

## NEW TRAINS SHOW THEIR PACES

### Smart Work On the Manawatu Line

By T. A. McGavin



Photograph: G. T. Radcliffe

Emerging from Tunnel No. 2 between Wellington and Tawa, the Wellington-Napier "Endeavour" express begins the descent to Porirua. "Da" 1451 was providing the power on this day in December 1972.

THE near-legendary exploits of 20 July 1892, when a new Baldwin 2-6-2 of the Wellington and Manawatu Railway Company was taken on a fast trial run from Wellington to Longburn, are now at long last being matched daily in ordinary running, and indeed sometimes even bettered. The record of 15 miles covered at an average rate of 60 miles an hour between Koputaroa and Linton, with a maximum of 64 m.p.h. (103 km/hr), stood for a long time, and it is only with the authorisation in quite recent years of 60 m.p.h. for certain trains in ordinary service on the much heavier tracks of today that speeds of this order could become an everyday occurrence. The "Endeavour" express and "Blue Streak" railcars indeed are now booked to cover the 45.9 km between Levin and Palmerston North in only 34 minutes from start to stop, an average speed of 81 km/hr, and some interest was expressed as to how the "Da" class diesel-electric locomotives used on the "Endeavour" would cope with such fast schedules. There is certainly little to spare, but some runs timed in January 1973 show that the bookings can be observed comfortably, provided there are no severe out-of-course checks.

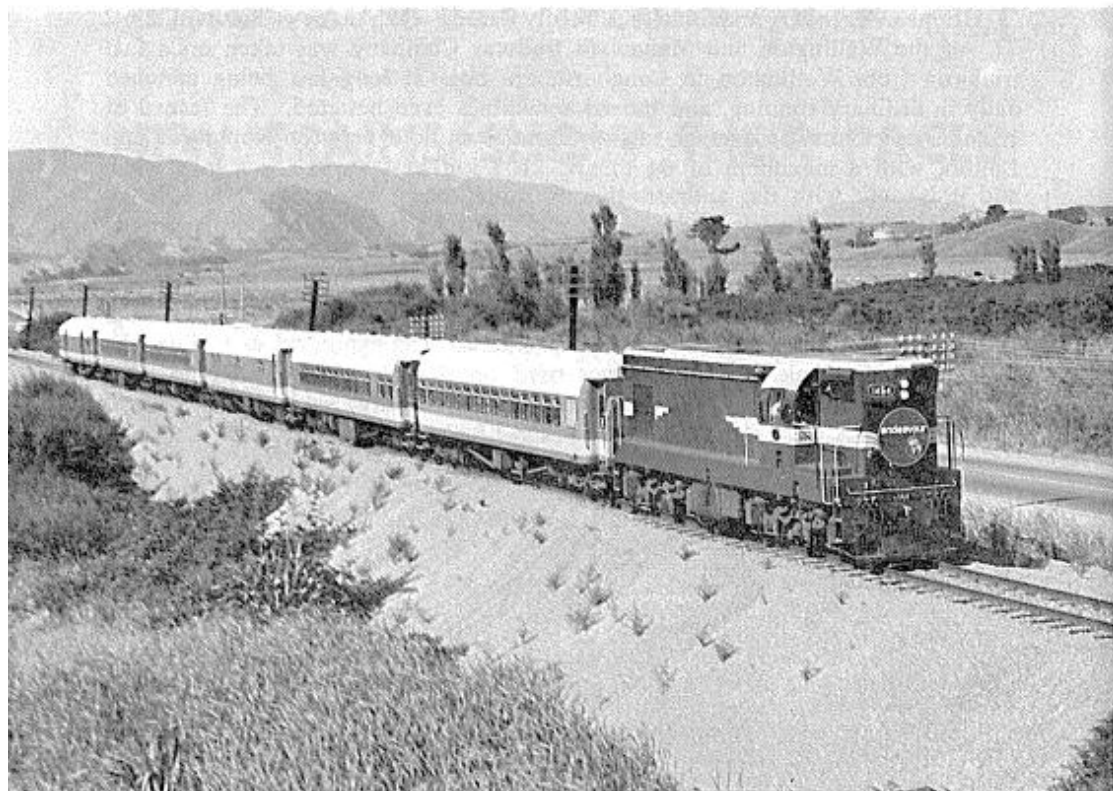
On a run to Napier "Da" 1453 had the normal load of six vehicles, well loaded to make a gross weight of about 175 tons. A very slow start out of Wellington was not promising, but the driver was perhaps anticipating a signal check that was encountered north of Pukerua Bay awaiting clearance of the single line. As a result we were three minutes late away from Paekakariki, but then ran the 31.66 km to Otaki in 24 min. 02 sec. (schedule 27 minutes), and the 19.79 km thence to Levin in 17 min. 33 sec. (schedule 19 minutes). Out of Levin on the booked 34-minute run to Palmerston North, acceleration was rapid, 80 km/hr being attained in less than two kilometres, and the 45.9 km were completed from start to stop in 32 min. 25 sec., an average speed of 85.0 km/hr. (52.8 m.p.h.). Twenty-two miles (35.4 km), from peg 60 to peg 82, were covered in 23 min. 21 sec. at an average rate of 91.0 km/hr (56.5 m.p.h.). The running beyond Palmerston North was of equal interest, though track alignment does not permit quite such fast running, but this area is outside the orbit of this article.

