

Auckland's new railway station near the foot of Queen Street was opened for business on 30 November 1885.

land section was merged into the North Island system, the first two "A" class 4-cylinder compound locomotives were at work, together with seven "Wf" class 2-6-4T locomotives, and the locomotive stud on the Section had risen in number to 57.

As on most other sections of railway in New Zealand in the 19th century, most goods wagons were of timber construction, light weight, elementary design, and relatively small capacity. At first all were of the 4-wheel type and were restricted to an all-up weight of not more than about 15 tons, less if possible even when fully laden. Hence the highside open and low-side open type of wagon, classes "L" and "M" respectively, were most numerous. A number of "N" class flat-top wagons for timber, "O" class coal hopper wagons, "K" class covered (or box) wagons, "G" class horseboxes, "H" class cattle trucks, and "I" class double-deck sheep wagons rounded out the fleet.

Bogie wagons first appeared on the Auckland Section in the form of the "R" class highside open (1886), "T" class cattle (1889), "S" class sheep (1892), and "U" class flat-top (1897). These were not introduced for the purpose of running faster trains, but rather with a view to obtaining higher capacity in one vehicle within the axle loading limitations imposed. It was not until track and structures were improved for carrying heavier loads that wagon designs could follow suit, and it was 1902 before the 12-ton capacity "La" wagon appeared on the Auckland Section. They were followed two years later by the 25-ton capacity "Ub" class flat-top bogie wagons.

The number of goods wagons on the Auckland Section reached 856 by 1887, but then remained more or less static for ten years. Wagon building became more vigorous in the late 1890s with the result that wagon stock reached 1,085 by March 1900 and 2,141 by March 1908.

Traffic was now booming, with consequent heavy pressure on station facilities and equipment generally. Auckland station received the first mechanical interlocking on the Section in 1903, followed closely by

TABLE 5 — LOCOMOTIVES ON THE AUCKLAND SECTION, 1880-1908

Class	A	B	C	D	F	Fa	L	La	R	Wa	Wd	Wf	J	K	N	P	Q	Total
1880-81	—	1	—	—	9	—	4	—	2	—	—	—	—	—	—	—	—	16
1881-82	—	1	1	1	14	—	4	—	2	—	—	—	—	—	—	—	—	23
1882-83	—	1	1	1	14	—	4	—	3	—	—	—	—	—	—	—	—	24
1883-84	—	1	1	1	13	—	4	—	3	—	—	—	6	—	—	—	—	29
1884-85	—	1	1	1	12	—	4	—	3	—	—	—	6	—	—	—	—	28
1885-86	—	1	1	1	11	—	4	—	3	—	—	—	6	—	—	3	—	30
1886-87	—	1	1	1	17	—	4	—	3	—	—	—	6	—	—	3	—	36
1887-88	—	1	1	1	17	—	4	—	3	—	—	—	6	—	—	3	—	36
1888-89	—	1	1	1	17	—	4	—	3	—	—	—	6	—	—	3	—	36
1889-90	—	1	1	1	17	—	4	—	3	—	—	—	6	—	—	3	—	36
1890-91	—	—	—	1	17	—	4	—	3	—	—	—	6	—	—	3	—	34
1891-92	—	—	—	1	14	1	4	—	3	—	—	—	6	—	—	3	—	32
1892-93	—	—	—	1	13	2	4	—	3	—	—	—	6	—	—	3	—	32
1893-94	—	—	—	1	13	2	2	2	3	—	—	—	6	—	—	3	—	32
1894-95	—	—	—	1	12	3	2	2	3	—	—	—	6	—	—	3	—	32
1895-96	1	—	—	1	11	3	2	2	3	—	—	—	6	—	—	3	—	32
1896-97	—	—	—	—	12	3	2	2	3	—	—	—	6	—	—	3	—	31
1897-98	1	—	—	—	12	3	2	2	3	—	—	—	6	—	—	3	—	32
1898-99	1	—	—	—	12	3	2	2	3	—	—	—	8	—	—	4	—	35
1899-00	1	—	—	—	12	4	1	3	3	1	—	—	9	—	—	4	—	38
1900-01	1	—	—	—	13	4	—	4	3	1	—	—	9	—	—	4	—	39
1901-02	1	—	—	—	13	4	—	4	3	1	2	—	9	—	4	4	3	48
1902-03	1	—	—	—	13	4	—	4	1	1	2	—	9	2	4	4	3	48
1903-04	1	—	—	—	13	4	4	—	1	1	2	—	9	2	4	4	6	51
1904-05	—	—	—	—	13	4	4	—	1	1	2	2	7	2	4	4	6	50
1905-06	—	—	—	—	13	4	4	—	1	1	2	5	7	2	4	4	6	53
1906-07	—	—	—	—	13	4	4	—	1	1	2	5	7	2	4	4	6	53
1907-08	2	—	—	—	13	4	4	—	1	1	2	7	7	2	4	4	6	57

similar installations at Newmarket and Penrose in 1904. The electric tablet system of block working was introduced between Auckland and Onehunga, Penrose and Mercer, also between Newmarket and Henderson, in 1904, and this aid to safe working was thereafter steadily extended on the busier lines.

Duplication of the railway between Auckland and Penrose was put in hand in 1906 and completed in 1909, except for a short section through the Parnell Tunnel, but the new double-line tunnel was opened on 1 June 1915. Completion in 1909 of the main trunk railway linking the Auckland Section with the southern half of the North Island added a further boost to business, and in 1911 preparations were made for a major programme of virtually rebuilding large sections of the railway between Otahuhu and Mercer. The object here was to reduce the ruling gradient from 1 in 40 to 1 in 100.

This grade easement programme was undertaken in stages — it involved the reconstruction of several station yards as well as numerous deviations between stations — and was virtually complete by 1917. It is difficult to realise today that the climb to Manurewa from the south was originally 1 in 58, that the Karaka bank against southbound trains between Drury and Paerata once included nearly a mile at 1 in 45, or that northbound trains climbing to Buckland from Tuakau had to drag themselves up a 1 in 40 gradient. Northbound trains starting out of Mercer faced a short stretch at 1 in 39

(Continued on p. 105)

From the W. W. Stewart Collection.

