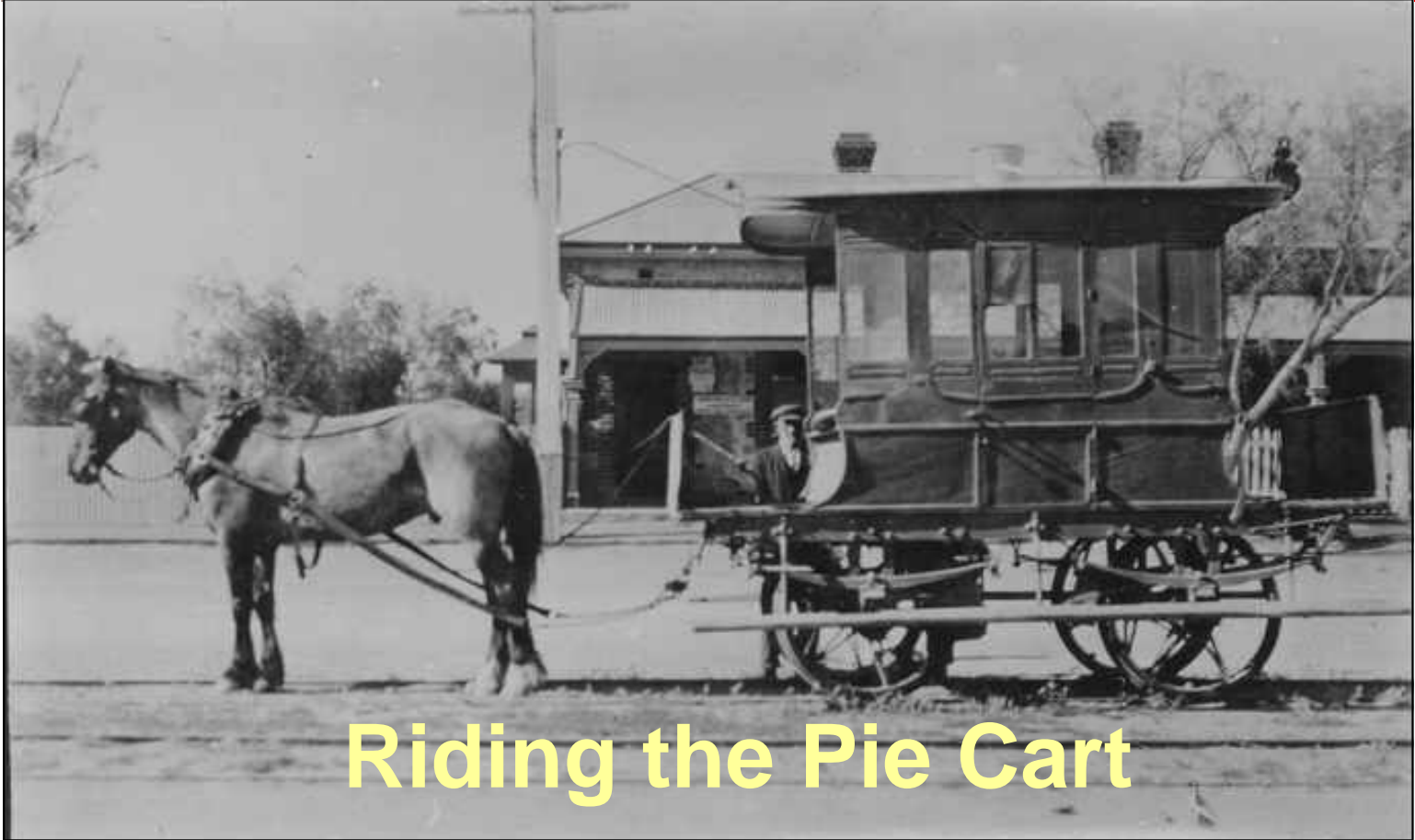




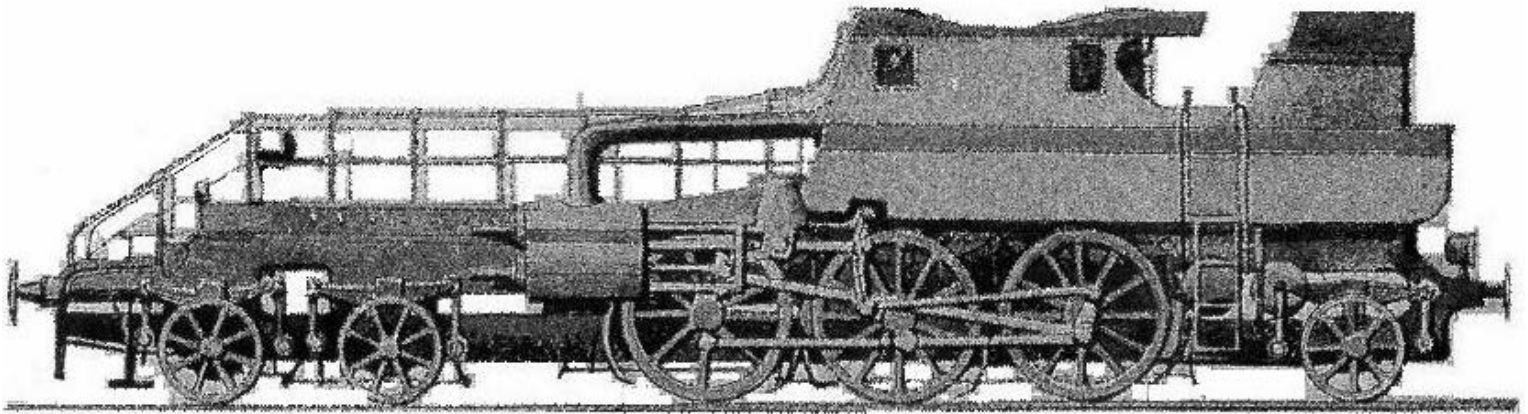
The Times

April 2009

A journal of transport timetable history and analysis



Riding the Pie Cart



Timetables for a climate-changed world—
the *TTFV*

Inside: How a horse tram became a motor bus
High-numbered bus route in Sydney
How timetables can react to climate change

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The Times

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On the front cover (Transports of Delight)

1. The tram that ran from Port Broughton to Mundoora; it was known as the "Pie Cart" and even proud locals could laugh at that. Later, a new tram, known as the "second pie cart" put in an appearance and was built by J. Stephenson of New York in about 1907 (our page 3). A wheat tram wagon for this line is shown below.

2. This is the Didomotive— not a creation of Roland Emmett on a bad hair day, but a genuine attempt by an Indian Ocean genius to turn his island paradise into the world's first zero-emission nation.



Contributors The Times

David Hennell, Jim O'Neil, Avril Foley

welcomes articles and letters. Send paper manuscripts or word-processor files on disk or via e-mail to the editor at the address below. Illustrations should be submitted as clean sharp photocopies on white paper or scanned GIF or TIF format images with at least 300 dpi resolution on disk or via e-mail.

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From hay to hydrocarbons...or...our horse car becomes a road motor bus

David Hennell

Similarly to Queensland and Western Australia, significant parts of the South Australian railway system began as lines joining a local port to its hinterland. In time, most of these isolated railways joined up and were connected to the capital.

The 10 mi 1 ch (16.1 km) South Australian Railways' narrow gauge horse tramway from Port Broughton (altitude 24 ft, 7 m) to Barunga Range (206 ft, 63 m) remained separate for its entire existence. So as to avoid confusion, Barunga Range was re-named Muntoora late in 1879 as the narrow gauge railway from Snowtown to Kadina had opened via Barunga Gap station on 1 st October 1879. Port Broughton is located on Muntoora Arm, an inlet off Spencer Gulf roughly half way between Wallaroo and Port Pine, and this seems to be the source of the new name Muntoora¹.

The Port Broughton and Barunga Range Tramway² opened for goods traffic on 11th March 1876 and passenger traffic commenced in 1877 after a passenger tramcar had been transferred from Port Wakefield³. The passenger service originated at the Port Broughton post office and cars would stop anywhere convenient. There were no settlements and no intermediate stations⁴ between Port Broughton and Muntoora.

One passenger tram was provided each way Monday to Saturday, usually leaving Port Broughton between 6 00 a.m. and 7 30 a.m. and arriving from Muntoora at various times ranging from 3 45 p.m. to 10 15 p.m. These somewhat unlikely and often inconvenient times were dictated by the connecting coach service that operated between Muntoora and Brinkworth (39½



mi, 64 km by road) and which connected with trains to and from Hamley Bridge (break of gauge) and Adelaide.

The (1 st) May 1900 SAR public timetable gives the following service between Port Broughton, Muntoora and Adelaide (Table below).

After departing Muntoora, the coach served Keilli, Collinsfield, Red Hill and Koolunga before reaching Brinkworth⁵. [The spelling of Redhill as Red Hill in earlier times isn't used consistently and contemporaneous documents often have the different spellings. The current name is Redhill and I have used this spelling from the opening of its railway.]

Goods trams operated as required and conveyed freight to or from any point⁶ on the tramway. Wheat was the major commodity

carried and general merchandise was important as well, at least in the earlier years.

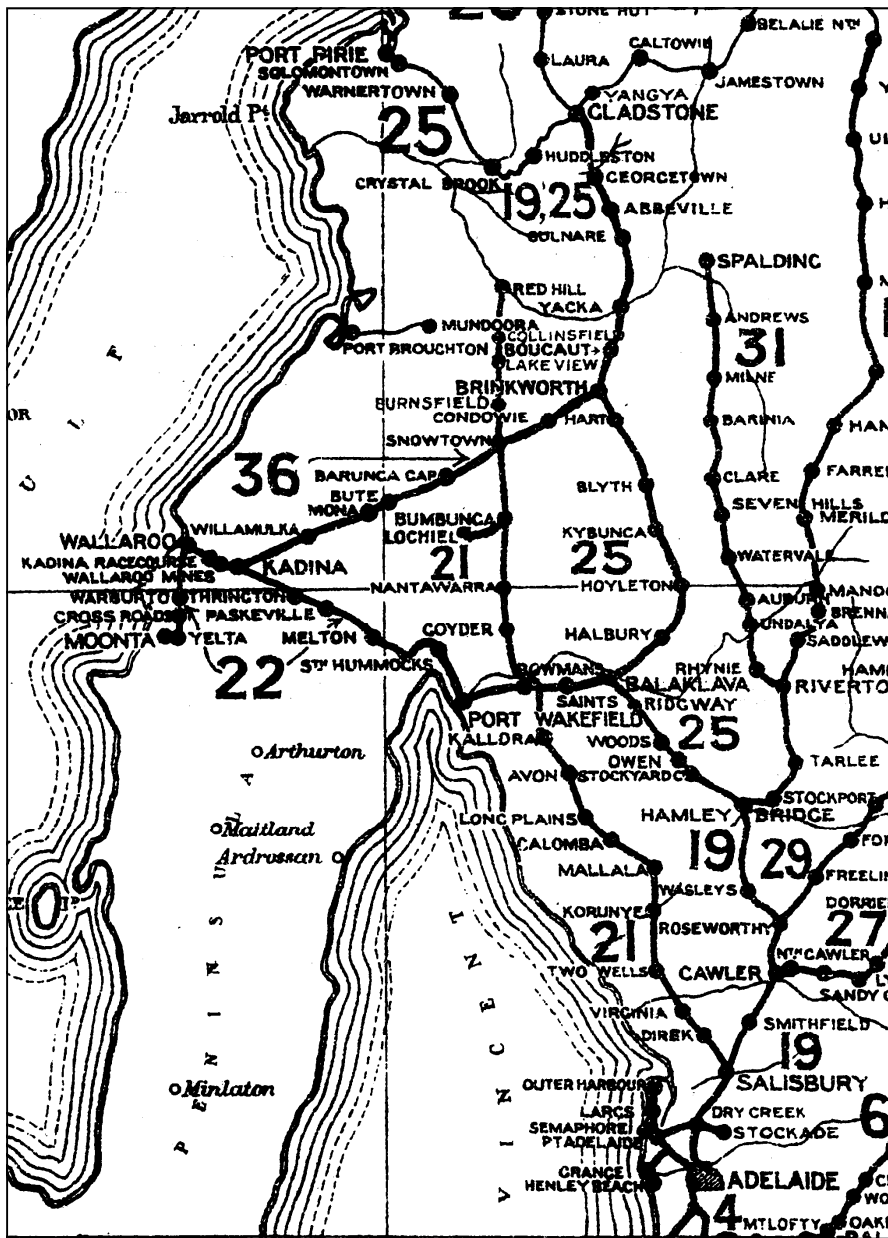
During late 1909, consideration was given to upgrading the tramway to a railway and extending it north from Muntoora via Clement's Gap then south east via Broughton (*i.e.* Red Hill) to Brinkworth—but nothing eventuated.