Later in the day "Da" 1454 on the down train left Palmerston North 3½ minutes late, but succeeded in reaching Levin in only 31 min. 37 sec., an average rate of 87.1 km/hr (54.1 m.p.h.) from start to stop. The details tabulated show that the locomotive ran at close to its maximum designed speed of approximately 100 km/hr over the entire stretch from Linton to Koputaroa, the site

of the 1892 record, though in the opposite direction. A lengthy stop at Manakau to await the pleasure of a tardy Wellington-Auckland express (which should have been in the loop at Ohau awaiting us) made us more than 8 minutes late leaving Otaki, but the driver was undaunted. With the help of some recovery margin in the schedule, he ran the 31.66 km from Otaki to Paekakariki in 23 min. 07 sec., a gain of almost 6 minutes; he was on time approaching the city, but a lengthy signal check to walking pace at Kaiwharawhara cost a full two minutes and effectively dashed any hope of a punctual arrival.

Readers who have a copy of *Observer* 123 will find it interesting to compare this run with the work of "Da" 1518 on a special "Scenic Daylight" of 240 tons in December 1969 when the 97.35 km from Palmerston North to Paekakariki were covered in 69 min. 45 sec. from start to stop. Details were tabulated on page 26 (Volume 27) and discussed in the accompanying article. This remains one of the best runs I have yet experienced on the Manawatu line, being remarkably free of signal checks, temporary speed restrictions, and the out-of-course stops that are so often associated with working over a busy single-line railway.

It is of course the railcars with their higher designed maximum speeds that produce the faster running. This was well demonstrated by the diesel-electric "Silver Fern" railcar "Rm" 3 on its demonstration



Photograph: D. M. Colz

On 3 January 1973 "Da" 1454, seen here at speed four miles from Paekakariki, worked the "Endeavour" to Napier. Later in the month an extra car was added to the train for a few weeks.

run in December. The times from Palmerston North to Wellington are tabulated in column 2, where it will be seen that the 24.77 km from Linton to Koputaroa (15.39 miles) were covered in 13 min. 53 sec. at an average of 107 km/hr (66½ m.p.h.). This was well within the capabilities of the equipment, which was designed for 75 m.p.h. (120.7 km/hr). In spite of a 2-minute signal stop outside Otaki and a slow passage of the crossing loop through that station, Paekakariki was passed in 70 min. 45 sec. from Palmerston North or in about 65½ minutes net. South of Paekakariki, running was more restrained, for all lost time had been recovered, and a punctual arrival was achieved in spite of the final signal check.