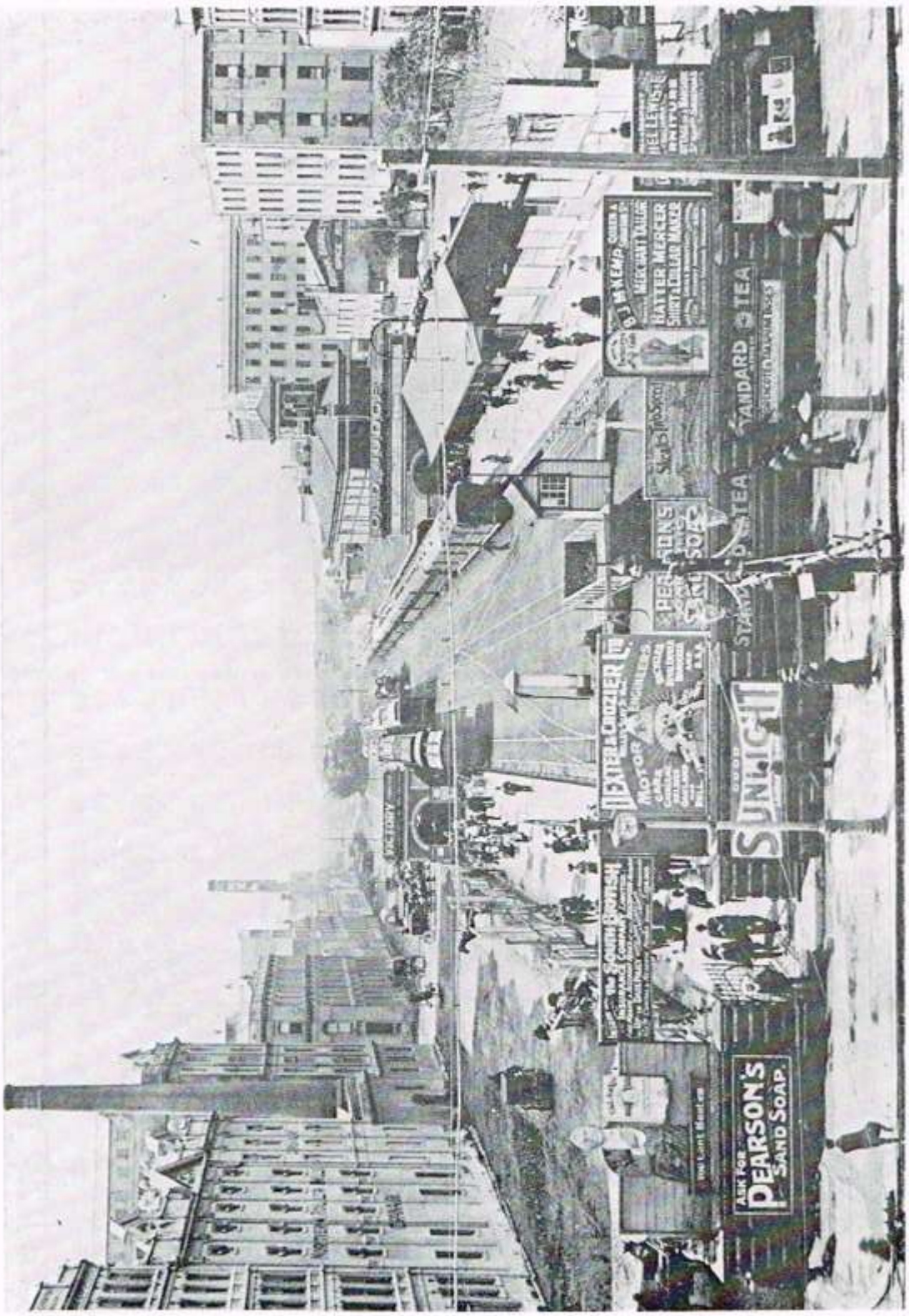
ABOVE: An interesting view of Auckland railway station about 1905, showing the Rotorua Express headed by a "Q" class locomotive awaiting departure.

BELOW: This early view of Frankton junction about 1900 shows a fascinating variety of wagons and cars.

From the W. W. Stewart Collection.

TABLE 6 — GOODS WAGONS ON THE AUCKLAND SECTION, 1880-1908

Class . . .	G	H	J	K	L	La	M	Ma	N	O	P	X	Xa	W	Y	R	Rb	S	T	U	Ub	Total
1880-81	10	42	24	35	123	—	84	—	28	50	1	—	—	—	—	—	—	—	—	—	—	397
1881-82	9	77	12	37	133	—	124	—	52	80	1	—	—	—	—	—	—	—	—	—	—	525
1882-83	11	67	12	37	173	—	124	—	52	80	1	—	—	—	—	—	—	—	—	—	—	557
1883-84	13	67	27	37	203	—	140	—	74	80	1	—	—	—	—	—	—	—	—	—	—	642
1884-85	13	83	27	37	233	—	185	—	74	80	1	—	—	—	—	—	—	—	—	—	—	733
1885-86	13	81	27	35	228	—	185	—	77	80	1	—	—	3	—	5	—	—	—	—	—	735
1886-87	17	78	37	45	261	—	173	—	81	80	1	—	—	3	—	80	—	—	—	—	—	856
1887-88	17	78	37	45	261	—	173	—	81	80	1	—	—	3	—	54	—	—	—	—	—	830
1888-89	17	76	37	45	261	—	177	—	81	80	1	—	—	3	—	54	—	—	1	—	—	833
1889-90	17	76	37	45	253	—	177	—	81	80	1	—	—	3	—	54	—	—	6	—	—	830
1890-91	17	75	37	47	253	—	177	—	81	80	1	—	—	3	—	54	—	—	6	—	—	831
1891-92	17	75	37	40	253	—	177	—	81	80	1	—	—	3	—	54	—	—	6	—	—	824
1892-93	17	75	37	42	314	—	100	—	81	80	1	7	—	3	—	47	—	6	6	—	—	816
1893-94	17	55	49	48	324	—	94	—	73	80	1	9	—	3	—	46	—	6	6	—	—	811
1894-95	17	55	49	48	346	—	122	—	73	80	1	9	—	3	—	46	—	6	6	—	—	861
1895-96	17	55	49	42	346	—	110	—	73	80	1	14	—	3	—	46	—	6	6	—	—	848
1896-97	17	55	49	52	377	—	99	—	65	80	1	14	—	5	—	51	—	6	6	—	—	877
1897-98	17	55	49	52	399	—	79	—	65	80	1	14	—	5	20	51	—	6	6	10	—	909
1898-99	17	55	49	52	463	—	59	—	75	80	33	14	—	8	40	51	—	6	6	16	—	1024
1899-00	17	55	49	52	546	—	59	—	75	80	—	24	—	8	40	51	—	6	6	16	—	1084
1900-01	17	55	49	62	627	—	58	—	75	—	—	30	—	11	40	61	—	6	6	16	—	1159
1901-02	20	65	64	68	632	—	63	—	65	—	—	30	—	12	40	61	—	8	8	15	—	1151
1902-03	20	65	64	69	633	125	63	—	70	—	—	55	—	27	40	53	—	8	8	25	—	1325
1903-04	23	65	84	69	653	125	63	—	70	—	—	55	—	27	40	58	—	8	8	45	—	1393
1904-05	23	70	84	71	728	125	63	—	80	40	—	67	—	27	40	68	—	8	8	45	5	1552
1905-06	28	75	84	81	728	125	88	—	80	40	—	42	33	37	40	68	10	8	8	45	16	1636
1906-07	28	85	84	91	778	200	88	50	80	40	—	42	33	47	40	68	20	8	8	65	26	1881
1907-08	28	90	114	91	933	200	88	50	102	50	—	42	33	47	40	90	20	8	8	66	41	2141


