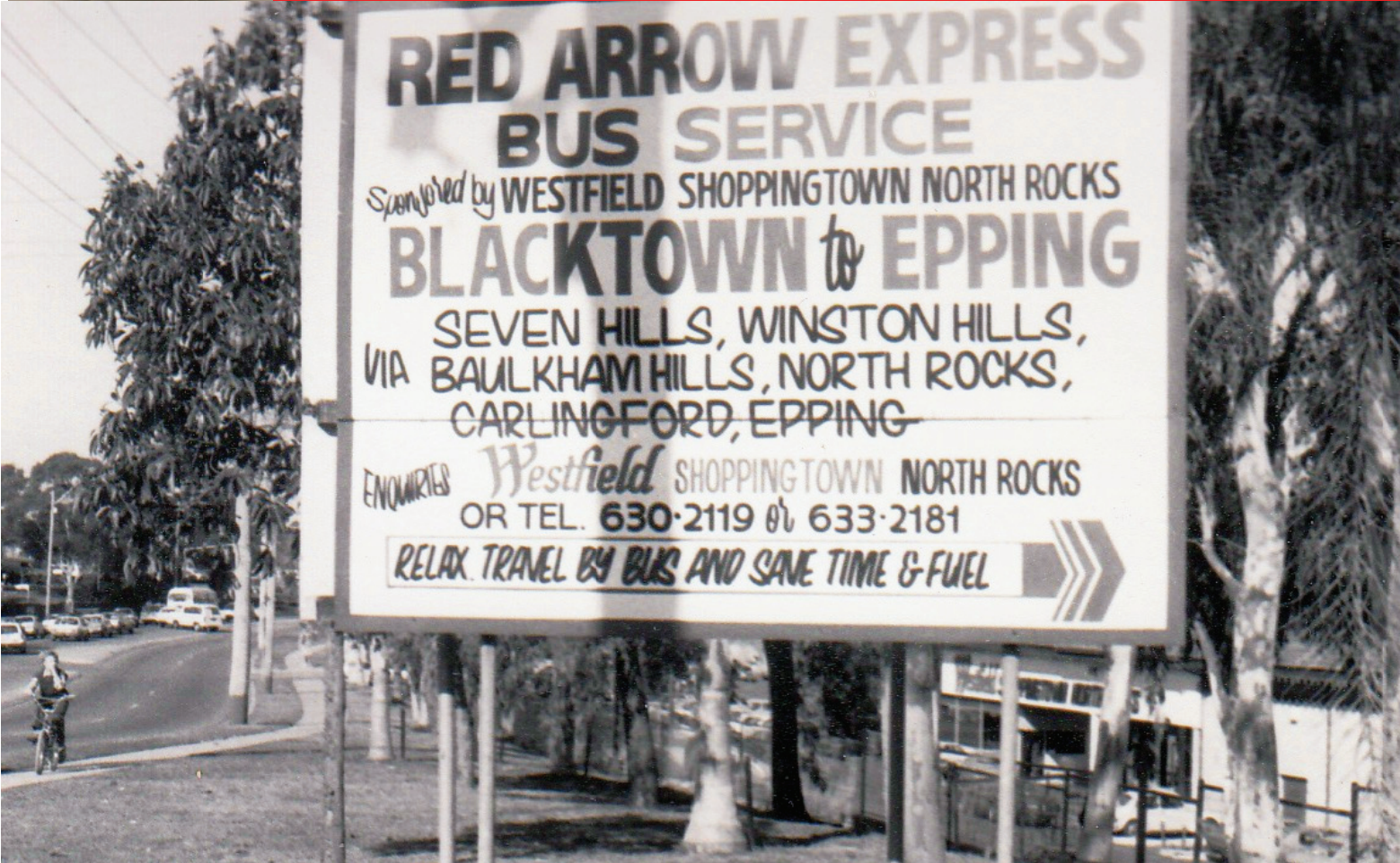




The Times

June 2013

A journal of transport timetable history and analysis



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RED ARROW EXPRESS**

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FAIRFIELD, SMITHFIELD,
GREYSTANES, PROSPECT

8 DECEMBER 1980

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19 JANUARY, 1981

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from 14 December 1981

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THE URBAN TRANSIT AUTHORITY OF NSW
AND THE
BUS AND COACH ASSOCIATION (NSW)