SAR's public timetable dated 10th December 1923 shows a horse car departing Port Broughton at 6 40 a.m. and arriving Muntoora 80 minutes later. The return car departs Muntoora at 3 10 p.m. and is 5 minutes faster - it was downhill! The trams connect to and from Brinkworth. These Port Broughton and Muntoora departure times are also those given in *Whillas & Ormiston's ABC Diary and Timetable* dated August 1925, so this would almost certainly be the last passenger service on the tramway.

The opening of the broad gauge railway beyond Snowtown on Saturday, 5th September 1925 saw the extension of all the existing Snowtown trains to Redhill. The initial service is taken from *Weekly Notice 32/25* dated 17th August 1925, p. 552. The Sunday trains disappeared within a short time.

This rail extension resulted in the replacement of the Port Broughton passenger horse tram with an SAR owned and operated bus service that connected with trains between Adelaide and Redhill at Collinsfield. This alteration gave the passenger a shorter, more comfortable and significantly faster journey between Adelaide and Port Broughton, as well as one change of vehi-

	M - Sa		M - Sa
	a.m.		a.m.
	tram		BG train
Port Broughton	d 6 05	Adelaide	d 7 40
Muntoora	a 7 25	Hamley Bridge	a 9 25
	coach		NG train
	d 7 40		d 9 40
	p.m.		p.m.
Brinkworth	a 12 30	Brinkworth	a 12 52
	NG train		coach
	d 2 23		d 2 30
Hamley Bridge	a 5 32	Muntoora	a 7 25
	BG train		tram
	d 5 40		d 7 40
Adelaide	a 7 22	Port Broughton	a 8 55



cle instead of three. SAR Weekly Notice 26/25 of 6th July 1925 has an advertisement about it in the Vacancies section on p. 426 (below).

This advertisement suggests that the early thinking was that the bus would connect with trains at Snowtown rather than at Collinsfield as actually occurred. Perhaps the powers-that-be were wary of having a Station Agent (i.e. a non-SAR person) in charge of the transfer point. Weekly Notice 42/25 dated 26th October 1925 announced that Mr. G. F. Miller was appointed as Driver Road Motor Bus at Port Broughton.

The last tramway passenger service operated on Saturday 17th October 1925 which was also the first day of the new bus service. At this time, horse trams Nos. 4 (American single deck saloon car [our page 3]) and 10 (English single compartment car with outside seats like a stage coach [cover]) were at Port Broughton and two passenger horses provided the motive power. Five teams of horses were maintained by the SAR for freight trams, with extra horses being hired at the peak of the grain season.

A Reo petrol bus (No. 3) provided the opening service and had accommodation

Driver of Road Motor Bus, to work between Port Broughton and Snowtown; wages 17s. per day; "Home Station", Port Broughton; applicants must state age, experience, and qualifications. House accommodation very difficult to obtain at Port Broughton. —G.T.M., 4773/23.

for 17 passengers, as well as for mail and parcels in separate compartments. The bus operated via Ingram Gap in the Barunga Range between Mundoorra and Collinsfield, this being the former coach route. An SAR Garford lorry was introduced for goods traffic at this time and the tramway remained open only for the haulage of wheat. The Reo bus was replaced by a Thornycroft (No. 21) in December 1925.

Weekly Notice 4 1/25 issued 19th August 1925, p. 705, gives the timetable, fares, parcels rates, freight rates and through booking arrangements for the road motor service commencing on 17th October. Assuming that the connecting trains still ran to the initial Redhill times, the Adelaide to Port Broughton via Long Plains timetable was as shown in the table on the next page.

The 2nd November 1925 working timetable shows the Adelaide times as 7 25 a.m. and 3 47 p.m. with the Collinsfield times unchanged.

A Malcolm Moore rail tractor with a Fordson kerosene motor was introduced on the tramway in January 1926, displacing most, if not all, of the horses. The tramway closed on 3rd August 1942.

The Port Broughton bus service, SAR's last ⁷, was transferred to private enterprise on Monday, 7th September 1931 as a coordinated⁸ service operated by the Snowtown-Port Broughton Transport Company Limited.

The road/rail connection point was altered to Lake View on 1st October 1967, the day that Collinsfield station closed and that Lake View replaced Burnside as an electric staff station. The Saturday run was withdrawn in 1970 but, apart from small variations in the times, the service was otherwise unchanged over the years although it was provided by a transit van with passenger accommodation by this time. Due to the morning up train from Port Pirie to Adelaide being altered to run significantly earlier from 30th April 1973, the road service now only connected with down trains from Adelaide. It was withdrawn on 3rd December 1973⁹.

Footnotes:

- 1 Mundoorra is an Aboriginal word meaning variously rushes, fish and flood. Port Broughton's name was derived from the nearby River Broughton which had been named by Edward Eyre after William Grant Broughton, the first bishop of Australia. (Taken from SAR's *Names of Stations with Their Meanings and Derivations*, compiled by Alfred N. Day, 1915.)
- 2 Also known as the Port Broughton and Barunga Range Railway and the Port Broughton and Mundoorra Tramway.

	M - Sa		M - Sa
	a.m.		a.m.
	BG train		bus
Adelaide	d 7 35	Port Broughton	d 10 00
Collinsfield	a 11 19	Mundoora	10 45
	bus	Collinsfield	a 11 15
	d 11 45		BG train
	p.m.		p.m.
Mundoora	12 15		d 12 01
Port Broughton	a 1 00	Adelaide	a 3 37

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PORT BROUGHTON AND MUNDOORA TRAMWAY.

DOWN—DAILY (EXCEPT SUNDAYS).

Miles.	Stations.	Passenger.
—	Pt. Broughton P.O. dep	a m 6 40
10	Mundoora arr	8 0

UP—DAILY (EXCEPT SUNDAYS).

Miles.	Stations.	Passenger.
—	Mundoora dep	p m 3 10
10	Pt. Broughton P.O. arr	4 25

- The Port Wakefield to Hoyle's Plains (Hoyleton) narrow gauge horse line opened on 1st January 1870.
- However, the 1887 public timetable (a rewritten version of which appears in ARHS Bulletin, August 2003, p. 287) includes Five Mile Siding and Eight Mile Siding but with no times given. These locations aren't mentioned in any timetables seen by the author.
- The May 1900 PTT also mentions coaches from Port Broughton to Bute on Tuesday and Thursday (connecting with trains to and from Brinkworth) and to Kadina Tuesday and Saturday (connecting with trains to and from Hamley Bridge via Port Wakefield - this coach departs Port Broughton at 2 00 a.m. for a train departing Kadina at 7 28 a.m.).
- Locations referred to as One Mile, Two Mile, Five Mile and Six Mile are mentioned in SAR Annual Reports seen. There may well have been others, in addition to Eight Mile.
- During the period 1925 to 1931, SAR operated 8 bus routes in its own right. Some routes complemented existing rail services and others served new areas. The suburban routes were, in order of commencement, from Adelaide to Gawler (terminus adjacent to North Gawler station), Glenelg (later extended to East Glenelg which is more logically described as South

Glenelg) and Edwardstown. The country routes operating from Adelaide were to Victor Harbour via Wil-

lunga, Mannum via Tea Tree Gully and Mt. Pleasant and to Ashbourne via Blackwood. The two regional railway feeder routes were Collinsfield to Port Broughton and Paskeville to Yorketown.

- Weekly Notice 37/31 of 14th September 1931 delightfully refers to the company operation between Port Broughton and Collinsfield as "co-operating with the Railways for the carriage of passengers, parcels, and freight traffic."
- It is interesting to ponder upon the road fares: in 1925, it cost 2/6 for a single journey from Collinsfield to Mundoora and 5/- to Port Broughton whereas at the end of the service in 1973, the single fare from Lake View to Mundoora was 30¢ and to Port Broughton 50¢. The final Lake View to Port Broughton ordinary return fare was 90¢ and just 80¢ excursion - both were cheaper than the excursion (sic) fare of 10/- from Collinsfield in 1929 which was double the single fare.

Glenn Cumming's assistance in supplying information is gratefully acknowledged.

Miles.	Station.	Freight Daily. 227	Pass. Daily. 303	Pass. daily Sat. exc. 673.	Pass. Sat. and Sun. only. 751
		a.m.	a.m.	p.m.	p.m.
	Adelaide dep.	5-00	7-35	4-50	6-50
	Mile End Goods ... dep.	3-37	10-45	8-23	10-23
89½	Snowtown ACE/PX Δ arr.	4-18	10-50	8-35	10-25
	" dep.	4-18	11-03	8-51	10-38
96	Burnsfield PX arr.	4-36	11-04	8-56	10-39
	" dep.	4-46	11-13	9-07	10-44
100½	Lake View PX arr.	4-59	11-14	9-15	10-49
	" dep.	5-10	11-19	9-21	10-54
102	Collinsfield PX arr.	5-16	11-20	9-33	10-55
	" dep.	5-26	11-20	9-44	11-04
106½	Red Hill ACE/PX Δ arr.	5-39	652		11-33
		Mon., other days when necessary.		Mixed.	Pass. Sundays.
					Mixed Satys.
<i>Up.</i>					
Miles.	Station.	Pass Daily, Suns. inc. 204	Pass. Daily. 366	Freight Daily. 652	
		a.m.	a.m.	a.m.	a.m.
4½	Red Hill dep.	5-40	6-14	11-50	11-00
	Collinsfield arr.	5-50	6-24	12-00	11-13
	" dep.	6-00	6-25	12-01 p.m.	11-25
6½	Lake View arr.	6-06	6-30	12-06	11-31
	" dep.	6-14	6-31	12-07	11-41
10½	Burnsfield arr.	6-25	6-40	12-16	11-55
	" dep.	6-30	6-41	12-17	12-35 p.m.
16½	Snowtown arr.	6-43	6-53	12-29	12-52
	" dep.	6-55 pass	6-55	12-37	1-40
106½	Adelaide arr.	10-25	10-25	3-37	—
	Mile End Goods arr.	—	—	—	10-52
		Mxd Mondays to Saturdays inclusive.	Sundays only.	652	Tuesdays, other days when nec.