HATTER MERCER
STANDARD TEA
SUNLIGHT
ASK FOR PEARSON'S SAND SOAP

(Continued from p. 101)

approaching Pokeno and finished the climb to Whangarata at 1 in 47. These inclinations effectively held the goods-train load for an "A" class 4-cylinder compound locomotive (the "big power" of the time) down to 275 tons. When the grade easements were completed, this load was promptly increased to 500 tons between Otahuhu and Mercer.

IN 1914 an ambitious programme of railway improvements throughout the country was included in a special report by the new General Manager, Mr E. H. Hiley. It included provision for duplication of the line between Penrose and Papakura, Ohinewai-Huntly, and Horotiu-Frankton; a new Auckland passenger station on a site on Beach Road opposite Eden Street; a new goods yard and "engine depot" on land reclaimed from Mechanic's Bay; and a new railway via Orakei to Westfield to give a more easily graded but longer outlet from the city centre.

The accommodation at the existing passenger station was described as "already overtaxed". Sufficient accommodation for the future could not be provided on the present site owing to its cramped position, being bounded on either side by Customs and Quay Streets, by the post office at the west end, and by Breakwater Road at the east end. The platforms were described as too short, and to lengthen them would entail the closing of Breakwater Road, an "undesirable proceeding." Nevertheless the outbreak of war in Europe just as the report was completed effectively stopped any substantial progress for some time. Only the new locomotive depot was put in hand immediately; this was completed about 1916 or 1917.

It was 1924 before another major programme of new works was produced, embodying somewhat similar proposals, though in somewhat modified form. The Minister of Railways, Hon. J. G. Coates, now commented that the intention had been to complete the works in five years, but "the intervention of the war rendered that impossible, and for the past ten years the Department has been carrying on its operations, entailing the handling of five million additional passengers and one million additional tons of goods per annum, with facilities that were considered to be inadequate for dealing with the traffic which was handled in 1914."

Whereas in 1914 Mr Hiley had remarked that "at some future period when the traffic north of Auckland increases sufficiently to justify the expense it will be desirable to extend the Main Trunk line straight through Auckland Station, carrying the line westward over Queen Street and through the suburb of Ponsonby, and joining the present railway to Kaipara at either New Lynn or Kumeu," in 1924 the programme outlined by Mr Coates made specific provision for extension of the railway through the new station westward in tunnel under the city to Morningside on the line to the north. This Auckland-Morningside deviation was programmed to be constructed after the new station was finished.

In the event, the railway between Penrose and Papakura was duplicated in stages between 1926 and 1931; the Horotiu-Frankton duplication was completed in 1929; the lock-and-block system of safe working on the double line between Auckland and Penrose was replaced by automatic colour-light signalling in 1925, the new system being extended southward stage by stage to reach Frankton Junction by 1930; and a contract for erection of the new Auckland passenger station was let to J. T. Julian and Son Limited in 1928 under the supervision of the architects, Messrs Gummer and Ford. The Auckland-Westfield double-line deviation was completed and brought into full use when the new station was opened in November 1930. New goods sheds and a goods yard were brought into use about the same time.

Another major development of the 1920s was the establishment of new car and wagon workshops at Otahuhu in place of the older workshops that had been developed at Newmarket over the years.

(Continued on p. 110)

LEFT: Auckland railway station from the Queen Street frontage about 1906. In 1909 a new Chief Post Office building was erected on the land between the station buildings and the street in the foreground, the platforms being shortened in the process.

From the W. W. Stewart Collection.

From the W. W. Stewart Collection.

CLIMBING THE PARNELL BANK

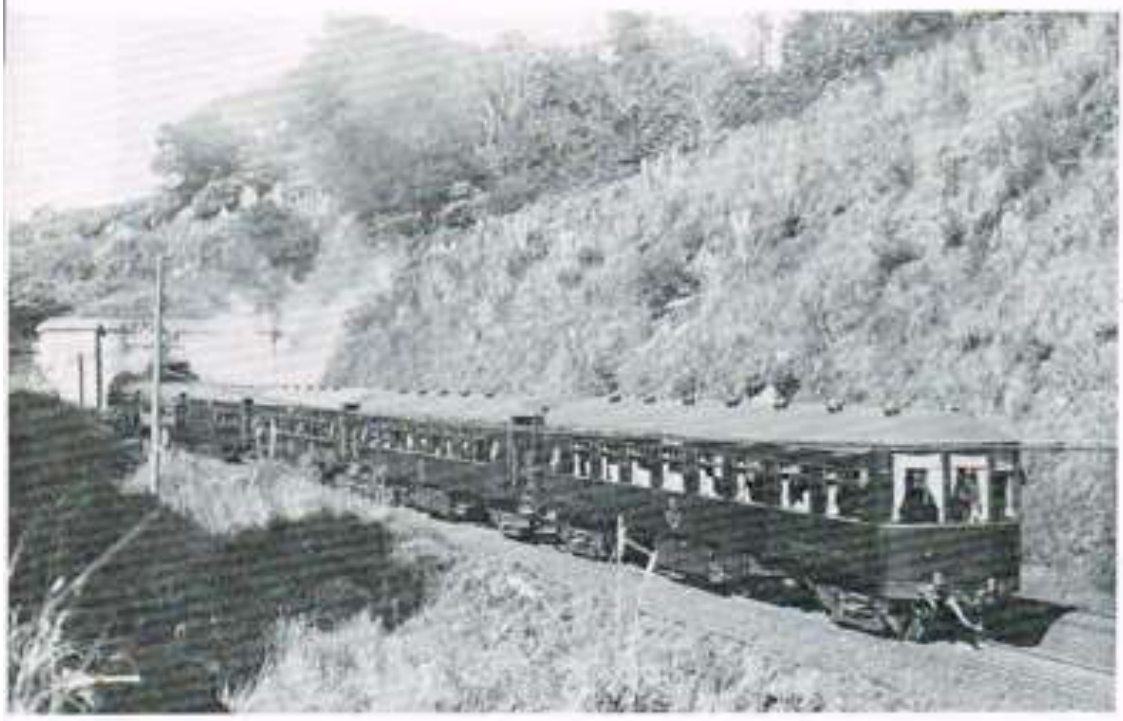
ABOVE: An "N" class 2-6-2 locomotive with the Auckland-Rotorua express climbing towards the Parnell Tunnel in the early 1900s.