Inside: L O N G trains
The Red Arrows
Solari Boards

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L O N G Trains

by JIM WELLS

I ABHOR UNNECESSARY BIGNESS. The glass may be half full (optimist) or half empty (pessimist) but the engineer says it's twice the size it needs to be. I'm with the engineer.

This article is about the issues passengers face when travelling by rail and the railway provides L O N G trains. Sure, no one wants to ride in an overcrowded train. Why not add extra carriages but better still why not run more trains?

A key factor here is operator cost / convenience but we'll leave that to another time.

The first topic is short platforms, i.e. shorter than the trains that stop at them.

I recently had a trip late at night back from Newcastle on NSW's busy Northern main line. This has many short platforms.

The journey started with what CityRail calls a two car K (suburban) set. Two car electric sets are a dying breed on most railways (see box) but this trip was delightful. The seating capacity was far greater than needed. Stops could be brisk as braking need not be too conservative given that if you overrun you are probably still in the platform. The guard only has to look in one direction to check passenger loading. Recovery from permanent and any temporary speed restrictions would have been far quicker than for a longer train.

So it was no surprise that the train arrived at Gosford on time.

Between Newcastle and Gosford there are seventeen stations; only three of them are not listed as having short platforms. These are Fassifern, Wyong and Tuggerah. Even the major stations of Hamilton and Broadmeadow can't accommodate a full eight car V set (double deck electric inter urban cars introduced in the 1970's).

But all the platforms were of sufficient length for our two car train so the guard didn't have to make any announcements about which car to be in to alight on arrival.

Things changed on the next sector as we were now in an eight carriage OSCAR (Outer Suburban train introduced in 2006) with six stops to be made at short platforms. Berowra is no problem because it can accommodate a full Oscar as the cars are shorter than V set cars.

The guard dutifully announced that passengers would have to be in the rear car/s for the short platforms before Woy Woy.

But after leaving Hawkesbury River the announcement for Cowan was that one had

to be in the FRONT four cars to alight. Gee – what if you were in the rear four cars? There is no means for passengers to pass through from cars 5 to 4 or vice versa because of the intermediate driving control compartments. Bad luck!

At right is CityRail's station listing for this sector and part of the legend.

SP6# applies only to Redfern. SPM applies to Hunter diesel services stopping at very short platforms, not applicable here.

It's clear the default is to alight at the rear which is sensible because that's where the guard is.

But why the exception for Cowan where the instruction is to 'see train guard'? One possible reason is that there is a pedestrian lights / boom barrier facility at the up end of the platform and CityRail doesn't like stationary trains blocking these crossings. Hardly, as this situation exists at Koolewong on the down with a full road crossing and at several other stations as well.

This picture of the Up end of Cowan (below) gives us the clue – a colour light signal right at the end of the platform. It needs to be here to protect the cross over.

If an eight car train stops with the rear cars in the platform the front will have passed the signal thereby setting it to double red. This causes a difficulty for the guard to give the right away as normally guards must only do this knowing that the driver 'has the road'. Indicators are provided on platforms to facilitate this.

One solution is to make an exception to this rule here on the basis that guards check with the driver by the inter com. An alternative would be to extend the plat-

	Gosford				
	Point Clare				
	Tascott				
	Koolewong				
	Woy Woy				
	Wondabyne				
	Hawkesbury River				
	Cowan				
	Berowra				

SP	Short platform. See train guard.
SP1r	Short platform. Alight from rear car's rear door
SP4	Short platform. Alight from rear 4 cars.
SP6	Short platform. Alight from rear 6 cars.
SP6#	Short platform. Alight from front 6 cars.
SPM	Short platform. Alight from middle doors.

forms which wouldn't be too difficult.