10. ROAD MOTOR SERVICE—PORT BROUGHTON—COLLINSFIELD.—
41/25.—(19.10.25.)

Commencing on Saturday, October 17th, 1925 a road motor for passengers, parcels, and small consignments of freight will run daily (Sundays excepted) between Port Broughton and Collinsfield, as follows:—

Port Broughton ...dep.	10.00 a.m.	Collinsfield	dep.	11.45 a.m.
Mundoora	dep.	10.45 a.m.	Mundoora	dep.
Collinsfield	arr.	11.15 a.m.	Port Broughton ...arr.	1.00 p.m.

FARES—

Between Port Broughton and Mundoora	2/6
Between Port Broughton and Collinsfield	5/-
Between Mundoora and Collinsfield	2/6

Children under 14 years of age, half fare.

PARCELS—

	Over 7lbs and under	Over 7lbs to 28lbs.	Over 28lbs. to 56lbs.	Over 56lbs. to 112lbs.	Each addi- tional 28lbs.
Between Collinsfield and Mundoora	} 6d.	9d.	1/-	1/3	6d.
Between Port Broughton and Mundoora }					
Between Collinsfield and Pt. Broughton..					

FISH—

Between Port Broughton and Collinsfield 1/6 per case.
Between Port Broughton and Collinsfield 2/- per crate or basket.

CREAM—

Between Port Broughton and Collinsfield .. 3gall. can, 1/- each.
Between Port Broughton and Collinsfield .. 5gall. can, 1/3 each.
Between Mundoora and Collinsfield 3gall. or 5gall. can, 1/- each.
In each instance the empty returned cans will be carried free.

SMALL FREIGHT—

Between Collinsfield and Mundoora 9d. per cwt. or part thereof.
Minimum charge, 1/-.
Between Collinsfield and Port Broughton .. 1/- per cwt. or part thereof.
Minimum charge, 1/-.

THROUGH BOOKING—

Passengers may book through from *Adelaide only* to Mundoora or Port Broughton, also from Port Broughton to *Adelaide*, at the sum of the Collinsfield rail fare, plus the motor fare as shown above. The fares of all other passengers must be paid to the Driver of the Motor Bus, who will issue a printed receipt, and account for same to the Traffic Inspector at Port Broughton.

Parcels, and freight consignments not exceeding 1 ton, may be booked through to Mundoora and Port Broughton, and from Port Broughton, at the sum of rail charges to Collinsfield, plus motor charges shown above.

The Traffic Inspector, Port Broughton, and the Station Master, Redhill, must send the usual Parcels Abstracts to the Auditor of Receipts, using ordinary abstract forms and Waybills, marked "Road Motor, Collinsfield-Port Broughton."

"Foreign" Parcels Waybills must be used by Adelaide and Port Broughton for through booking of parcels, the rail and motor charges being shown in separate columns. Foreign Parcels Abstracts, with the headings suitably altered, must be used.

Foreign *freight* waybills must be used for consignments of freight.

Ordinary cream Waybills, with headings altered, are to be used for cream traffic.

Parcels to and from Port Broughton may be accepted for carriage on the "C.O.D." system, in accordance with Instruction No. 8, W.N. No. 42/24, and Instruction No. 8, W.N. No. 24/25.—G.T.M., 4773/25.

The Highest Numbered Private Bus Route.

Jim O'Neil

When I started collecting bus timetables in the fifties, the private bus routes had numbers which were mostly lower than those of the government services. For a time, the route 234 to Woolwich was the highest known to me. Early in the sixties I discovered two private bus routes with higher numbers, the 237 to Prince Edward Park (covered in *The Times* May 2001) and the 238, operating from Jannali. There had been higher numbered private bus routes, but these three were the highest still operating in the fifties and sixties. In the seventies I discovered an even higher private bus route, the 244 from Hurstville to Bankstown. This had not existed earlier, but was created by the combination of two earlier bus routes, both operated by the Punchbowl Bus Co., the routes four and twenty eight.

The route 4 was one of two bus routes operated by the Punchbowl Bus Co. between Bankstown and Punchbowl via Greenacre, The other was the 189, covered in *The Times* in June 2005. The two bus routes operated through similar areas, with the 189 running north of the route four out of Bankstown, and west of it out of Punchbowl, while the four operated further to the north and east into Chullora (see route 4 map, page 12). My first timetable is for the route four and commenced on Monday 29th November 1965 (see right) The bus route was operated with a basic service of three shifts (3, 18 and 21), plus some additional runs on other shifts, providing at least half hourly service. The route had been extended to the recently opened Roselands Shopping Centre, but early morning and evening services did not run from Punchbowl Station to Roselands, since other bus routes of the Punchbowl Bus Co. covered this area – the 28 (see below) and the 33 to Hurstville and the 188 to Mortdale (see *The Times* January 2004).

The first bus in each direction after 10.30 a.m. operated to or from Roselands, not by the normal route via Violet St., coming to the shopping centre on the west side, but by King George's Road on the east side (marked K.) I do not know why these services (and only these services) made this diversion, as they would not provide passengers with service there and back with any time for shopping. Some peak hour bus services ran to or from Punchbowl Station via Henry St, instead of Highclere Avenue, one block to the east (marked H.) Evening services are marked A, showing that they operated to and from Bankstown

via the route 189.

Note also the short workings, with V indicating service from Banksia Rd and Noble Avenue, N from Noble Avenue and Cardigan Rd, and Q diverting via Tennyson Rd in lieu of Cardigan Rd, that is to say, it runs a block further north. There are also industrial services, to Elcar workshops and to the factories of Jeldi and Casben's. One bus runs to both factories at 7.38 in the mornings, while Jeldi finishes in time for a 4.33 departure, while Casben's finishes nearly an hour later. Two afternoon buses pick up from Casben's, both marked with /

over struck by -, to indicate they wait for the workers on Mondays to Thursdays, one starting from the factory at 5.21 and the other leaving Punchbowl at 5.15 (what happened on Fridays?)

My next timetable, for the route 28 (see page 8) commenced on the 1st November 1965, less than a month before that for route 4 looked at above. It is a simpler timetable than the route 4, with two shifts, the 12 and the 17 providing half hourly service. Buses do not divert to Roselands early in the morning or late in the evening, though they start earlier in the morning on

ROUTE NO. 4		BUS TIME TABLE										ROUTE NO. 4												
		ROSELANDS SHOPPING CENTRE - PUNCHBOWL STN. - BANKSTOWN STN.																						
		via Greenacre and Chullora.																						
Rtn No.	DEPART ROSELANDS	TO BANKSTOWN										TO PUNCHBOWL & ROSELANDS												
		Arrive/Depart Punchbowl Stn.	Depart Greenacre P.O.	Depart Maiden & Ivy Sts.	Depart Waterloo & Cardigan Rd.	Depart Sorenia & Noble	Depart Old Kent & Noble	ARRIVE BANKSTOWN STN.	DEPART BANKSTOWN STN.	Depart Old Kent & Noble	Depart Sorenia & Noble	Depart Waterloo & Cardigan Rd.	Depart Maiden & Ivy Sts.	Arrive/Depart Punchbowl Stn.	ARRIVE ROSELANDS									
MONDAYS to FRIDAYS																								
3	-	-	-	-	-	-	-	-	-	-	-	-	-	5,40	5,50	5,56								
3	-	6,4H	6,5	-	6,11	-	-	-	-	-	-	-	-	5,39H	6,12H	6,15	6,20H	6,28	-	-	-	-		
18	-	-	-	-	-	-	7,0,24	6,27	6,33	-	-	-	-	6,55	7,0	7,3	7,7	7,10	7,15	7,22	-	-	-	
18	-	7,3	7,9	-	-	-	to Elcars Workshops at 7,18a.m.	-	-	-	-	-	-	7,18	7,21	7,23	7,28	7,30	7,35	7,43/45	7,52	-	-	-
18	-	-	-	-	-	7,21	7,24	7,28	7,33	-	-	-	-	7,38	via Jeldi & Casbens	7,50	7,53	7,58	8,5/7	8,14	-	-	-	-
18	-	7,24H	7,29	7,32	7,35	7,40	7,44	7,50	-	-	-	-	-	8,6	8,12	8,15	8,19	8,23	8,27	8,33/35	8,42	-	-	-
21	-	7,48	7,54	7,58	8,2	8,5	8,9	8,15	-	-	-	-	-	8,18	8,23	8,25	8,30	8,34	8,38	8,44/46	8,55	-	-	-
3	7,55	8,2/7	8,14	8,18	8,22	8,26	8,30	8,36	-	-	-	-	-	8,39	8,45	8,48	8,52	8,56	9,0	9,5/8	9,15	-	-	-
18	8,20	8,27/36	8,42	8,46	8,50	8,54	8,58	9,4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	8,42	8,49/50	8,56	9,0	9,4	9,9	9,12	9,17	-	-	-	-	-	9,18	9,24	9,27	9,31	9,34	9,38	9,44/46	9,55	-	-	-
21	9,1	9,8/12	9,18	9,22	9,25	9,29	9,32	9,37	-	-	-	-	-	9,43	9,49	9,52	9,56	9,59	10,3	10,9/13	10,20	-	-	-
3	9,37	9,44/46	9,52	9,55	9,59	10,2	10,5	10,12	-	-	-	-	-	10,13	10,19	10,22	10,26	10,29	10,33	10,39/41	10,48	-	-	-
18	10,0	10,7/11	10,17	10,20	10,24	10,27	10,31	10,38	-	-	-	-	-	10,40	10,45	10,49	10,53	10,56	11,0	11,6/9	11,19	-	-	-
21	10,31	10,38/42	10,46	10,51	10,55	10,58	11,2	11,8	-	-	-	-	-	11,13	11,18	11,22	11,26	11,29	11,33	11,39/41	11,48	-	-	-
3	11,1	11,8/12	11,18	11,21	11,25	11,29	11,32	11,37	-	-	-	-	-	11,43	11,49	11,52	11,56	11,59	12,3	12,9/13	12,20	-	-	-
18	11,38	11,44/46	11,52	11,55	11,59	12,2	12,6	12,12	-	-	-	-	-	12,13	12,19	12,22	12,26	12,29	12,33	12,39/43	12,50	-	-	-
21	11,50	11,57/59	12,5	12,8	12,12	12,15	12,19	12,25	-	-	-	-	-	12,27	12,33	12,35	12,40	12,43	12,47	12,53/55	1,2	-	-	-
3	12,31	12,38/42	12,48	12,51	12,55	12,58	1,2	1,8	-	-	-	-	-	1,13	1,19	1,22	1,26	1,29	1,33	1,39/43	1,50	-	-	-
18	1,1	1,8/12	1,18	1,22	1,25	1,29	1,32	1,37	-	-	-	-	-	1,43	1,49	1,52	1,56	1,59	2,3	2,9/13	2,20	-	-	-
21	1,33	1,40/42	1,48	1,51	1,55	1,58	2,2	2,8	-	-	-	-	-	2,13	2,19	2,22	2,26	2,29	2,33	2,39/43	2,50	-	-	-
3	2,1	2,8/12	2,18	2,22	2,25	2,29	2,32	2,37	-	-	-	-	-	2,43	2,49	2,52	2,56	2,59	3,3	3,9/13	3,20	-	-	-
18	2,31	2,38/42	2,48	2,51	2,55	2,58	3,2	3,8	-	-	-	-	-	ML3,13	3,19ML	3,22	3,25	3,29	3,32ML	3,42/46	3,53	-	-	-
1	-	-	-	-	-	3,27	3,30	3,35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	2,59	3,6/10	3,17	3,22	3,26	3,30	3,33	3,38	-	-	-	-	-	3,42	3,48	3,52	3,56	4,0	4,4	4,10/14	4,21	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-	-	From Elcars Workshops	4,4	-	-	-	-	4,14	4,20	-	-	-
16	-	3,27	3,33	3,37	3,41	3,45	3,49	3,55	-	-	-	-	-	4,1H	4,7	4,11	4,15	4,19	4,23	4,29	-	-	-	-
3	3,31	3,38/45	3,52	3,56	4,0	4,5	4,11	4,16	-	-	-	-	-	4,24	4,30	4,34	4,38	4,42	4,45	4,50/54	5,1	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	4,2	4,9/13	4,19	4,23	4,27	4,31	4,34	4,39	-	-	-	-	-	4,43	4,49	4,53	4,57	5,1	5,4	5,9/13	5,20	-	-	-
16	-	4,34	4,40	4,44	4,48	4,52	4,55	5,1	-	-	-	-	-	5,3H	5,9	5,13	5,17	5,21	5,24	5,29	-	-	-	-
21	4,23	4,30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4,36	4,41	-	-	-
18	4,43	4,50/54	5,0	5,4	5,8	5,12	5,15	5,20	-	-	-	-	-	5,25	5,32	5,36	5,40	5,44	5,47	5,52	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	5,4	5,11/15//	5,21	5,25	5,29	5,33	5,36	5,41	-	-	-	-	-	5,46	5,52	5,56	6,0	6,4	6,7	6,12	-	-	-	-
18	5,25	5,33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5,37	5,44	-	-	-
18	-	5,34	5,40	5,44	5,48	5,52	5,55	6,0	-	-	-	-	-	6,7H	6,13	6,17	6,21	6,25	6,29H	6,33	-	-	-	-
18	5,48	5,55/59	6,5	6,9	6,13	6,17	6,20	6,25	-	-	-	-	-	6,29H	6,35	6,39	6,43	6,47	6,50	6,55	-	-	-	-
3	-	6,18H	6,24	6,28	6,32	6,36	6,39	6,44	-	-	-	-	-	6,57	7,3	7,6	7,10	7,13	7,16	7,21	-	-	-	-
18	-	6,40	6,46	6,50	6,53	6,57	7,0	7,5	-	-	-	-	-	7,0H	7,14	7,17	7,21	7,24H	7,28H	7,34	-	-	-	-
18	-	7,0	7,6	7,9	7,13	7,16	7,20	7,26	-	-	-	-	-	7,30	7,36	7,39	7,43	7,46	7,49	7,55	-	-	-	-
16	-	7,38	7,44	7,47	7,51	7,54	7,58	8,4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	8,12	-	8,20	8,23	8,24	8,25	8,34	-	-	-	-
7	-	8,46	8,54	9,55	9,57	10,0	-	9,8	-	-	-	-	-	8,12	-	8,20	8,23	8,24	8,25	8,34	-	-	-	-
7	-	8,48	8,54	9,55	9,57	10,0	-	10,8	-	-	-	-	-	10,12	-	10,20	10,23	10,24	10,25	10,34	-	-	-	-
7	-	10,46	10,54	10,55	10,57	11,0	-	11,8	-	-	-	-	-	11,12	-	11,20	11,23	11,24	11,25	11,34	-	-	-	-