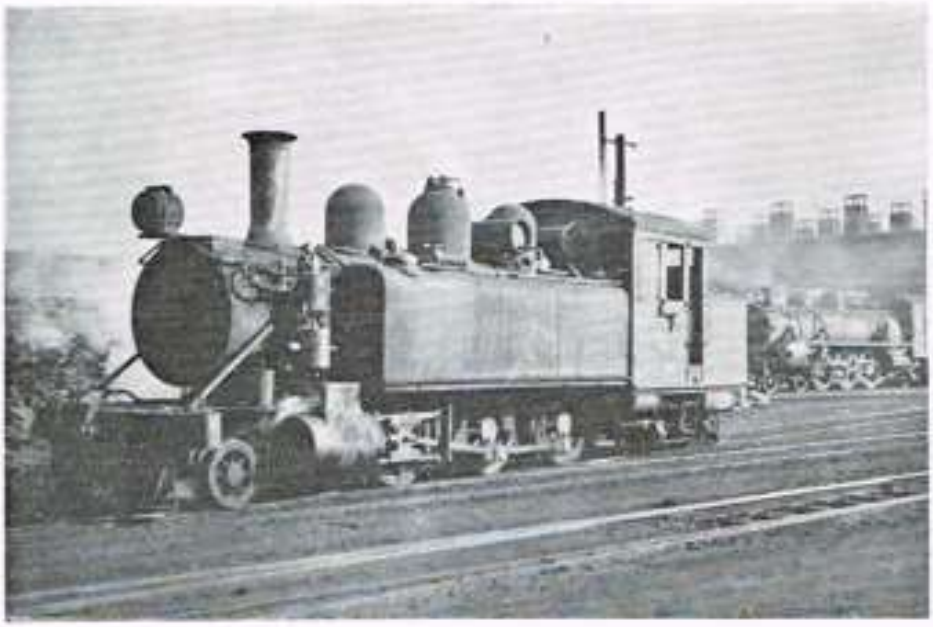
BELOW: Nearly 20 years later, in 1921, an "A" class 4-cylinder compound is seen in about the same place with the same train. The gradient is 1 in 45.

Photographs: W. W. Stewart.

RIGHT: An "Ab" class Pacific emerges from the Parnell Tunnel with the Rotorua Express in 1923 (top), while below the new "Rotorua Limited" of 1950, complete with observation car, is seen entering the tunnel on its way to the Thermal Wonderland.

Photographs: W. W. Stewart.



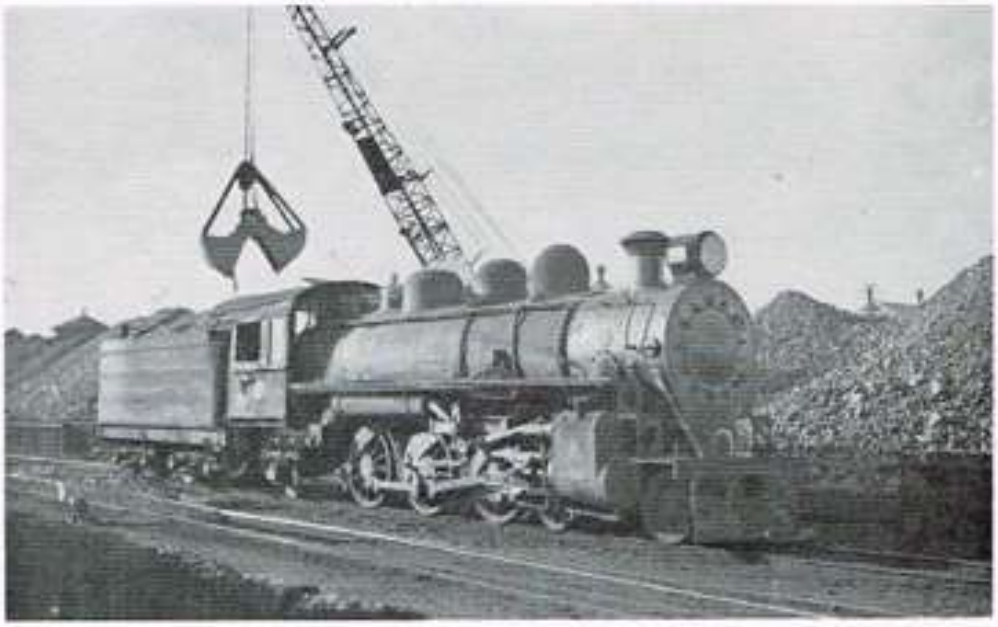


BALDWINS AT AUCKLAND

ABOVE: A "Wd" class 2-6-4 tank locomotive of 1901, NZR No. 359, photographed at Auckland in 1956 when it was near retirement.

BELOW: Class "Aa" Pacific No. 649 takes on coal during a visit to Auckland in 1957.

Photographs: A. H. Bennett.



SCENES FROM THE 1940s

ABOVE: Class "K" 4-8-4 No. 911 pulls a southbound freight slowly out of the Auckland goods yard.

BELOW: While "Ww" 560 draws cars from the yard, "K" 901 leaves Auckland Station's platform 1 with a short passenger train.

Photographs courtesy N.Z. Railways

(Continued from p. 105)

They formed part of a major reorganisation of workshops throughout the system adopted in 1925. The new Hutt Workshops (near Wellington), primarily for the construction and overhaul of locomotives, and the new Otahuhu Workshops for the construction and overhaul of cars and wagons were both brought into use early in 1929.

Meanwhile, between 1910 and 1920, Auckland saw the introduction of new "Wg" and "Ww" 4-6-4 type tank locomotives, and new "Bb" class 4-8-0 locomotives from 1915. Some of the impressive Baldwin 4-6-2 locomotives of the NZR "Aa" class appeared at Auckland in 1915, to be followed two years later by the first of NZR's own "Ab" class 2-cylinder simple superheated locomotives in that district. A tank version of this design, the "Ws" class 4-6-4T No. 686, intended for smart suburban passenger duties, also appeared about this time, both types being multiplied during the 1920s.