NSW CountryLink manage the problem of short platforms well by clear on board announcements and no barriers for any passenger to access the right car / door. On board staff can look after children or LOLs (little old ladies). The one exception might be the Armidale / Moree service which runs as two 'motor' trains coupled together to/ from Werris Creek. This may have to make double stops.

Short platforms have one benefit for Coun-





tryLink and that is management of 'walk ups', i.e. passengers intending to board without a booking. If you don't like the look of them shut the doors and go without them.

Victoria's V/Line has an interesting take on the short platform problem. Simply announce to passengers that they should check that there is a platform once the door has been opened.

It wasn't so very long ago that a very different environment operated for Australian country trains.

Above is a picture from Mark Bau of the Victorian Albury Express in 1982. From the rear it had guard's van, three air conditioned cars and two very old wooden cars.

There was no central locking of car doors as we have now and any on board PA system would have been limited to the air con cars. The Albury Express was an important train and probably had a conductor, unlike most country trains in Victoria. They all had guards up until the 1980's but these tended to minimise their contact with passengers.

So what happened at country station stops? The guard or station staff would hand signal the locomotive crew to stop once the van was in the platform. Typically several doors at the front of the train would be off the platform.

I don't remember this ever causing a problem. Regular passengers would either travel in a car knowing they could alight at their destination or they would move back down the train before reaching it. I'm sure the occasional younger and perhaps not so young passenger would alight by using the end of the bogie bolster spring as a foot hold to clamber down to track level. This was fine with the wooden E and W cars which only had end doors but was not possible from the mid doors of a PL carriage – remember them?

This is a reminder of what used to happen

on rail enthusiast special steam trains in the 1960's – fan trips. The train would stop at a point selected by the organiser mid section. Photographers would alight by the method mentioned to form a line in a nearby paddock. The train would reverse, a fire would be put on, and the reverser would be placed in full gear. The train would run past with much noise and smoke. Goodness knows what the general public thought. Upon stopping the photographers would board; a somewhat less risky procedure. The organisers may have arranged for a set of steps for the less physically able. Track ballast wasn't as deep as it is now. There is no way an OH and S organisation would sanction a photo stop such as this today.

More technical readers may be interested in a comment on SDO (Selective Door Opening) in "Modern Railways" April 2009 p38.

We now turn to the matter of platform entry points. It really helps if busy platforms have multiple points such as those at Flinders St in Melbourne or Town Hall in Sydney. We've all had the frustration of getting on a suburban train at the wrong end to find that after we've walked all the way to the other end of the platform on arrival the next train is about to arrive. This is obviously not a problem for regular passengers.

What is a problem for all passengers, regular or not, is the long distance walked along platforms at stub end terminals. This situation is common at major stations all over the world. One thinks of Grand Central in New York and most (all?) London main line termini.

In Australia we have Adelaide and some platforms at Sydney's Central. Newcastle also comes to mind.

The British seem keen on extending suburban trains to twelve cars as a solution to capacity problems yet these often terminate at stub end termini. Kings Cross in London comes to mind. One wonders how

the loading is spread out along the train.

Yes, the nearby St Pancras does have mid platform access to the platforms for EuroStar trains. These are very long with eighteen passenger cars. But the problem for EuroStar passengers compared to the old arrangements at St Pancras is that the check in area under the platforms is some distance from the London Underground Kings Cross / St Pancras station. So even if you are booked into the middle car of a EuroStar you will still have a lot of walking to do if arriving at the station by the Underground.

If you are booked in the rear car you will have a very long walk at the Gare du Nord in Paris. Maybe 400m is not too much for some but it certainly is for the Little Old Ladies. It's more than twice the length of a Sydney suburban train.