It is interesting to compare the running of "Rm" 3 with that of "Rm" 30 on the memorable record run of 28 January 1967, when there was clearly a deliberate attempt to make the best time possible. The lower maximum speed of these older 230 h.p. cars, 65 m.p.h. or about 105 km/hr, is evident from the average maintained between Linton and Koputaroa, which is virtually all level or nearly level track with only easy curves. On this occasion the run from Palmerston North to Wellington was completed in an unprecedented 99 min. 34 sec. in spite of stops at Levin and Manakau which I estimate made the net time about 92 minutes. It is clear that speeds between 90 and 100 km/hr (56 to 62 m.p.h.) over long distances can now be regarded as

## N.Z.R. PALMERSTON NORTH-WELLINGTON

Year		1973			1972			1967		
Train Number		957			J-11			J-11		
Locomotive Class		Da			Rm			Rm		
Locomotive Number		1454			3			30		
Load cars/lane/gross tons		6/163/175			2/125/110			1/29/32		
Distance	Timing Points	Sched.	Actual Times	Average Speeds	Sched.	Actual Times	Average Speeds	Sched.	Actual Times	Average Speeds
		min.	m. s.	km/hr	min.	m. s.	km/hr	min.	m. s.	km/hr
0.00	Palmerston N.	0	0 00	—	0	0 00	—	0	0 00	—
6.31	Longburn	—	5 59	63.3	—	4 58	76.2	—	4 41	80.8
11.99	Linton	—	10 19	78.6	—	9 02	83.8	—	8 28	90.1
17.67	Tokomaru	—	13 45	99.6	—	12 11	108.6	—	11 45½	103.9
27.60	Shannon	—	20 56	99.5	—	18 36	111.4	—	18 44	102.4
36.76	Koputaroa	—	25 09	101.9	—	22 55	99.5	—	22 51	104.3
44.56	Queen Street	—	30 22	69.7	—	28 01	91.8	—	27 42	95.5
46.90	Levin	34	31 37	64.3	35	29 04	76.6	31	28 50	70.9
		35	32 59	—				33	27 16	—
50.97	Ohau	42	38 15	—	—	33 02	76.7	—	33 36	65.2
53.83	Manakau	—	44 08	—	—	36 50	92.5	—	38 14	75.9
			50 32	—		s 45 11	—		42 23	—
		56	60 50	51.6	52	s 48 09	—	51	50 12	67.6
65.69	Otaki	57	62 00	—						
71.37	Te Horo	—	66 59	69.4	—	53 41	75.7	—	53 40	98.3
80.79	Waikanae	—	73 34	85.9	—	60 06	81.1	—	59 34	95.8
87.97	Paraparaumu	—	78 39	84.7	—	64 49	91.3	—	63 55	99.0
94.40	McKays	80	82 33	99.1	73	68 37	101.7	72	67 40	103.0
97.35	Paekakariki	86	85 07	49.6	76½	70 45	83.0	75	69 38	90.0
		87	86 17	—				78	72 39	71.0
100.92	North Junction	92	90 23	52.2	80	73 51	69.1	78	72 39	71.0
104.08	South Junction	97	94 00	52.4	85	77 33	51.2	82½	—	—
105.88	Pukerua Bay	—	96 04	52.3	—	79 28	56.3	—	77 35	60.3
111.75	Plimmerton	—	101 25	65.8	—	84 46	65.4	—	82 01	79.4
114.36	Pareremata	—	103 36	71.7	—	86 49	76.4	—	83 54	83.1
118.51	Porirua	110	106 28	85.9	—	89 25	95.1	95½	86 24	99.6
122.49	Tawa	—	109 38	75.2	—	92 16	84.1	—	88 58	92.8
126.46	Tunnel 2 (in)	—	113 21	64.1	—	96 06	81.1	—	91 36	90.4
132.29	Tunnel 1 (out)	—	117 39	81.4	—	100 03	88.6	—	95 13	96.7
133.67	Kaiwharawhara	—	120 48	26.3	—	101 25	60.6	—	96 17	77.4
						s 105 03	—			
						s 106 02	—			
136.25	Wellington	126	124 50	38.4	115	107 22	—	113	99 34	47.1

\* Speed affected by temporary speed restriction.  
s Signal stop.

normal on New Zealand Railways wherever track structure and alignment permits.