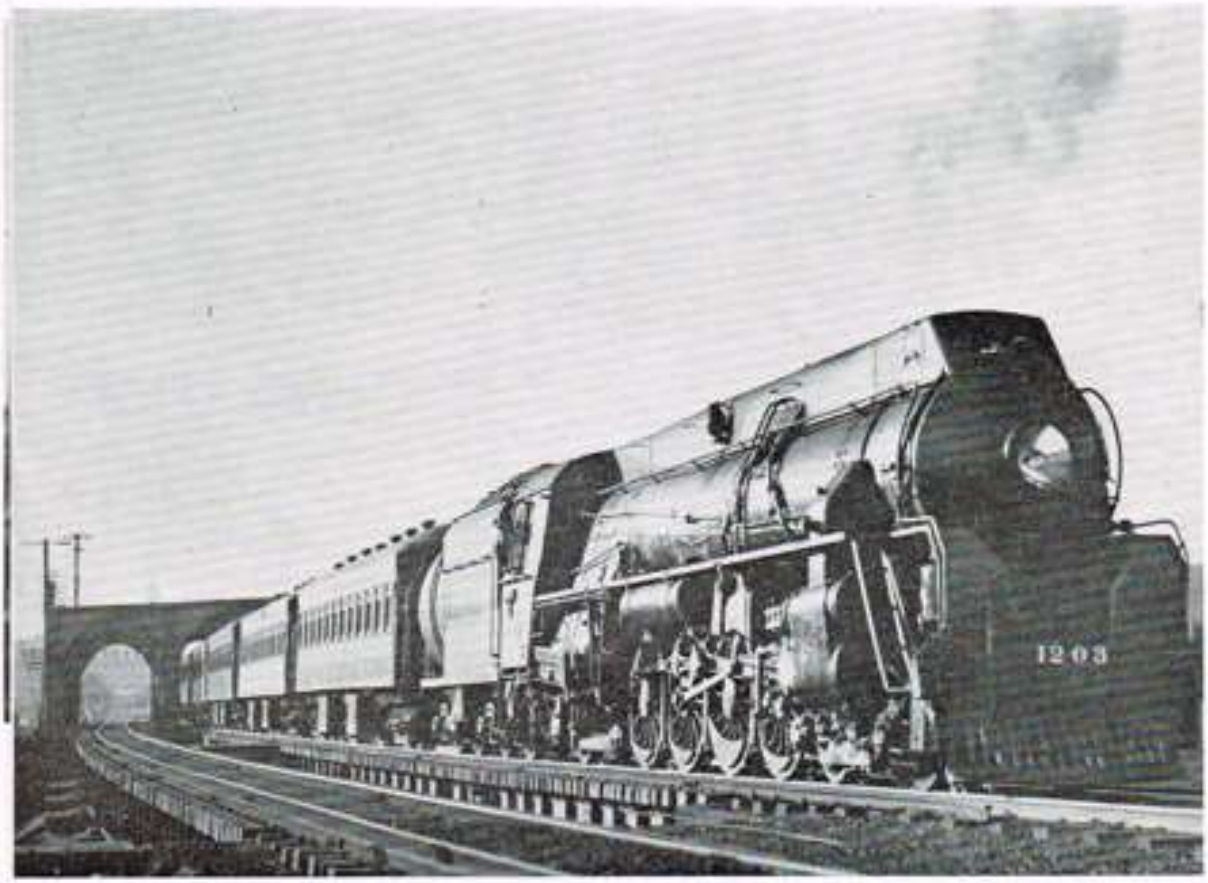
Gradual acceleration of passenger train services between 1909 and 1924 culminated in the introduction of "Limited" express trains between Auckland and Wellington in December of the latter year. These trains were allowed only 14¼ hours for the 426-mile overnight journey, a good three hours quicker than the ordinary expresses — which continued to run. Maximum authorised speeds were raised early in 1925 from 45 to 50 m.p.h. on a few suitable sections of line, and in November of that year a "Daylight Limited" was introduced, leaving Auckland at 7.55 a.m. every weekday. The daytime trains attracted relatively little custom in the winter months, and ultimately degenerated into a Christmas and Easter holiday service. This is understandable because the train from Auckland was not due into Wellington until 11.10 p.m. It was a long day, and customers had to be keen and determined.

Sleeping cars had first appeared on the Auckland-Wellington expresses in 1909, and in the later 1920s a new design of steel-panelled sleeping car, described as "de luxe", was introduced on the overnight "Limited" service. The decade culminated with the introduction in May 1930 of the "Rotorua Limited" service, replacing the former express. This new service was covered by two trains, which were the first in New Zealand to be distinguished by modern, steel-panelled coaches with enclosed entrance vestibules throughout. An observation car with wide windows and lounge chairs was a feature of each train, but the idea did not "catch on", and lack of patronage led to their withdrawal after a few months. The trains themselves remained a popular mode of travel between Auckland and Rotorua for a long time. Although the courtesy title of "Limited" was dropped after a few years, the trains were not replaced by railcars until February 1959.

Electric lighting in main-line carriages, and powerful electric headlights on main-line locomotives, were adopted as standard practice in the late 1920s, and between 1931 and 1934 the Otahuhu Workshops turned out a large number of steel-panelled passenger cars on roller-bearing bogies for the main trunk expresses. The "C" class shunting locomotives appeared in 1930-31, and the massive "K" class 4-8-4s revolutionised the main-line motive power scene from 1932 to 1936; but these developments were about the only evidence of progress in the depression years of the early 1930s. All thoughts of major expenditure on new works at this time were put aside, including the Auckland - Morningside deviation scheme, which even yet has not seen the light of day.

It was not really until the election of a new government in 1935 and the adoption of new financial policies that major railway development works were resumed. Between 1937 and 1939 the railway northward from Horotiu was duplicated through Huntly to Ohinewai (except across the Waikato River at Ngaruawahia), and in 1939 also double-line working was extended southward from Papakura to Paerata. A start was made on earthworks for a railway from Pokeno across country to Paeroa, designed to shorten the rail haul between Auckland and the Bay of Plenty, but it was not long before the outbreak of the Second World War in September 1939 imposed a stoppage on this and many other works.