Australia's Great Southern Railway (GSR) has an interesting operation with its Indian Pacific transcontinental train. It normally operates with 16 cars or so but in the peak season it'll operate as a double consist – in effect two trains joined together – say 32 cars.

Sydney terminal has no platform that can accommodate such a monster so the train is split. The two sections occupy both sides of the island platform 2/3. The front section 'departs' about 30 min before the rear so that it can be shunted on to the rear. A reverse situation occurs on arrival, with the rear 'arriving' quite a bit later than the front. This must be quite frustrating for the passengers.

GSR has been known to run trains in three sections. One wonders if they would have been the longest passenger trains ever anywhere.. (Table overleaf, courtesy: ARHS *Railway Digest*)

This raises the question of on train access to facilities. A feature of this train is that no passenger had to walk too far to access a club or dining car.

This was an issue in the days when the NSW and Victorian Railways ran quite long trains on interstate services. Do you remember the Southern Aurora sleeper only train that ran between Melbourne and Sydney between 1962 and the mid 1980's? It consisted of, ignoring vans etc of five sleepers – a lounge car – a dining car – and then a further five sleepers.

A passenger in one of the outer sleepers would have to navigate five or six between car gangways to access the dining car. Each gangway had two doors that had to be opened and closed so it would have been quite a trip.

The dining car seated forty eight and had three sittings for breakfast. So 144 passengers could be accommodated out of the

TRAIN No 1AD8 20 May 2012			Length (Metres)	Mass (Tonnes)
1	LOCOMOTIVE		22	
2	LOCOMOTIVE		22	
3	AMPZ 264	MOTORAIL	23.1	34
4	AMRZ 244	MOTORAIL	23.1	34
5	AMRZ 268	MOTORAIL	23.1	34
6	HGM 902	POWER	23.826	57
7	ER 207	CREW	23.826	48
8	JTB 1	CREW	23.826	47.8
9	BRG 175	SLEEPING CAR (2ND)	23.826	48
10	BRG 171	SLEEPING CAR (2ND)	23.826	48
11	BRG 972	SLEEPING CAR (2ND)	23.826	48
12	ARM 952	DELUXE SLEEPING CAR	23.826	49
13	AFC 307	LOUNGE CAR	23.826	44
14	DF 233	DINING CAR	23.826	51
15	ARL 246	SLEEPING CAR (1ST)	23.826	49
16	ARM 947	DELUXE SLEEPING CAR	23.826	49
17	ARJ 272	SLEEPING CAR (1ST)	23.826	49
18	ARL 291	SLEEPING CAR (1ST)	23.826	49
19	ARL 309	SLEEPING CAR (1ST)	23.826	49
20	AFC 305	LOUNGE CAR	23.826	44
21	DF 930	DINING CAR	23.826	51
22	ARM 953	DELUXE SLEEPING CAR	23.826	49
23	ARL 308	SLEEPING CAR (1ST)	23.826	49
24	ARL 962	SLEEPING CAR (1ST)	23.826	49
25	ARJ 243	SLEEPING CAR (1ST)	23.826	49
26	ARL 248	SLEEPING CAR (1ST)	23.826	49
27	ARL 922	SLEEPING CAR (1ST)	23.826	49
28	CCL 2	CLUB CAR	23.826	44
29	DF 964	DINING CAR	23.826	51
30	ARM 951	DELUXE SLEEPING CAR	23.826	49
31	ARL 992	SLEEPING CAR (1ST)	23.826	49
32	BRJ 303	CREW	23.826	50
33	HGM 296	POWER	23.826	57
34	BRJ 270	SLEEPING CAR (2ND)	23.826	50
35	AFC 936	LOUNGE CAR	23.826	44
36	CDF 924	Matildas Restaurant CAR	23.826	49
37	AG 373	SITTING CAR	23.826	49
38	BG 370	SITTING CAR	23.826	46.8
39	HM 958	LUGGAGE	23.826	42
40	BRJ 919	CREW	23.826	50
41	HGM 317	POWER	23.826	57
Total :			971m	1,865t

198 on the train if full. One hopes that those who didn't have breakfast weren't in the inner cars.