Abbreviations or Notes used.
 H Denotes - Runs via Henry Street.
 V Denotes - Runs to or from Banksia Road & Noble Avenue

route 4, and finish later on the route 28. Route 28 finishes its evening service by eight o'clock. In fact it is only the last buses from Punchbowl which didn't go to Roselands, they terminated at Graham and Karne Streets, running from there direct to the depot at Hannan's Road. Only two abbreviations are used on the route 28 timetable: U indicates the first service on shift 12 started at Payton and Mount Avenues, instead of Punchbowl Station, while B indicates the shift 21 ran from Graham and Karne Streets at 7.46 only on School days only. This shift was scheduled to leave Punchbowl Station on route 4 at 7.48, eight minutes before it was due to arrive on route 28.

The next timetable (see pages 9 and 10) was issued for the combined route 244 and is undated. (The typewritten note "Current 1980" was made by me.) The combined route operated between Roselands and Punchbowl via Dudley Street, the old route 4, and not by the route 28's Rossmore Street route. The diversion via King George's Road has disappeared, as has the diversion via Henry Street. Only the Jeldi factory still has an industrial service. It leaves Bankstown at 7.36 a.m. in the morning. There may appear to be a service from Jeldi at 4.29 p.m. to Hurstville, however the shift 25 turned back at Punchbowl Station at that time and left Jeldi at 4.33, marked J, for Bankstown. Buses waited at Punchbowl station for one minute and at Roselands for two.

The basic service is still at half hourly intervals, with no evening service after half past seven. By combining the routes 4 and 28, the half hourly service could be provided by only four shifts (in the afternoon off-peak these were 3, 16, 17 and 18), each returning to the same points after two hours. However the fifth shift still operated, to provide a more frequent, but not clock-face, timetable at some times of the day. We may note the marking P in the columns headed "Depart Penshurst Station". This denotes that the bus operated via the station. Those services not marked P, must have operated via Forest Road, to the north of the station, but we are not told where the timing point for them actually was.

My final timetable (see page 11) was issued on the 18 August 1997 for the route 941. This was basically the route 244 re-numbered into the new numbering system, but with several changes. The route followed out of Bankstown was the more northerly route of the 189, and it runs to Punchbowl via Acacia Avenue, not Highclere. Between Punchbowl and Roselands it follows neither the routes of the old 4 or 28, but a new one along Hillcrest Street and then King George's Road, the latter once followed by a once a day diversion of

the 4. South of Roselands the route 941 runs between Karne St and Penshurst Rd, not via Graham St, but a long block north, along Grove St.

The timetable shows more frequent service than the route 24 did, but this is because it includes two parallel routes operated by Punchbowl buses, the 940 between Hurstville and Punchbowl, replacing the old 33, and the 942 between Bankstown and Roselands, largely replacing the 189.

Half hourly service is still operated on the

route 941. However it has now been re-stored in the evenings until half past nine, but only on that route and not on the two others. No special industrial services are shown, while two school specials are now included on the 942 from Greenacre to Bankstown, which operate on the second part of their service over the old route 4. Punchbowl buses are still providing service in this area of Sydney as they have for many years. The details have changed over time, but the same areas remain serviced at the basic half-hourly frequency.

NARWEE BUS CO. PTY. LTD.
56 Hannans Road,
RIVERWOOD

PHONE: 53 0767

BUS TIME-TABLE

ROUTE NO. 28 ROUTE NO. 28

PUNCHBOWL STATION, ROSELANDS SHOPPING CENTRE, HURSTVILLE STATION.
via Karne St., Narwee Station, Penshurst.

Bus No.	TO HURSTVILLE						TO PUNCHBOWL					
	MONDAYS - TO - FRIDAYS		MONDAYS - TO - FRIDAYS		MONDAYS - TO - FRIDAYS		MONDAYS - TO - FRIDAYS		MONDAYS - TO - FRIDAYS		MONDAYS - TO - FRIDAYS	
	a.m.	a.m.	a.m.	a.m.	a.m.	a.m.	a.m.	a.m.	a.m.	a.m.	a.m.	a.m.
17	U6.12	-	-	-	-	-	-	-	-	-	-	-
17	6.34	-	6.16	6.19	6.24	6.33	6.35	6.40	6.47	6.50	-	6.59
21	-	-	6.44	6.47	6.55	7.1	7.3	7.9	7.17	7.20	-	7.30
12	7.3	-	7.13	7.16	7.24	7.30	7.32	7.38	7.46	7.49	-	7.56
17	7.32	-	7.43	7.46	7.54	8.0	8.2	8.8	8.16	8.19	-	8.29
12	7.58	-	8.11	8.15	8.25	8.32	8.35	8.41	8.49	8.52	8.57/58	9.5
17	8.31	8.38/40	8.45	8.49	8.56	9.3	9.5	9.11	9.19	9.22	9.28/30	9.37
22	9.8	9.16/18	9.23	9.27	9.34	9.41	9.43	9.49	9.57	10.0	10.5/7	10.14
17	9.42	9.50/52	9.57	10.1	10.8	10.15	10.18	10.24	10.32	10.35	10.40/42	10.49
12	10.17	10.25/27	10.32	10.36	10.43	10.50	10.53	10.59	11.7	11.10	11.15/17	11.24
17	10.52	11.0/2	11.7	11.11	11.18	11.25	11.28	11.34	11.42	11.45	11.50/52	11.59
12	11.27	11.35/37	11.42	11.46	11.53	12.0	-	-	-	-	-	-
17	12.2	12.10/12	12.17	12.21	12.28	12.35	12.38	12.44	12.52	12.55	1.0/2	1.9
12	1.12	1.20/22	1.27	1.31	1.38	1.45	1.12	1.18	1.26	1.29	1.34/36	1.45
17	1.47	1.55/57	2.2	2.6	2.13	2.20	2.23	2.29	2.36	2.39	2.44/46	2.53
7	2.22	2.30/32	2.37	2.41	2.48	2.55	3.5	3.11	3.21	3.24	3.29/30	3.37
2	-	-	-	-	-	-	-	-	-	-	-	-
2	3.0	3.8/10	3.15	3.19	3.26	3.33	3.35	3.41	3.48	3.51	3.56/58	4.5
7	3.39	3.47/49	3.54	3.58	4.5	4.12	4.14	4.20	4.28	4.31	4.36/39	4.45
2	4.8	4.16/18	4.23	4.27	4.34	4.41	4.43	4.49	4.57	5.1	5.6/8	5.15
7	4.48	4.56/58	5.1	5.5	5.12	5.18	5.20	5.26	5.33	5.36	5.41/43	5.48
2	5.16	5.24/26	5.31	5.35	5.42	5.48	5.50	5.56	6.3	6.6	6.11/13	6.20
7	5.50	5.58/60	6.5	6.9	6.16	6.22	6.24	6.30	6.37	6.40	6.44/46	6.52
2	6.22	6.29/30	6.34	6.37	6.44	6.50	6.52	6.56	7.3	7.6	7.11/12	7.18
7	6.53	7.0/1	7.5	7.9	7.16	7.21	7.23	7.28	7.35	7.38	7.42/43	7.48
2	7.20	-	7.28	-	-	-	-	-	-	-	-	-
7	7.49	-	7.57	-	-	-	-	-	-	-	-	-

Abbreviations used in this time-table:-
U Denotes - Runs to or from Payton & Mount Avenues.
B Denotes - Runs on School days only.