Between 1938 and 1943, however, the workshops turned out the 56 ft. passenger cars that became familiar on our express

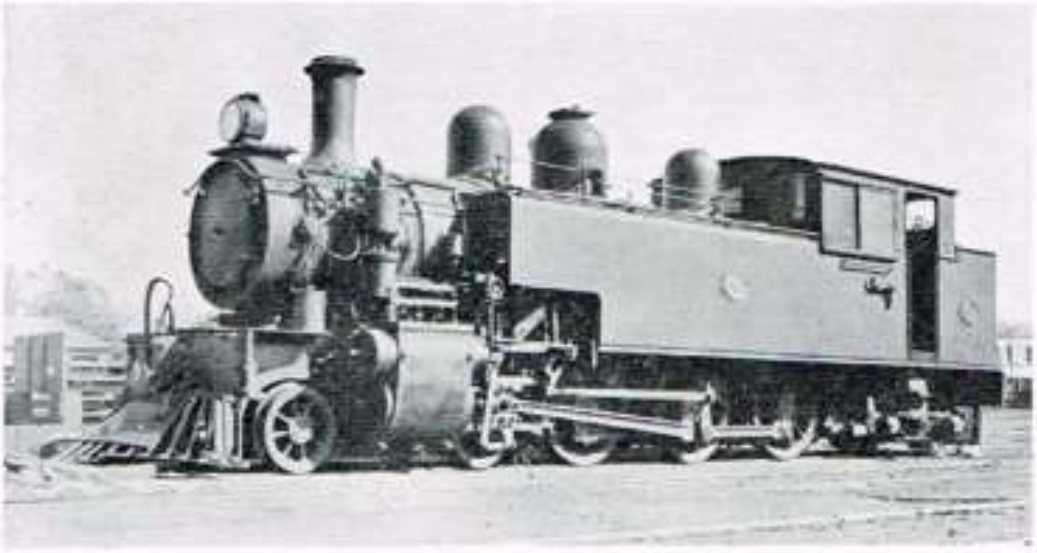


Photograph: W. W. Stewart.

The "streamlined" Mountain type locomotives that arrived from North British late in 1939 and early 1940 were distinctive features of the Auckland railway scene during the next decade. Here, on 5 May 1947, "J" 1203 crosses the Parnell bridge with the 4.5 p.m. train to Whangarei. This was a passenger train as far as Helensville, thereafter a mixed.

trains for many years. The first-class versions of this series featured the innovation of four-position adjustable reclining seats, and hot and cold water in the washrooms. The year 1940 saw an influx of "streamstyled" 4-8-2 locomotives, the 109-ton "J" class, into the Auckland district, a welcome advent at a time of rapid traffic growth.

Whereas in 1929 the tonnage of goods handled at stations in the Auckland metropolitan region between Henderson and Papakura had reached 631,000 tons outward and 645,000 inward (more than double the 1908 figures), by 1939 tonnage had reached 885,000 outward and 820,000 inward. In addition, the numbers of livestock received at the freezing works in the South Auckland area and accounted for by Penrose and Otahuhu stations had risen from 652,000 to 1,288,000 sheep and pigs (mainly sheep) and from 144,000 to 362,000 cattle and calves. The passenger business, however, remained relatively static under the impact of the private car and extension of bus services. Journeys represented by ordinary tickets sold in the metropolitan region were 1,049,000 in 1929-30 and 1,087,000 in 1939-40. The number of season tickets sold in the region indeed fell from 205,000 to 168,000, reflecting the relative inconvenience of the new



Photograph: W. W. Stewart.

ABOVE: A 51-ton "Ww" class 4-6-4 tank locomotive, a type used on a wide range of duties at Auckland and elsewhere from about 1915 to 1950.

RIGHT, UPPER: The 8.40 a.m. Auckland-Opua express of the 1940's, headed by a "J" class 4-8-2 and assisted by a "Ww" at the rear, climbs the steep Parnell Bank out of Auckland up to Newmarket.

(W. W. Stewart)

RIGHT, LOWER: From 1956 the Opua express was replaced by diesel railcars, which ran to Okaihau instead. Here a pair climb the Parnell Bank.

(N.Z. Railways Publicity photograph)

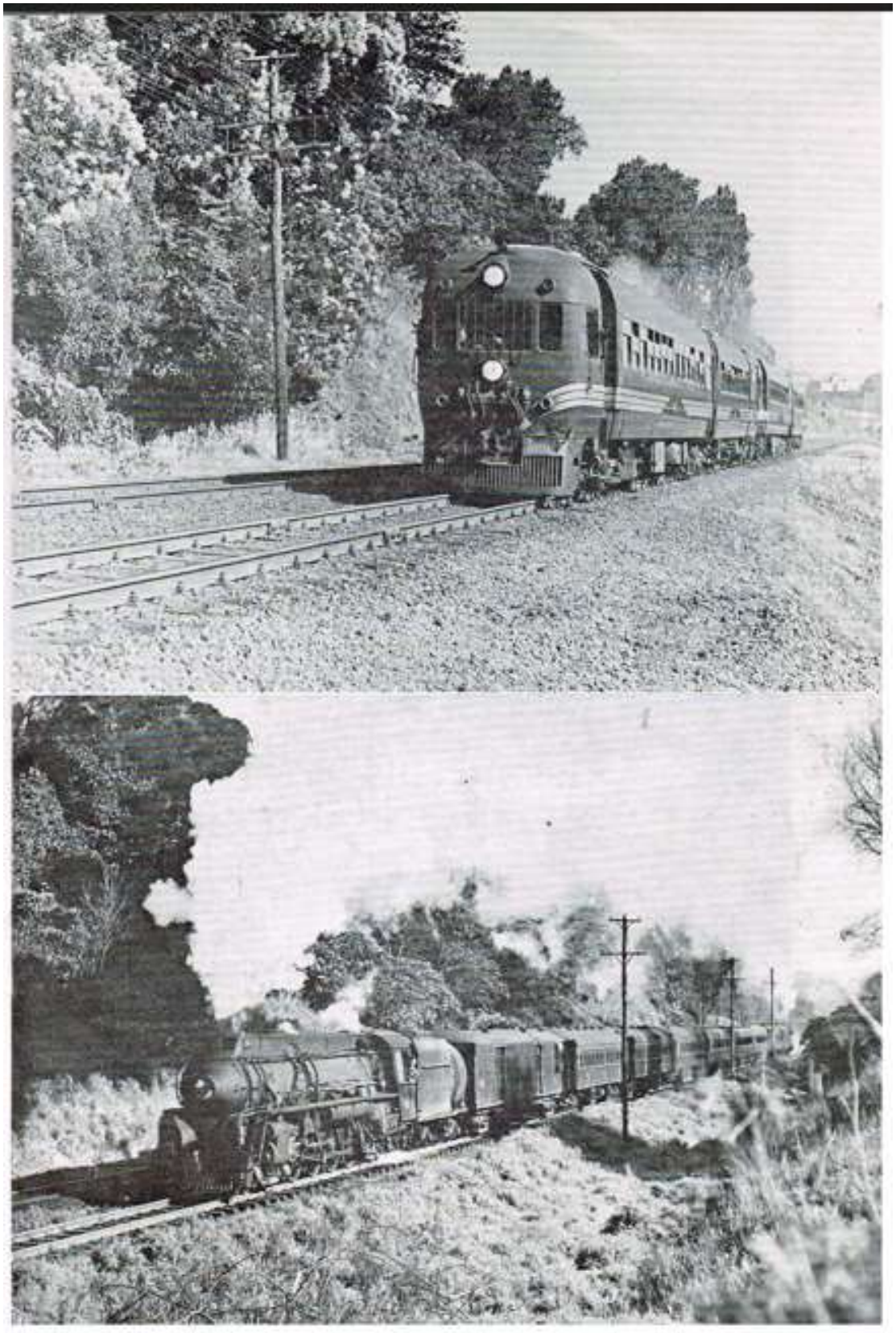
Auckland station for city workers and shoppers.