At least Southern Aurora passengers didn't have to carry their food and beverages back to their seats as NSW CountryLink passengers now have to do. A full consist XPT has seven cars with the buffet car being in position three. At least the gangways are easier to navigate with push button doors.

Roll on short trains!

Two Car Electric Trains

VICTORIA

I WAS A STUDENT at Melbourne University in the 1960s and used to travel on the Glen Waverley line to Flinders St every day.

Imagine my astonishment when arriving at Platform 4 one evening for my post peak trip to find only a two car Tait train for my service instead of a four car one. Sure, it was crowded but I don't remember too many standees on subsequent trips.

These trains were introduced on several lines for evening and weekend services. There had been two car doggies (swing door cars) on Port Melbourne, St Kilda, Altona and Alamein services for many years but Tait trains were running as two cars. The story is well documented in Robert Henderson's (with S E Doran) book "The Electric Railways of Victoria" AETA 1979.

It would be fascinating to read the management paper that advocated this change or was it a Commissioner's rush of blood to the head? The issues would have been cost, security, and the problems imposed by young men with anger management issues (seat slashing was common at the time) offset by operator inconvenience and safety for staff involved in the coupling and uncoupling process.

Motorists liked the change as level crossing boom barrier down times were reduced. The Glen Waverley line had (still has) two crossings with tramways (Kooyong and Gardiner) with very low speeds allowed over the crossings. The little two car trains really did make a difference.

The Victorian Railways really were quite fanatical about this. They converted Ringer trailers to Driving trailers and even converted some M Tait cars for single car operation by fitting a second driving cab for Hurstbridge, Alamein and Altona services.



Photo: Courtesy Bob Wilson

NEW SOUTH WALES

THE NSW RAILWAYS, at about the same time, were keen on the idea of short trains as the early orders for complete double deck (dd) suburban and inter urban trains featured driving trailer cars.

However, use of them for running two car trains seems to have been very limited. I do remember seeing a two car train on the Inner West one evening about 1978 or 1979.

The June 1984 SRA WTT documents the "Distinctive Numbering of Suburban Electric Trains". This, of course, was in the pre Tangara era. Set nos 80 to 96 were eight car dds T's divisible into four two car sets. Trains that operated as two cars had the affix (sic) "f" or "g" but the only such trains in the timetable were off peak ones on the Carlingford line.

There has long been a view that two car electric trains are a reliability and safety risk because of their single air brake compressor.

Most of the driver trailer cars have been converted to ordinary trailers many in a fairly crude way by removing all the control gear etc and the internal door to the passenger compartment so adding not to seating capacity but to standing. The external doors have been sealed closed.

How long the two car operations at Newcastle will continue is not known.

The only use of two car Interurbans (V sets) that I know of was the short lived Wyong to Parramatta (St Marys) one train a day service but most of the driving trailers have not been converted to ordinary trailers.

List of lines served by Passenger Trains

TRIS TOTTENHAM & PAUL NICHOLSON

Letters

From Tris Tottenham

MIGHT I BE PERMITTED to comment on the two maps/diagrams on page 3 of *The Times*, May 2013?

Most maps and diagrams generally face “North”— is there any reason why the City Circle diagram faces south?

On the Sydney Terminal diagram, why is there 3 sections? Main and Suburban one can understand. Is there any significance in a “Bankstown” section?

Incidentally

The through trains from down here (Southern Highlands) are shown as starting from and terminating at “Central”, yet the Eastern Suburbs/Illawarra line timetable with trains terminating on the South Coast are shown as terminating at the Inter-city Platforms 4-15 at “Central Station”

Notes on Southwold Railway

Open 1879 to 1929. Track lifted and locos scattered in 1941 for the war effort. A goods wagon survives

Why was it built? In more ancient times, Southwold was a port.