The "Silver Star" sleeping-car expresses can hardly be said to come into the high-speed category, for the accent with these trains is on overnight comfort and convenience. Nevertheless, the concluding stages of an Auckland-Wellington run, also in January last, proved to be interesting. The allowance of 135 minutes from Palmerston North to Wellington non-stop is certainly liberal, by present-day standards, but stems from the problems of threading the train through

the busy morning peak-hour traffic south of Paekakariki. With "Da's" 1525 and 1522 mounting a total installed horsepower of 2,850 at the head of the 12-total 475-ton train, we left Palmerston North 4½ minutes behind time. I can recall when, in the days of steam, any run from Palmerston North to Paekakariki in less than 90 minutes had to be regarded as notable, but on this 1973 occasion, with speed barely exceeding 50 m.p.h. (80 km/hr) anywhere, we were through Paekakariki in 81 min. 06 sec. against the 83 allowed. It was a nicely



Photograph: G. T. Radcliffe

Since 18 December 1972 the "Blue Streak" railcars have become a familiar sight in Taranaki. Here "Rm" 119 on the 9 a.m. service from New Plymouth passes through Inglewood on 27 December.

judged piece of running, for we were on the tail of a suburban train from Porirua but did not have to stop until south of Kaiwharawhara where we briefly awaited our place in the queue. We finally drew up at platform 9 only 1½ minutes late.

Consideration of the work of today's trains inevitably calls to mind the exploits of steam locomotives in bygone years. Looking back through my notebooks for the Manawatu line, I find that on 1 May 1957 "Ka" 934 left Palmerston North 12 minutes late with a down "Night Limited" of 270 tons gross weight (9 total) and covered the then 97.51 km to Paekakariki in 86 min. 14 sec. from start to stop against the 90 minutes allowed, in spite of two severe temporary speed restrictions. This was of course from the old station at Palmerston North by the original route through Longburn and over the old timber bridge across the Manawatu River. With a 10 m.p.h. slowing over this bridge, it took 14 min. 29 sec. to clear Linton, then 12.15 km from the start, whereas on my recent run on the "Silver Star" Linton was passed in 11 min. 25 sec. for the 11.99 km from the start.

Both trains virtually "dead-headed" over the 33.91 km from Linton to Levin, "Ka"

934 covering this length in 25 min. 52 sec. and the "Silver Star" in 25 min. 49 sec. The "Ka" however was run a little faster over the plains, covering the 25.75 km from milepeg 80 at Linton to milepeg 64 at the foot of the Koputaroa bank in 18 min. 46 sec. at an average speed of 82.3 km/hr (51.1 m.p.h.) with a maximum speed of about 88 km/hr on the short descent from Shannon. The pair of "Da"s with the 475-ton "Silver Star" took 19 min. 18 sec. to cover this stretch, averaging just over 80 km/hr (49.7 m.p.h.), but surmounted the 1 in 100 Koputaroa bank without falling below 70 km/hr (44 m.p.h.). No. 934 however settled down to a steady 58 km/hr (36 m.p.h.) approaching the top.

Temporary speed restrictions to 15 m.p.h. south of Ohau and to 18 m.p.h. over the Otaki bridge cost "Ka" 934 about 4 minutes altogether, but the driver drove her home in good style, covering the 26.0 km from Te Horo to Paekakariki in 19 min. 37 sec. pass to stop, with a sustained maximum of 90 km/hr (56 m.p.h.). The "Da"s with the "Silver Star", running almost on time, were not pressed beyond 84 km/hr (52 m.p.h.) along this stretch and spent 20 min. 31 sec. from Te Horo to Paekakariki, pass to pass.

Running the "Silver Star" does not appear to exert the energies of the locomotives to the same extent as some other trains. The capacity of the "Da" class diesel-electrics is better demonstrated on the ordinary expresses when substantial loads have to be moved at a smart pace. One such recent instance in my notebook was when "Da" 1537 with a 12-total Wellington-Auckland express of 313 tons tare and about 360 tons gross weight ran from Levin to Palmerston North in 35 min. 41 sec. start to stop. In other words it achieved "Endeavour" time with more than twice the load. This was indeed "smart work on the Manawatu line."

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Rated by one English travel writer as the "third most luxurious train in the world, NZR's "Silver Star" rolls through Walkanea in the morning sunshine on 3 January 1973, headed by "Da"s 1526 and 1525. Passengers are enjoying breakfast in bed, or maybe an early shower, freshening up for the arrival in Wellington.

Photograph: D. M. Cole