FOR ADDITIONAL SERVICE BETWEEN PUNCHBOWL & HURSTVILLE, SEE ROUTE 33 TIME - TABLE

Other Services operated:-
Route 29 - Clarendon Road Riverwood to Hurstville via Narwee & Penshurst.
Route 36 - Punchbowl to Mortdale via Riverwood and South Peakhurst.
Route 140 - Lugarno via Peakhurst Riverwood, Narwee Roselands Shopping Centre
Route 188 - Punchbowl to Mortdale via Riverwood and Peakhurst.

-00-

ROUTE 244.....WEEKDAYS

HURSTVILLE.....ROSELANDS.....PUNCHBOWL STATION
 VIA HURSTVILLE STATION.....PENSURST STATION....
 GREENACRE.....BANKSTOWN STATION.

RLS NO	DEPART HURSTVILLE STN.	DEPART PENS HURST STN.	DEPART NARWEE STN.	DEPART GRAHAM KARNE	DEPART ROSE LANDS CENTRE	DEPART FUNCH BOWL STN.	DEPART GREEN ACRE	DEPART MAIDEN & IVY	DEPART WAT/LOO CAR/GAN	DEPART BORONIA NOBLE VIA WATTLE	DEPART O/KENT NOBLE	ARRIVE BANKS TOWN STN.
	TO ROSELANDS				TO PUNCHBOWL STATION				TO BANKSTOWN STATION			
	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM
3	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	5.55H	5.58	-	5.59	-	-	-
17	-	-	-	6.04	-	6.11	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	6.20	6.24	6.27	6.31	6.34	6.37	6.41
12	6.13	6.18	6.23	6.25	-	6.33/34	6.38	6.41	6.45	6.48	6.51	6.55
17	6.34	6.39	6.44	6.46	-	6.54/55	6.59	7.02	7.06	7.09	7.12	7.16
3	6.52	6.57	7.02	7.04	-	7.12/14	7.18	7.21	7.25	7.28	7.31	7.35
18	7.15	7.20	7.25	7.28	-	7.38/40	7.44	7.48	7.52	7.56	7.59	8.04
25	-	-	-	-	-	-	7.57	-	-	7.58	8.01	8.07
16	7.31	7.38	7.45	7.48	7.52	8.00/02	8.07	8.10	8.14	8.18	8.21	8.26
12	7.50	7.57	8.04	8.07	8.11/13	8.21/23	8.28	8.31	8.35	8.39	8.42	8.47
17	8.15	8.22P	8.29	8.31	8.35/37	8.45/47	8.52	8.55	8.59	9.03	9.06	9.11
3	8.41	8.48P	8.55	8.58	9.02/04	9.12/13	9.17	9.20	9.24	9.28	9.31	9.36
18	9.11	9.18P	9.25	9.28	9.32/34	9.42/44	9.49	9.52	9.56	10.00	10.03	10.08
16	9.38	9.45P	9.52	9.55	9.59/10.01	10.09/10	10.15	10.18	10.22	10.26	10.29	10.34
12	9.54	10.01P	10.08	10.11	10.15/17	10.25/26	10.31	10.34	10.38	10.42	10.45	10.50
25	10.19	10.26P	10.33	10.36	10.40/42	10.50/51	10.56	10.59	11.03	11.07	11.10	11.15
17	10.46	10.53P	11.00	11.03	11.07/09	11.17/18	11.23	11.26	11.30	11.34	11.37	11.42
3	11.11	11.18P	11.25	11.28	11.32/34	11.42/43	11.48	11.51	11.55	11.59	12.02	12.07
18	11.46	11.53P	12.00	12.03	12.07/09	12.17/18	12.23	12.26	12.30	12.34	12.37	12.42
16	12.11	12.18P	12.25	12.28	12.32/34	12.42/43	12.48	12.51	12.55	12.59	1.02	1.07
17	12.46	12.53P	1.00	1.03	1.07/09	1.17/18	1.23	1.26	1.30	1.34	1.37	1.42
3	1.11	1.18P	1.25	1.28	1.32/34	1.42/43	1.48	1.51	1.55	1.59	2.02	2.07
18	1.46	1.53P	2.00	2.03	2.07/09	2.17/18	2.23	2.26	2.30	2.34	2.37	2.42
16	2.11	2.18P	2.25	2.28	2.32/34	2.42/43	2.48	2.51	2.55	2.59	3.02	3.07
-	-	-	-	-	-	-	-	-	-	-	-	-
17	2.46	2.53P	3.00	3.03	3.07/09	3.17/18	3.23	3.26	3.30	3.34	3.37	3.42
3	3.15	3.22P	3.29	3.32	3.36/40	3.48/49	3.54	3.57	4.01	4.05	4.08	4.13
25	-	-	-	-	-	4.33 J	-	-	-	-	-	4.38
18	3.50	3.57P	4.04	4.07	4.11/15	4.23/24	4.29	4.32	4.36	4.40	4.43	4.48
16	4.16	4.23P	4.30	4.33	4.37/40	4.48/50	4.55	4.58	5.02	5.06	5.09	5.14
12	4.30	4.37P	4.44	4.47	4.51/53	5.01/04	5.09	5.12	5.16	5.20	5.23	5.28
17	4.55	5.02P	5.09	5.12	5.16/18	5.26/28	5.33	5.36	5.40	5.44	5.47	5.52
3	5.30	5.37P	5.44	5.47	5.51/52	6.00/01	6.06	6.09	6.13	6.17	6.20	6.25
16	6.16	6.21	6.26	6.28	-	6.36	6.40	6.43	6.47	6.50	6.53	6.57
3	7.20	7.25	7.30	7.32	-	-	-	-	-	-	-	-

ROUTE:

FROM HURSTVILLE VIA FOREST ROAD DETOURS ON CERTAIN JOURNEYS VIA PENSURST STATION DENOTES *P* VIA CONNOLLY ST.....BRIDGE RD....P
 NARWEE STATION.....HANNANS ROAD.....GRAHAM RD.....KARNE STREET.....MARTIN ST.....ROSELANDS CENTRE.....VIOLET ST.....PAYTON AVE
 FROM PUNCHBOWL TRAVELS VIA ARTHUR ST.....HILLCREST AVE....ROSSHORE AVE....CANTERBURY RD.....) PUNCHBOWL ROAD.....HIGHCLERE AVE.
 NORF AVENUE WATTLE STREET

..... GREENACRE SHOPPING CENTRE.....BANKSTOWN STATION
 WARWEE STATION.....ROSELANDS.....PUNCHBOWL STATION
 Current 1980.

BUS NO	DEPART BANKS TOWN STN. VIA WATTLE	DEPART O/KENT NOBLE	DEPART BORONIA NOBLE	DEPART WAT/LOD CAR/GAN	DEPART MAIDEN & IVY	DEPART GREEN ACRE	DEPART PUNCH BOWL STN.	DEPART ROSE LANDS CENTRE	DEPART GRAHAM KARNE	DEPART WARWEE STN.	DEPART PENS HURST STN.	ARRIVE HURST VILLE STN.	
	TO PUNCHBOWL STATION						TO ROSELANDS CENTRE						TO HURSTVILLE
	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	
3	-	-	-	5.44	5.47	5.50	5.54	-	-	-	-	-	
3	-	-	-	6.00H	6.03	6.06	6.10	-	-	-	-	-	
12	-	-	-	-	-	-	-	-	6.00	6.02	6.07	6.12	
17	-	-	-	-	-	-	6.12	-	6.20	6.22	6.27	6.32	
3	-	-	-	6.19	6.22	6.25	6.30	-	6.38	6.40	6.45	6.50	
18	6.29	6.33	6.36	6.39	6.42	6.45	6.50/52	-	7.00	7.02	7.07	7.13	
16	6.43	6.47	6.50	6.53	6.56	6.59	7.04/06	-	7.14	7.17	7.23	7.29	
12	6.58	7.02	7.05	7.08	7.11	7.14	7.19/21	7.26	7.32	7.35	7.41	7.48	
17	7.16	7.22	7.25	7.28	7.31	7.34	7.39/41	7.48/50	7.54	7.57	8.04	8.11	
25	7.36	TO JELDI FACTORY IN WATTLE STREET, PUNCHBOWL.						-	-	-	-	-	-
3	7.39	7.44	7.47	7.51	7.55	7.59	8.03/05	8.14/15	8.19	8.22	8.29	8.36	
18	8.08	8.13	8.16	8.20	8.24	8.27	8.32/34	8.43/45	8.49	8.52	8.59	9.06	
-	-	-	-	-	-	-	-	-	-	-	-	-	
16	8.30	8.35	8.38	8.42	8.46	8.49	8.54/56	9.05/07	9.11	9.14	9.21P	9.28	
12	8.51	8.56	8.59	9.03	9.07	9.10	9.15/17	9.26/28	9.32	9.35	9.42P	9.49	
-	-	-	-	-	-	-	-	-	-	-	-	-	
25	9.16	9.21	9.24	9.28	9.32	9.35	9.40/42	9.51/53	9.57	10.00	10.07P	10.14	
17	9.44	9.49	9.52	9.56	10.00	10.03	10.08/09	10.18/20	10.24	10.27	10.34P	10.41	
3	10.09	10.14	10.17	10.21	10.25	10.28	10.33/34	10.43/45	10.49	10.52	10.59P	11.06	
18	10.41	10.46	10.49	10.53	10.57	11.00	11.05/06	11.15/17	11.21	11.24	11.31P	11.38	
16	11.07	11.12	11.15	11.19	11.23	11.26	11.31/32	11.41/43	11.47	11.50	11.57P	12.04	
12	11.25	11.30	11.33	11.37	11.41	11.44	11.49/50	11.59/12.01	12.05	12.08	12.15P	12.22	
17	11.46	11.51	11.54	11.58	12.02	12.05	12.10/11	12.20/22	12.26	12.29	12.36P	12.43	
3	12.11	12.16	12.19	12.23	12.27	12.30	12.35/36	12.45/47	12.51	12.54	1.01P	1.08	
18	12.46	12.51	12.54	12.58	1.02	1.05	1.10/11	1.20/22	1.26	1.29	1.36P	1.43	
16	1.11	1.16	1.19	1.23	1.27	1.30	1.35/36	1.45/47	1.51	1.54	2.01P	2.08	
17	1.46	1.51	1.54	1.58	2.02	2.05	2.10/11	2.20/22	2.26	2.29	2.36P	2.43	
3	2.11	2.16	2.19	2.23	2.27	2.30	2.35/36	2.45/47	2.51	2.54	3.01P	3.06	
18	2.46	2.51	2.54	2.58	3.02	3.05	3.10/11	3.20/22	3.26	3.29	3.36P	3.43	
16	3.11	3.16	3.19	3.23	3.27	3.30	3.35/37	3.45/48	3.52	3.55	4.02P	4.09	
12	3.25	3.30	3.33	3.37	3.41	3.44	3.49/51	4.00/02	4.06	4.09	4.16P	4.23	
25	3.36	3.41	3.44	3.48	3.52	3.55	-	-	-	-	-	-	
17	3.46	3.51	3.54	3.58	4.02	4.05	4.10/11	4.20/24	4.28	4.31	4.38P	4.45	
25	4.05	4.10	4.13	4.17	4.21	4.24	4.29	JELDI.....	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	
3	4.24	4.29	4.32	4.36	4.40	4.43	4.48/50	5.01/04	5.08	5.11	5.18P	5.25	
18	4.55	5.00	5.03	5.07	5.11	5.14	5.19/21	5.30/32	5.36	5.39	5.46P	5.53	
16	5.19	5.24	5.27	5.31	5.35	5.38	5.43/45	5.54/55	5.59	6.02	6.09	6.14	
-	-	-	-	-	-	-	-	-	-	-	-	-	
17	5.56	6.01	6.04	6.08	6.12	6.15	6.20/22	-	6.32	6.35	6.41	6.46	
3	6.28	6.33	6.36	6.40	6.44	6.47	6.52/53	-	7.03	7.07	7.13	7.19	
-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	