When mainline railways were being built, the Powers that Be decreed that Lowestoft was the better port and thus the railway from Ipswich bypassed Southwold

Why did it dawdle? Offered goods off and pick-up at all the stations.

Preservation. There is a Society which hopes to re-open a section of 0.8 km near Wenhaston in the direction of Blythburg.

Rails. Some rails are still to be found on the Harbour Branch.

Today, the fastest Liverpool St—Ipswich train takes 1 hour non-stop

From Paul Nicholson

REFERENCE IS MADE to the list of New South Wales passenger services in 1943 compiled by my learned colleague R K Willson and the subsequent correspondence from my equally learned colleague R G Henderson, both who I’ve known personally for more than 40 years and both, by coincidence, “entered service” in 1943!

For me, the list was fascinating because it made me realise how many of the services “survived” [in

the timetable] long enough for keen young baby boomer enthusiasts such as myself to ride and experience a way of rural life, now long departed. I am sure there are many others like me who remember being one of a handful, and sometimes, the only, passenger riding out to places such as Barabara, Belmont, Boggabilla and Bourke.

I know of many enthusiasts who lament the passing of such trains and often remain hostile to the “bastards” who took away (now 30 or more years ago) what they had loved and cherished for generations. My view is that those of us who had and took the opportunities in the 1960s and 1970s to ride such trains, often long after they had been “abandoned” by the mainstream travelling public should remain ever thankful to those responsible for keeping them running long past their “use by” date!

There are other instances of transport operations remaining “in the timetable” long after what would be seen as their “use by” date in the real world. One that immediately comes to mind is the Victorian Railways road motor service (numbered 902 in later years) from East Camberwell to East Kew.



What's in a name? (5) The Red Arrow routes

ROBERT HENDERSON

THERE WERE FIVE PRIVATE BUS routes labelled "Red Arrow", which ran generally in the western suburbs of the Sydney metropolitan area. They operated for various periods between 1980 and 2005, bearing route numbers:

300 (later 830), Liverpool-Blacktown

320 (later 910), Bankstown-Parramatta

333, Parramatta-Chatswood

590 (later 630), Blacktown-Epping (later extended from Epping to Macquarie Centre)

860, Bankstown-Liverpool

The Red Arrow routes were cross-regional in nature and mostly passed through the licensed territories of two (or more) different private bus operators, as they were in the early 1980s. The territorial system had made such routes impossible to run prior to that time. At the start, each of the Red Arrows other than 860 stopped only at limited stops, but this feature was considerably watered down over the life of the remaining routes.

The Government provided various items of assistance in setting up most of the Red Arrow bus services, under the heading of the Western Region Transport Improvement Programme. The assistance included timetable production, painting of buses in a distinctive red-and-white livery, special

bus stop signs and other promotional material.

A document which contains a review of Red Arrow services suggests that the impetus for cross-regional express bus routes originally emanated from the Sydney Area Transportation Study (SATS) report, published in 1974. The report envisaged that such routes would complement the mainly radial nature of Sydney's rail system. No action, however, resulted from that part of the SATS report. A little later, the concept was further developed and refined in another report, by the Sydney Transport Study Group (STSG) in 1980, which recommended that the relevant Government agencies prepare guidelines for the operation of cross-regional buses in western Sydney. The STSG recognised the difficulty of a route crossing the territories of two or more private operators.

In July 1980 the monolithic Public Transport Commission was split into several bodies, one of which was the Urban Transit Authority (UTA). One of the UTA's responsibilities was to improve and coordinate privately-operated bus and ferry services in Sydney, Newcastle and Wollongong. So the UTA and the Department of Motor Transport (DMT, one of whose functions was to license and regulate private bus services) initiated discussions with private bus operators to implement

cross-regional services.