Wartime conditions, however, had their effect. Within only four years, in 1943-44, the annual passenger returns for the region reached a peak of 2,576,000 journeys on ordinary tickets and a sale of more than 232,000 season tickets. The tremendous load thrust on the railway system at this time used up resources rapidly, and by early 1944 reserves of coal had dwindled to such an extent that train services had to be severely curtailed. The "Night Limited" on the main trunk ran on only Monday and Friday nights, and provincial expresses were cut from six to three days a week. For a time indeed it was necessary to obtain permits to travel by rail.

After the war, large quantities of coal were imported at high cost from North America and India to supplement local supplies, and beginning in 1946 a programme of converting main-line locomotives to burn fuel oil instead of coal was put in hand. The big "K" and "Ka" class locomotives were dealt with first, followed later by 12 of the "J" class locomotives. These 12 were reclassified "Jb" and used mainly in the Auckland district. Sixteen "Ja" class locomotives built new in Scotland in 1951 were oil-fired from the start, and most of these were based in Auckland to help cope with the increasing goods traffic, which by 1949-50 had reached 1,002,000 tons inward to the Henderson-Papakura area and 932,000 tons outward. Livestock received in the Penrose-Otahuhu area had reached 1,548,000 sheep and pigs and 493,000 cattle and calves.

The major waterfront and coal-miners' strike in 1951 resulted in further cuts to train services, provincial expresses being reduced to only two days a week. The situation at this time encouraged the greater use of air services, road services,

(Continued on p. 117)



Auckland Railway Station and a section of the yards in the mid-1960s, looking from west to east. The platform tracks are numbered 1 to 7 from left to right, Nos. 2 to 7 being through lines.

Photograph: N.Z. Railways Publicity.

ABOVE: A busy scene in the Auckland goods yard in the 1950s.

BELOW: The marshalling yard at Westfield was opened in January 1962 as the principal terminal for goods trains arriving in and leaving the Auckland metropolitan region.

Photographs: N.Z. Railways Publicity.

(Continued from p. 112)

and private cars. Even after fuel supply problems had been overcome, staff shortages were blamed for inability to restore normal passenger train services. Only the main trunk services between Auckland and Wellington came back to any semblance of normality.

FROM 1949 for some years there was serious investigation of the possibility of electrifying the North Island main trunk railway throughout, and the Auckland suburban railway system, but all the schemes of this period came to nought. In November 1952 some of the first diesel-electric locomotives in New Zealand, the 51-ton "De" class, were allocated to Auckland to run an improved suburban train service, which was inaugurated with a certain amount of fanfare, and in 1955 the Auckland authorities opted for an urban motorway system to take precedence over suburban railway extension and electrification.

Meanwhile, the first heavy-duty diesel-electric locomotives, the 108-ton "Df" class, had been ordered from English Electric for main trunk service. They arrived in 1954 and were put to work on accelerated through goods trains between Auckland and Wellington. A few months later an urgent order went to General Motors in the United States and Canada for 30 general-purpose 1,425 h.p. diesel-electric locomotives for service in the North Island. These arrived at Auckland in the latter months of 1955 and became NZR's "Da" class, ultimately, by 1967, to number 146 locomotives.

The changeover from steam to diesel traction had now begun in earnest, but although diesel shunting locomotives had been imported in considerable numbers between 1949 and 1956, few of these were seen at Auckland. It was not until 1959, when the double-ended "Dsc" class locomotives of 420 h.p. arrived, that yard shunting at Auckland became almost fully dieselised. A new diesel locomotive and railcar servicing depot at Parnell was brought into use in 1956.

It was in September 1956 that the first diesel railcar to be allocated to Auckland arrived in the city, and the first batch of these 88-seat 420 h.p. articulated twin-coach vehicles to be based here were put to work on new daily services between Auckland, Whangarei and Okaihau, replacing the former thrice-weekly Auckland-Opua expresses from 12 November, and on a daily service between Auckland and New Plymouth, replacing the former thrice-weekly overnight expresses, albeit on new schedules that, because of local traffic considerations, were not particularly attractive to through passengers.

By 1959 twelve of these 60 m.p.h. railcars were allocated to Auckland, and on 9 February of that year the last regularly scheduled provincial express trains in New Zealand, the twice-a-week expresses on the Auckland-Rotorua and Auckland-Taneatua runs, were replaced by daily railcar services. We say daily, but here it was curious that no service was provided on Saturdays, though there were popular Friday and Sunday evening schedules. On the Taneatua line, the new railcar service was terminated at Te Puke, a road service connection being provided east of that point.

These railcar services cut rail journey time between Auckland and Rotorua from 6 hours to 5¼ hours; while Tauranga was reached from Auckland in 5¾ instead of 6¼ hours. The faster journey times and much improved frequency of service certainly proved a shot in the arm for passenger business in the Auckland district for a few years, but road services on upgraded and much more direct highways tended to grow in popularity, not to mention the private car.

By 1967 it was becoming necessary to consider replacing the engines and transmission equipment in these railcars, but they were now attracting good loadings only at holiday periods and it was assessed that railcar services as a whole throughout New Zealand were costing £500,000 a year more to maintain than they were earning. It was therefore decided to phase out these railcars from service where possible in favour of improved road services. Following the withdrawal in April 1967 of railcars from any suburban services they covered between main-line runs, all services on the North Auckland line were discontinued from 31 July 1967 and the Auckland-Te Puke services ran for the last time on Sunday 10 September. The Auckland-Rotorua railcar service was can-

Photograph: W. W. Stewart.

The 660 h.p. "Dc" class diesel-electric locomotives were put to work on suburban trains in 1952. This one is leaving the crossing loop at Mt. Albert with an early-morning suburban train to Waitakere.

Photograph: E. J. McClare.

The first "Dsc" class diesel-electric shunting locomotive arrived in Auckland in March 1959. Here No. 405 passes along Quay Street from the wharves to the goods yard.

Photograph: E. J. McClare.