SHURST ST...THEN VIA PENSHURST ST.....STONE CREEK RD.....MERCURY ST.....EDGECASTONS RD...MOUNTVIEW AVE....BROADARROW RD.....
 .PENTLAND AVE.....CANTERBURY ROAD.....DIOLEY ST.....THE BOULEVARDE.....PUNCHBOWL STATION (ON THE OUTWARD JOURNEY
 .WATTLE SRTEET.....WATERLOO ROAD.....JUNG PDE.....MAIDEN ST.....NORFOLK RD.....WATERLOO ROAD.....CARDIGAN RD.....

To Bankstown

WEEKDAYS

Route 941: From Hurstville via Penshurst, Narwee, Roselands, Punchbowl and Greenacre
Also shows Route 940 between Hurstville and Punchbowl and Route 942 between Narwee and Bankstown

Showing Route Number	941	941	942	942	942	941	941	942	942	942	941	942	942	941	942
	am	am	am	am	am	am	am	am	am	am	am	am	am	am	am
HURSTVILLE Station				6.30		6.48		6.57		7.15		7.27		7.45	7.57
PENSHURST Station						6.54		7.02		7.20		7.32		7.50	
Argyle St & Queensbury Rd						6.57		7.04		7.22		7.34		7.52	8.05
Penshurst St & Stony Creek Rd						6.59		7.06		7.24		7.36		7.54	8.07
Baumans Rd & Gardinia St						7.02		7.09		7.27		7.39		7.57	
NARWEE Station				6.32	6.42	6.41	7.00	7.05	7.10	7.29	7.35	7.41	7.59	8.05	8.11
ROSELANDS Centre				6.39	6.56		7.06	7.11	7.25	7.36	7.42	7.58	8.08	8.12	8.28
PUNCHBOWL Station	5.31	6.01	6.15	6.21	6.45	7.03	6.51	7.14	7.19	7.33	7.43	7.51	8.06	8.13	8.21
Punchbowl Boys High School								7.15		7.47		7.57		8.17	
GREENACRE Shops	5.30	6.03	6.22	6.29	6.52	6.88	7.22	7.25	7.38	7.52	7.57	7.58	8.22	8.27	
Norfolk Rd	5.39	6.09		6.30		7.00		7.30		8.02		8.23		8.32	
Waterloo Rd & Cardigan Rd	5.41	6.11	6.24	6.37	6.54	7.07	7.24	7.32	7.41	7.54	8.04	8.08	8.24	8.34	
Boronia Rd & Noble Rd	5.44	6.14	6.27	6.36	6.57	7.05	7.27	7.36	7.44	7.59	8.07	8.08	8.27	8.37	
BANKSTOWN Station	5.52	6.22	6.34	6.44	7.04	7.14	7.34	7.44	7.51	8.04	8.17	8.17	8.35	8.47	

Showing Route Number	942	941	940	942	941	940	942	941	940	942	941	940	942	941	940
	am	am	am	am	am	am	am	am	am	am	am	am	am	am	am
HURSTVILLE Station		8.15	8.27		8.45	9.00		9.15	9.30		9.45	10.00		10.15	10.30
PENSHURST Station		8.22			8.52			9.32		9.52		10.22		10.32	
Argyle St & Queensbury Rd			8.30		9.08			9.38		10.08		10.38		11.08	
Penshurst St & Stony Creek Rd			8.28	8.37	8.58	9.10		9.39	9.40	9.58	10.10		10.29	10.40	10.59
Baumans Rd & Gardinia St					8.52			9.32		10.02		10.32		10.52	
NARWEE Station	8.25	8.35	8.41	8.50	9.05	9.13	9.23	9.35	9.43	9.55	10.05	10.13	10.25	10.35	10.43
ROSELANDS Centre	8.32	8.42	8.58	9.02	9.12	9.29	9.32	9.42	9.58	10.02	10.12	10.29	10.32	10.42	10.52
PUNCHBOWL Station	8.40	8.51	9.08	9.15	9.21	9.36	9.43	9.51	10.08	10.15	10.21	10.36	10.40	10.51	11.06
Punchbowl Boys High School	8.44		9.14		9.44			10.14		10.44		11.14		11.54	
GREENACRE Shops	8.48	8.57	9.19	9.27	9.43	9.53		10.19	10.27	10.49	10.57		11.19	11.27	
Norfolk Rd		8.52		9.32				10.02		10.32		11.02		11.32	
Waterloo Rd & Cardigan Rd	8.51	9.04		9.21	9.34		9.51	10.04		10.21	10.34		10.51	11.04	
Boronia Rd & Noble Rd	8.54	9.07		9.24	9.37		9.54	10.07		10.24	10.37		10.54	11.07	
BANKSTOWN Station	9.02	9.17		9.32	9.47		10.02	10.17		10.32	10.47		11.02	11.17	

Showing Route Number	942	941	940	942	941	940	942	941	940	942	941	940	942	941	940
	am	am	am	am	am	am	am	am	am	am	am	am	am	am	am
HURSTVILLE Station		11.15	11.30		11.45	12.00		12.15	12.30		12.45	1.00		1.15	1.30
PENSHURST Station		11.22			11.52			12.32		12.52		1.22		1.32	
Argyle St & Queensbury Rd			11.38		12.08			12.38		1.08		1.38		2.08	
Penshurst St & Stony Creek Rd			11.28	11.40	11.58	12.10		12.28	12.40	12.58	1.10		1.28	1.40	1.58
Baumans Rd & Gardinia St					11.32			12.32		1.02		1.32		2.02	
NARWEE Station	11.25	11.35	11.43	11.59	12.05	12.13	12.23	12.35	12.43	12.55	1.05	1.13	1.25	1.35	1.43
ROSELANDS Centre	11.32	11.42	11.58	12.02	12.12	12.29	12.33	12.42	12.59	1.02	1.12	1.29	1.32	1.42	1.52
PUNCHBOWL Station	11.40	11.51	12.08	12.15	12.21	12.36	12.43	12.51	1.08	1.15	1.21	1.36	1.40	1.51	2.01
Punchbowl Boys High School	11.44		12.14		12.44			1.14		1.44		2.14		2.44	
GREENACRE Shops	11.48	11.57	12.19	12.27	12.43	12.57		1.19	1.27	1.49	1.57		2.19	2.27	
Norfolk Rd		12.02		12.32				1.02		1.32		2.02		2.32	
Waterloo Rd & Cardigan Rd	11.51	12.04		12.21	12.34		12.51	1.04		1.21	1.34		1.51	2.04	
Boronia Rd & Noble Rd	11.54	12.07		12.24	12.37		12.54	1.07		1.24	1.37		1.54	2.07	
BANKSTOWN Station	12.02	12.17		12.32	12.47		1.02	1.17		1.32	1.47		2.02	2.17	

To Bankstown

WEEKDAYS continued

Route 941: From Hurstville via Penshurst, Narwee, Roselands, Punchbowl and Greenacre
Also shows Route 940 between Hurstville and Punchbowl and Route 942 between Narwee and Bankstown

Showing Route Number	942	941	940	942	941	940	942	941	940	942	941	940	942	941	940
	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm
HURSTVILLE Station		2.15	2.30		2.45	3.00B		3.15	3.30		3.45	4.00		4.15	4.32
PENSHURST Station		2.22			2.52			3.22		3.52		4.22		4.52	
Argyle St & Queensbury Rd			2.38		3.10			3.38		4.08		4.38		5.08	
Penshurst St & Stony Creek Rd			2.28	2.40	2.58	3.12		3.28	3.40	3.58	4.10		4.28	4.42	4.58
Baumans Rd & Gardinia St					3.02			3.32		4.02		4.32		5.02	
NARWEE Station	2.25	2.35	2.43	2.55	3.05	3.15	3.25	3.35	3.44	3.55	4.05	4.14	4.25	4.35	4.46
ROSELANDS Centre	2.32	2.42	2.58	3.02	3.12	3.31	3.32	3.42	4.01	4.02	4.12	4.31	4.32	4.42	5.03
PUNCHBOWL Station	2.40	2.51	3.06	3.10	3.21	3.39	3.40	3.51	4.09	4.12	4.23	4.39	4.42	4.53	5.11
Punchbowl Boys High School	2.44		3.14		3.44			4.14		4.46		5.16		5.46	
GREENACRE Shops	2.49	2.57	3.19	3.27	3.49	3.57		4.21	4.29	4.51	4.59		5.21	5.29	
Norfolk Rd		3.02		3.32				4.02		4.34		5.04		5.34	
Waterloo Rd & Cardigan Rd	2.51	3.04		3.21	3.34		3.51	4.04		4.23	4.36		4.53	5.06	
Boronia Rd & Noble Rd	2.54	3.07		3.24	3.37		3.54	4.07		4.26	4.39		4.56	5.09	
BANKSTOWN Station	3.02	3.17		3.32	3.47		4.02	4.17		4.34	4.48		5.04	5.18	

Showing Route Number	942	941	940	942	941	940	941	940	941	941	941
	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm
HURSTVILLE Station		5.15	5.32		5.45	6.02	6.15	6.30	6.43	7.10	8.10
PENSHURST Station		5.22			5.52		6.22		6.49	7.15	8.15
Argyle St & Queensbury Rd			5.40		6.10		6.38		7.08	7.35	8.35
Penshurst St & Stony Creek Rd			5.28	5.42	5.58	6.12	6.28	6.40	6.54	7.20	8.20
Baumans Rd & Gardinia St					6.02		6.32		7.02	7.23	8.23
NARWEE Station	5.25	5.35	5.46	5.55	6.05	6.16	6.35	6.43	7.00	7.26	8.26
ROSELANDS Centre	5.32	5.42	6.03	6.02	6.12	6.33	6.42		7.32	8.32	
PUNCHBOWL Station	5.42	5.51	6.11	6.12	6.21	6.40	6.49		7.39	8.39	
Punchbowl Boys High School	5.46		6.16								
GREENACRE Shops	5.51	5.57	6.21	6.27		6.54			7.44	8.44	
Norfolk Rd		6.02		6.32		6.58			7.48	8.48	
Waterloo Rd & Cardigan Rd	5.53	6.04		6.23	6.34		7.00		7.50	8.50	
Boronia Rd & Noble Rd	5.56	6.07				7.03			7.53	8.53	
BANKSTOWN Station	6.04	6.17				7.12			8.02	9.02	

- Explanations**
- A - Diverts from Waterloo Road via Napoleon Road, Acacia Avenue and Chauling Street.
 - B - On school days diverts from Forest Road via Cambridge Street, Percival Street, Penshurst Street, Austral Street and Ocean Street.
 - S - Operates school days only and starts from Waterloo Road and Old Kent Road 2 minutes before Greenacre Shops time.