Bankstown to Parramatta – originally Route 320, later 910

In the meantime, prior to the formation of the UTA, Chester Hill Bankstown Bus Service (CHBBS) had sought to extend its Route 73, Bankstown-Chester Hill, into the major retail and commercial centre of Parramatta, which was some distance outside its own territory. Delwood Coaches' territory lay in between. The way CHBBS achieved their aim was to negotiate with Delwood Coaches to jointly operate a service between Bankstown and Parramatta over Chester Hill's Route 73 and Delwood's Routes 96 (between Granville and Parramatta) and 105 (between Granville and South Granville along Clyde Street). Together they created a new company called Bankstown-Parramatta Bus Lines, which was then legally entitled to run through both operators' territories, picking and setting down passengers over almost the whole route. Their new service, numbered 320, commenced on 18 February 1980.

Following the introduction of the first Red Arrow service (Route 300 on 8 December 1980), the operators of 320 applied for inclusion of the route in the Red Arrow programme. The UTA agreed to that and reimbursed the operators for the repainting of their two buses in the Red Arrow livery.

ROUTE No.300 : RED ARROW EXPRESS

ADULT FARES

Fare from Blacktown Station	Section Points	Fare from Liverpool Station
\$1.50	Liverpool Station	—
\$1.50	Copeland & Campbell Sts	\$0.30
\$1.30	Orange Grove Rd & Links Ave	\$0.50
\$1.30	Railway Pde & Arthur St	\$0.70
\$1.10	Railway Pde & Canley Vale Rd	\$0.70
\$1.10	Fairfield Station	\$0.70
\$1.10	The Horsley Drive & Brenan St	\$0.90
\$0.90	The Horsley Drive & Smithfield St	\$0.90
\$0.90	Betts & Woodpark Rds	\$0.90
\$0.90	Merrylands Rd & Ringrose Ave	\$0.90
\$0.90	Merrylands Rd & Taylor St	\$1.10
\$0.70	Greystanes Rd & Mavis St	\$1.10
\$0.70	Greystanes Rd & Millicent St	\$1.10
\$0.70	Blacktown & Rowood Rds	\$1.30
\$0.50	Blacktown Rd & Keyworth Drive	\$1.30
\$0.30	Blacktown Hospital Entrance	\$1.50
—	Blacktown Station	\$1.50

BLACKTOWN STATION

MAIN ST, PATRICK ST, ALPHA ST, FLUSHCOMBE RD, WESTERN BLACKTOWN ROAD, HIGHWAY, PROSPECT, GIB STANLEY ROAD, GREYSTANES, MERRYLANDS RD, SMITHFIELD, WOODPARK RD, COOPER RD, LONG ST, WARREN RD, BETTS RD, THE SMITHFIELD ROAD, HORSLEY DRIVE, FAIRFIELD, HORSLEY DRIVE, CANLEY VALE, JOHN ST, HILL ST, RAILWAY, CABRAMATTA, WEST CABRAMATTA, ORANGE GROVE ROAD, ELIZABETH, COPELAND, MOORE ST, RAILWAY ST, BRIDGE ST, LIVERPOOL STATION

BOSNJAKS BUS SERVICE AND WESTERN ROAD BUS SERVICE

Phone 631 8500

LIVERPOOL-BLACKTOWN RED ARROW EXPRESS

ROUTE 300

via CABRAMATTA, CANLEY VALE, FAIRFIELD, SMITHFIELD, GREYSTANES, PROSPECT

8 DECEMBER 1980

A JOINT DEVELOPMENT OF THE URBAN TRANSIT AUTHORITY OF NSW AND THE BUS AND COACH ASSOCIATION (NSW)

With a running time of 40 minutes, Route 320 initially ran every 45 minutes Mondays to Saturdays, but from June 1980 it was reduced to Mondays to Fridays, running approximately every hour.

On 3 February 1986 CHBBS sold its share of the route to Auburn Bus Service. When Delwood's routes were renumbered into the Sydney Region route number system on 29 July 1987, Route 320 was also renumbered - as 910. By then it ran all stops and was no longer regarded as a Red Arrow route. Then on 25 July 1990, Auburn Bus Service sold its share of the route to Delwood, making Delwood the sole owner of the route. At that point travelling restrictions applied to the section of the route between Chester Hill and Bankstown, so negating much of the original purpose of the route.