The typical 7.15 p.m. Auckland-Wellington "Night Limited" of the 1950s was headed by an oil-fired "Ja" class 4-8-2 of North British manufacture. This was No. 1281 at the head of a 13-total 400-ton load just after leaving Auckland station.

celled in November 1968, but the Auckland-New Plymouth run survived until October 1971, when the Auckland-Taumarunui segment was discontinued.

On the main trunk line, the "Night Limited" expresses had been restored to normal frequency in November 1948, and in October 1949 trial "Daylight Limiteds" were run between Auckland and Wellington on accelerated schedules. These trains thereafter made a number of runs between Christmas and the end of January each summer, being sometimes hauled by the 1,500 h.p. "Df" class diesel-electric locomotives over parts of the journey from 1955 onwards. Diesel haulage did not become normal practice on this service until December 1960, when swept-up versions of the trains, headed by "Da" class diesel-electrics throughout, were introduced under the new title of "Scenic Daylight". Cutting another hour off the run from Auckland to Wellington, to make the journey in 12 hr. 45 min., the new services were arranged to run each Saturday and Monday from 17 December 1960 to 30 January 1961.

The 317-seat "Scenic Daylights" remained a feature of the summer holiday train service for more than ten years, though gradually the number of runs made each season was whittled down. In October 1968, however, an upgraded version of articulated railcar inaugurated a new thrice-weekly daytime service all the year round between Auckland and Wellington, covering the 423 miles in only 10 hr. 50 min. Fitted out with carpets, facilities for serving light refreshments on board, and a public address system, the railcars used on this service soon became known as the "Blue Streaks". Indeed, they became so popular that in December 1972 they were replaced by new air-conditioned diesel-electric twin-coach railcars with stainless-steel bodies and greater capacity.

These "Silver Fern" railcars, as they are called, with their designed top speed of 75 m.p.h. (120 km/hr), graphically illustrate the progress made in the hundred years since the little locomotive *Ada* chuffed over the eight miles from Auckland to Onehunga with its short train of 6-wheel carriages.

From November 1948 the overnight expresses between Auckland and Wellington continued on their appointed ways, except for most of 1951 when the "Night Limited" was curtailed in frequency as a result of coal shortage arising from the miners' strike. Steam locomotives remained supreme on these trains until April 1963 when steam-generator vans were made available for the "Night Limited" expresses enabling "Da" class diesel-electric locomotives to take over these services. The long-standing schedule allowing 14½ hours from Auckland to Wellington was at last cut to 13 hr. 35 min. (from 7.30 p.m. to 9.05 a.m.).

Diesel traction on the ordinary main trunk express trains followed in February 1965, after which date the use of steam locomotives at Auckland dwindled rapidly. The 1965 changeover cut the Auckland-Wellington journey time by 45 minutes to 14 hr. 25 min., at which it will remain until the service is upgraded to become the "Northerner" with a dining car towards the end of 1974. Meanwhile, in September 1971, the "Night Limited" was replaced by the air-conditioned stainless-steel all-sleeper "Silver Star", with a further cut of an hour in the journey time to 12 hr. 30 min. (now 8 p.m. to 8.30 a.m.). The "Silver Star" by night and the "Silver Fern" by day illustrate the high standard of service sought by New Zealand Railways in the 1970s.

An overnight express goods train service in 18½ hours was introduced between Auckland and Wellington in 1941, leaving in the late morning and arriving early the next day, but it had mixed fortunes until after the inauguration of the rail ferry service between Wellington and Picton in 1962. A second express goods train was added in 1965, and by the close of 1972 their number had risen to four in each direction, all composed of bogie vehicles only and running at speeds up to 50 m.p.h. One train is timed to cover the 423 miles in as little as 13½ hours.

In the postwar years railway goods traffic at Auckland continued to grow in tune with the growth of commercial activity and the size of the metropolitan area. By 1959-60 inward tonnage had risen to 1,183,000 tons and outward to 1,015,000, and by 1969-70 these figures had risen to 1,350,000 tons and 1,391,000 tons respectively. In 1959-60 livestock received in the Penrose-Otahuhu area reached a total of 2,029,000 sheep and pigs and 538,000 cattle and calves. Restrictions on the road transport of livestock were lifted in 1961, however, with the result that, by the year 1969-70, their numbers arriving by rail at Penrose-Otahuhu had declined to 546,000 sheep and pigs and 455,000 cattle and calves.

The growth of ordinary goods traffic placed increasing pressure on rail handling facilities in the region, and considerable funds were directed towards the development of goods yards and goods sheds, for example at Penrose in the heart of the industrial area. A major goods train marshalling yard at Westfield, seven miles south of Auckland city, was commissioned in January 1962 as the principal terminal for all goods trains to and from the region. A modern diesel locomotive servicing depot and wagon repair depot were completed on this site later, and in 1973 much of the former steam locomotive depot in Auckland itself was demolished to make way for new developments.

Also in 1973, practically 100 years after the first trains served Auckland, the first stage of a major rail freight terminal at Southdown was opened for business. To be developed in stages on a 60-acre site during the next few years, this new terminal has been described as the "pivot for development of efficient rail freight handling in the Auckland metropolitan area."

With high-capacity cranes and forklifts, generous road-vehicle circulating space, and good paving, the new yard is designed to give much better service than is possible in the older, congested yards in the area.

During the early 1970s interest intensified in the possibilities of establishing a rapid rail transit system to serve the Auckland region. Directed by the Auckland Regional Authority, a Working Party produced recommendations in May 1969 for a

Photograph: N.Z. Railways Publicity.

Auckland Station in 1973. This 8 a.m. scene shows the "Silver Fern" railcar leaving from platform 1 for Wellington. Compare this view with the one on page 109 and note the changes, especially the roadway for cars and taxis where platform tracks 2 and 3 used to be.

bus/rail rapid transit system, and in September 1972 a Steering Committee set up to conduct second-stage investigations proposed an electrified rail transit network using 5 ft. 6 in. gauge tracks that ultimately would extend on five routes. In July 1973 the Authority accepted an offer by the Government to electrify the line from Papakura to Auckland and to construct an underground loop under the city centre. In effect, this was the first stage of the scheme recommended by the Steering Committee, but with an extension from Manurewa to Papakura. Subsequently a three-man directorate was set up by the Authority and the Government to undertake detailed planning and design of this first stage. It comprises representatives of the Auckland Regional Authority, the Ministry of Works, and New Zealand Railways.

It is clear that, a hundred years after the sound of trains was first heard in Auckland, railway transport continues to play an important, even an indispensable, part in the economic life and industrial activity of the region. With its ability to handle heavy flows of traffic expeditiously and relatively economically, and with relatively modest drain on human and material resources, the railway undoubtedly will continue to serve Auckland for a long, long time to come. The second hundred years no doubt will see even more changes and development than the first.