General Information

- Assistance:** Passengers are asked to assist by making the seats in the front rows of buses available for elderly or disabled travellers.
- Fares:** Please tender correct fare as change can be limited. Please be ready to pay on entry in order to avoid unnecessary delays.
- Children:** 15 years and over are required to pay adult fare, unless travelling to and from school (free school travel), or travelling with current school identification (concession fare applies).
- Concession Fares:** Concession fare passes must be shown to the driver or full fare will be charged.
- Tickets:** Tickets are issued for all fares paid. Please retain tickets until the end of the trip to avoid being asked to pay another fare by an inspector.
- School Passes:** To obtain a school bus pass, apply at your school. Mutilated or lost passes can be renewed by applying to our office at the depot.
- School Services:** Buses that operate on special routes to and from schools are not shown in this timetable. For information please contact our office or your school. Adults will be carried on all buses.
- Lost Property:** Enquiries can be made at our bus depot during office hours.
- Complaints and/or Compliments:** If you wish to comment on the operation of a particular bus or bus driver, please phone or write to our Customer Service Officer.

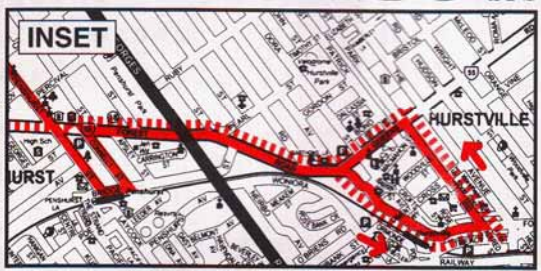
Potts Hill
reservoir
No 2
reservoirs
Workshops
Shopping Complex
Enfield
Marshalling
Yards
GREENACRE
STRAATHFIELD SOUTH
BELFIELD
BANKSTOWN
MT LEWIS
PUNCHBOWL
WILEY PARK
LAKEMBA
ROSELANDS
NARWEE
BEVERLY
PADSTOW
RIVERWOOD
PEAKHURST

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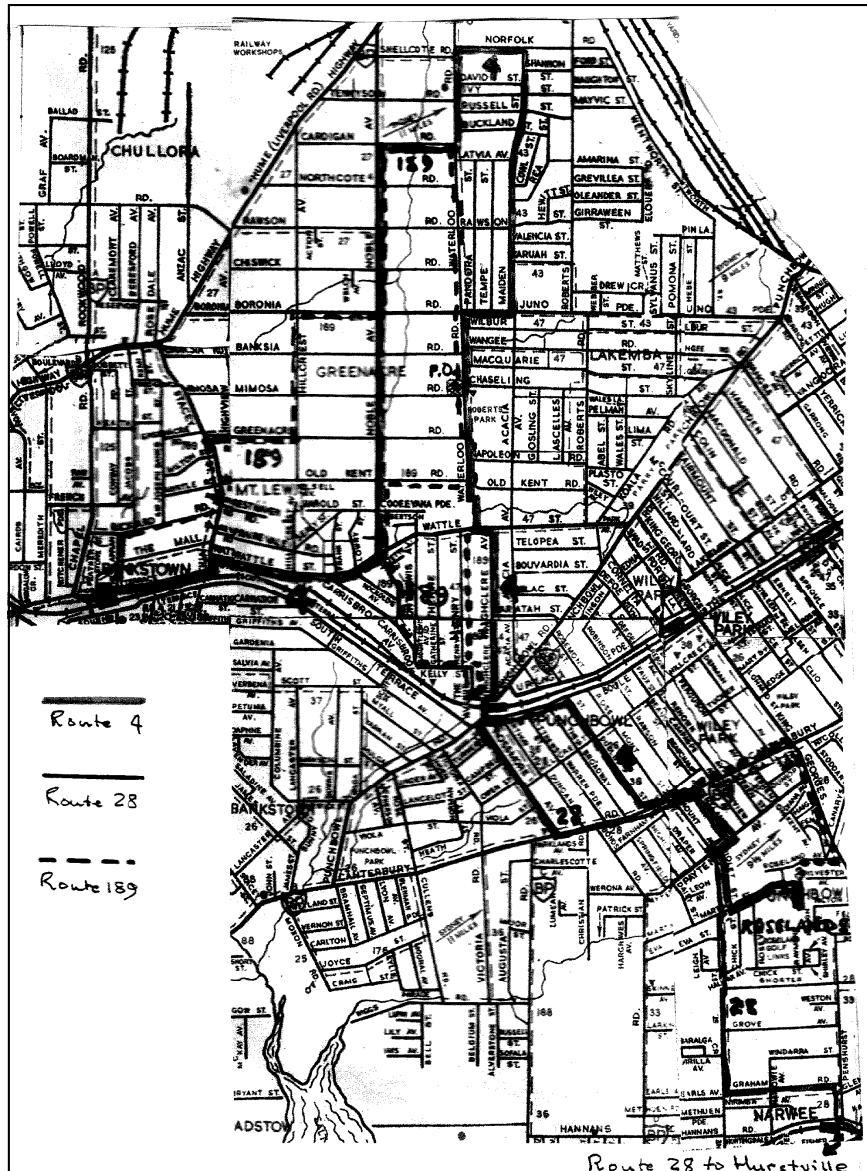
HURSTVILLE - BANKSTOWN BUS ROUTES

-  Route 941: Hurstville - Penshurst - Narwee - Roselands - Punchbowl - Greenacre - Bankstown
-  Route 940: Hurstville - Narwee - Riverwood - Roselands - Punchbowl (continues to Bankstown)
-  Route 942: Bankstown - Greenacre - Punchbowl - Roselands - Narwee (continues to Lugarno)

For more details of Routes 940 and 942
please see separate timetable booklets



TO
HURSTVILLE -
SEE INSET



Rail's answer to climate change.

Avril Foley

In a world of climate change and greenhouse gases, a small nation in the middle of the Indian Ocean has come up with a solution to its transport needs, which entirely eliminates the emission of greenhouse gases and uses inspired timetable ideas to completely eliminate private transport and its attendant problems.

The archipelago of Sans Seriffe, a former French colony, now formally part of France, located in the Indian Ocean, north-east of the Seychelle Islands and just south of the equator is very mountainous and resembles in many ways the other French possession Reunion, further to the south. *The Times* covered the timetables of Reunion (and some other Indian Ocean islands) in the November 2000 issue. In both colonies, a central volcanic plateau forces

much of the population to live in the narrow coastal strip. San Seriffe consists of two primary islands, Upper Caisse and Lower Caisse. The capital, Bodoni, is located in the center of the larger island, Upper Caisse. The smaller island, Lower Caisse, has a swampy interior as well as a forested area, the Woj of Type (home of San Seriffe's national bird, the Kwote).

As in Reunion, circum-island railways were built on the coastal strip in the colonial era and performed an important function for over a century, beginning in the late 1840s. In Sans Seriffe, such narrow-gauge railways were built on both of the major islands. The lines were owned by the *Chemins de fer de Nord* and its working timetables appeared in the Nord's own WTT (page 14, bottom), but operated un-

der a local name. A large proportion of the lines on Upper Caisse were on tall bridges (p15, top right) or in cliff face tunnels (page 15, bottom left). The latter type of line led to severe operating difficulties with the steam locomotives of the day. These problems led ingenious islanders to invent the world's first "steam storage", or fireless, locomotive (page 15, top left)- in which the steam to drive the engines was generated in boiler houses near the mouths of the tunnels, compressed into superheated water and piped to the locomotives before they entered the confined space of the tunnel, thus eliminating problems such as passenger asphyxiation caused by coal smoke. These locomotives were very successful and used all over the world, particularly in industrial plants and underground mines. Patent royalties received by



Sans Seriffe inventor M Henri Didot turned him into the island's first billionaire in an age when a billion francs was worth a lot more than it is today.

Despite this unquestioned success, the island nation was never truly satisfied with the system, largely because of the prohibitive cost of imported coal, which had to be brought ashore by outrigger canoe from ships anchored out beyond the islands' barrier reef system. Well before the Second World War, the *Chemins der Fer de Sans Seriffe* became the first national railway on the planet to fully "dieselise" its system, using home-built locomotives powered by biodiesel distilled from its abundant sugar cane crop. This did not keep everyone happy however and the system came to be regarded as unsatisfactory from a greenhouse point of view because the production and consumption of the biodiesel used by the engines created excessive amounts of greenhouse gas-

particularly methane. Services were consequently suspended several years ago.

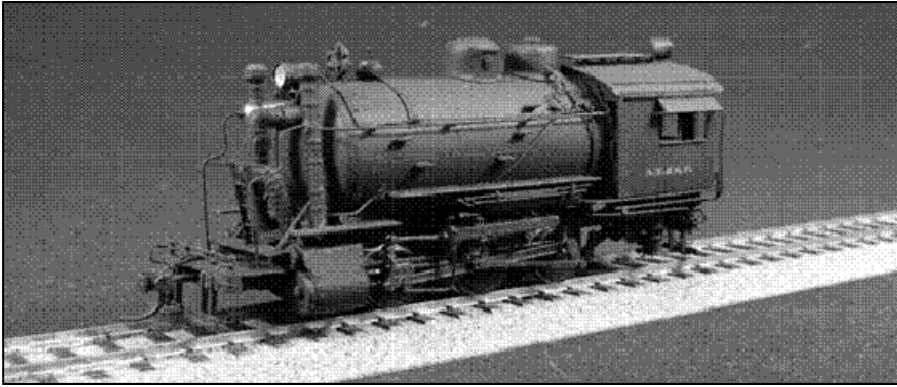
Now, a distant cousin of the original inventor, M Alphonse Colon, has come up with a solution which will enable Sans Seriffe to return to its much-cherished steam locomotive-powered railway while reducing greenhouse gas emissions to zero and helping to reduce the ozone hole into the bargain. In what he describes as a "cradle-to-grave energy conversion system", Colon has built a demonstration model which he insists could be used all over the planet where conditions are similar to those found on Sans Seriffe.

Speaking through an interpreter, M Colon explained that his system extracts ozone from the atmosphere by pumping it into the high purity and high temperature lakes which form in the craters of many of Sans Seriffe's volcanoes (page 15, bottom right).

"I have turned our unfortunate proximity to the ozone hole to our advantage. The ozone rich air combines with the hot water of the volcanoes, to convert it into hydrogen peroxide, which we collect for our locomotives"

Colon explained to your reporter that the hydrogen peroxide, being heavier than the water which surrounds it, sinks to the bottom of the craters, from where it is easily piped to the locomotive depots on the coast. Here, it is further purified and stabilised (it is very explosive otherwise) and is loaded into the tenders of the original locomotives- which have been rescued from a number of static displays around the islands. Colon has modified the old steamers to "burn" the new "fuel". "Fundamentally, what I have done is to electrodeposit a layer of platinum black on the walls of the cylinders and the piston heads of the 1870s vintage locomotives. Platinum is very cheap here, as we are one of the world's

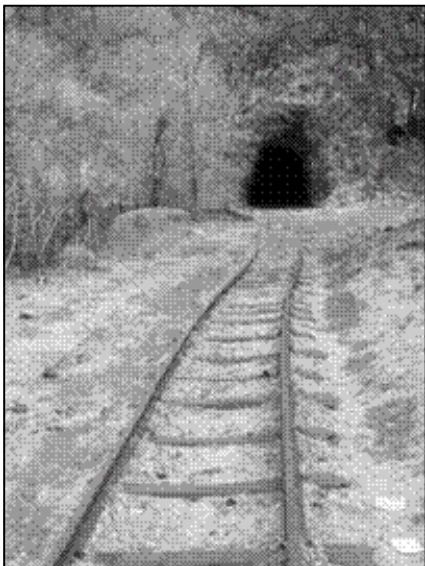
156 (22)		BODONI – PORT CLARENDON																			
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		VOYAGEURS					MARCHANDISES														
Kilométrage	Distances intermédiaires	STATIONS		2761 T.L. 1.2.3			2763 T.L. 1.2.3			2767 T.L. 1.2.3			8893								
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0.5			Bretelle de Saint-Amund	*		*		*		*											
34.3			Traversée à niveau	*		*		*		*											
2.5																					
36.8			Lecelles	5 43		9 36		18 46		12 33											
4.8				⊙ 44		37		⊙ 17		38											
41.6			PORT CLARENDON	5 54		9 47		18 26		12 50											



largest platinum producers. In any event, only a very very thin layer is needed and it last virtually forever”.

When the driver opens the throttle on the rejuvenated engines, a thin stream of hydrogen peroxide is admitted to the cylinder where the platinum black acts a catalyst to instantly convert it to a mixture of super-heated steam and high-pressure oxygen and this hot mixture propels the engine in exactly the same manner as steam did when they were new- except that the engines are now emission-free.

The first locomotive (our cover, bottom) is now already operating a tourist service part way around the restored coastal railway on Upper Caise. The developers are hoping that income from this operation will fund further conversions and lead eventually to the return of freight carriage by the railway, including the reopening of its once-



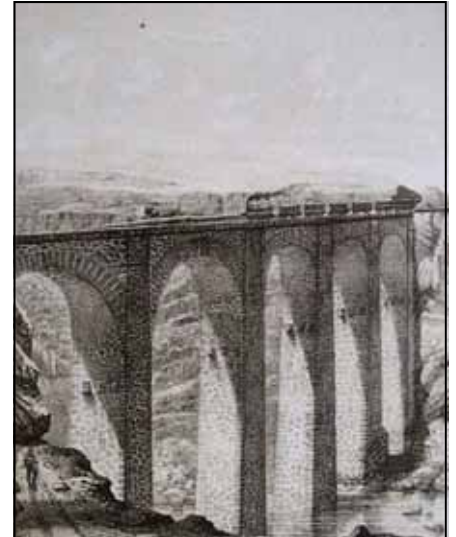
extensive sugar cane plantation railway systems.

Not everyone is happy however. Dr Avril Benguiat, president of the islands’ tourist academy sniffs at. “It is a ridiculous little toy. People will not pay good money to ride behind this- look what he has done to the old engines- he has taken away the boiler and the chimney! You can’t have a locomotive without these things- who will want to ride behind a “castrated” thing like this?”

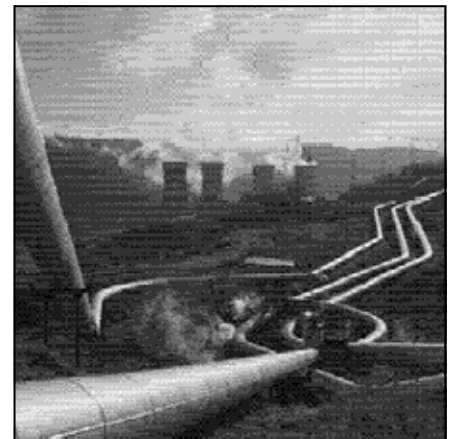
M. Colon responds to this criticism by saying that a boiler is “unnecessary” and that removal of the boilers from his engines has actually enhanced them. “The divers love them. When compared with the way they were when their great grandfathers drove them, forward visibility is vastly improved. I have actually moved the driver’s position to the very top of the engine, where they have a birds eye view of the track ahead. This is very important in our very many tunnels. As for the chimney- well they never had one anyway- they were fireless engines from the day they were invented.

Benguiat is unimpressed and snorts, “We shall see- the tourist season is about to start. I predict that the tourists will stay away in droves.”

Additionally, a US inventor, Robert Michelson of Georgia has foreshadowed legal action against Colon for infringement of his own 2002 patent which he dubs “Reciprocating Chemical Muscle”. He which uses the same principle of catalysed H₂O₂ decomposition. Colon is undeterred by this sally. “Michelson’s device is just a toy, made for toy airplanes. Mine is a complete system designed for the real world, to



The famous viaduct across the Golfe de Circumflex in rail days (above) and as it is today as part of the coastal highway.



tackle the problem of global warming and to provide mass transport in an environmentally benign way. If we don’t make progress on this, our island paradise will vanish beneath the waves. “

Train de Touriste de Sans Serriffe

(Service complete)

Bodoni	dep	9:05	10:05	11:05	12:05	13:05	14:05	15:05	16:05	17:05	18:05	19:05
Garamonde	passant	9:22	10:22	11:22	12:22	13:22	14:22	15:22	16:22	17:22	18:22	19:22
Golfe de Circumflex	arr	9:35	10:35	11:35	12:35	13:35	14:35	15:35	16:35	17:35	18:35	19:35
	dep	9:45	10:45	11:45	12:45	13:45	14:45	15:45	16:45	17:45	18:45	19:45
Port Clarendon	passant	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00
Bodoni	arr	10:30	11:30	12:30	13:30	14:30	15:30	16:30	17:30	18:30	19:30	20:30

When his invention is finally in operation, he plans to run an essentially circular railway from Bodoni, west to the coast and then around the spectacular southern cliffs, to Port Clarendon and the via the vertiginous Central Line back to Bodoni,

“It is a short journey by world standards, but worth every centimeter of it. We have only a single line, and two locomotives and no turntable, so I proposed to run always the trains in a counter-clockwise direction.

“Mainland France may have its TGVs, but I am proud to say that Sans Seriffe will have its antithesis, *le train de très faible vitesse*, or TTFV. “

The TTFV will run an hourly services using the two existing restored Didomotives, taking 85 minutes for the circular trip, allowing 35 minutes to recharge with peroxide at Bodoni before setting out again. The proposed timetable is shown at the bottom of our page 14.

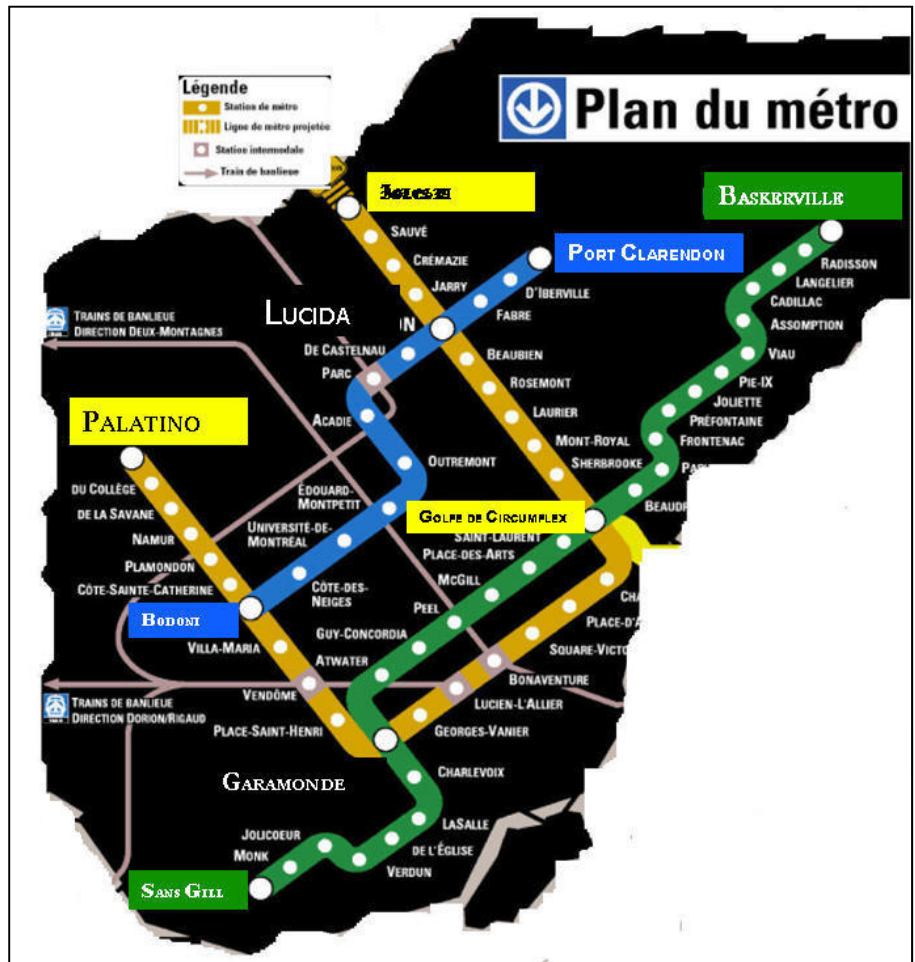
But M. Colon will not be finished when he completes his TTFV line. In the current economic and climate climates he feels that his ideas will be the catalyst for a revival in economic fortunes, with Sans Seriffe becoming a focal point of new technology and a haven from the woes of the world.

“I see the population of Sans Seriffe rising fairly quickly to over 1 million people. We do not want our paradise to descend to the car-dominated travesty that Paris has become.

“Accordingly, therefore, I have commenced planning for an island-wide, environmentally-friendly Metro System.”

Modeled on the Metro of its Canadian Sister City Montreal, the new network will reach every corner of the island, with the capital Bodoni becoming a major hub (above).

“The Metro will hug our rugged landscape



in an unobtrusive manner, thus preserving the landscape that so many visitors and so many citizens adore.

“We will have a special viewing platform so that tourist metros can be sidelined on the Golfe de Circumflex bridge— this has been our major tourist attraction for a century and one half already”

Colon has engaged the services of the French Canadian timetable consulting Company Hastus (who also provide Syd-

ney Buses with timetables) to draw up a notional timetable for his Metro network. Hastus’ concept design for the Bodoni— Port Clarendon line appears below.

“Sans Seriffe will become a model show-place of how to thrive in a world gone mad”, boasts Monsieur Colon.

[Sans Seriffe can be reached from Australia by flights connecting with Air Mauritius’ thrice-weekly flight to Port Louis.]