Until 1993, Route 905 (renumbered from 105) also ran along Clyde Street, South Granville, but about then 905 was cancelled and 910 became the sole route service along Clyde Street. The travelling restrictions imposed in 1990 almost certainly meant a reduction in revenue, so on 17 December 1995, the route was cut to run only between Parramatta and Chester Hill. That marked the end of any semblance of the route in its originally intended format.

Liverpool to Blacktown - Route 300, later 830

With the UTA firmly established in mid-1980, it was able to facilitate the start of this route on 8 December 1980. Being the first route to be actually called a "Red Ar-

row", the Transport Minister of the time, Peter Cox, hosted a special reception when it was inaugurated. It was originally jointly operated by Bosnjaks Bus Service and Western Road Bus Service (proprietors, Neyland and Thornley). But, following an offer by the Bosnjak family, Western Road handed over complete control of the route as from 10 August 1981. Changes included the route being renumbered 830 in June 1982, and the Bosnjak organisation altering its name to Westbus in October 1984.

One of its major patronage generators along the route was the large industrial area in the suburbs of Woodpark and Smithfield. The route through this area altered during the course of the route's history.

The original timetable showed services running hourly, but with provision for meal breaks, during the day Mondays to Fridays and on Saturday mornings. Each operator provided one bus. Departures from either end were at the same times. The off-peak running time was 50 minutes. The Saturday service was discontinued in 1982. After Westbus became the sole operator, the timetable was expanded so that it ran closer to a full memory headway throughout the day.

After a life of just over ten years, it ceased to be a Red Arrow route when Westbus undertook massive route and timetable changes as from 4 February 1991. That date marked the consolidation of Westbus's routes in the Fairfield/Cabramatta area following the takeover of the Calabro empire. Route 830 was then rerouted via

Sackville Street between Cabramatta and Fairfield to replace old Calabro Route 77. Following a lot of route and timetable changes (which included its extension from Blacktown to Castle Hill for a short period), Route 830 finally ceased as an entity at the time of the Ministry of Transport review of bus routes in the region, which became effective on 22 March 2010.

Parramatta to Chatswood - Route 333

This second route officially described as a Red Arrow commenced on 19 January 1981. It was joint operation of North & Western Bus Lines, run by Ken Butt, and Parramatta-Ryde Bus Service, run by the Kennedy and Ferris families. It became the only one of the Sydney Red Arrow routes never to have a route number in the Sydney Region system. Apparently the owners liked the number 333 so much that they requested that it remain, despite not strictly adhering to the principles of the newer geographically-based number system.

Rather similarly to the Liverpool-Blacktown Red Arrow, the original timetable showed services running hourly during the day Mondays to Fridays and on Saturday mornings, but with provision for meal breaks. Each operator provided one bus. Departures from either end were at the same times. The off-peak running time was 45 minutes. The timetable was altered to be weekday peak hours only as from 23 July 1990, when North & Western Bus Lines routes and timetables were all subject to considerable rearrangement.

In the early 1990s, it became solely oper-

* MONDAYS TO FRIDAYS									* MONDAYS TO FRIDAYS									ROUTE 300 BUS STOPS	
Liverpool Station	Cabramatta Station	Fairfield Station	Smithfield	Merrylands & Betts Rds	Merrylands & Greystanes Rds	Blacktown Rd & Western H'way	Blacktown Station		Blacktown Station	Blacktown Rd & Western H'way	Merrylands & Greystanes Rds	Merrylands & Betts Rds	Smithfield	Fairfield Station	Cabramatta Station	Liverpool Station			
AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM			
..	6 00	6 06	6 12	6 18	6 24	6 34	6 44	..	..	..	..	6 10	6 16	6 22	6 28	6 38		
6 45	6 55	7 01	7 07F	7 17F	7 23	7 29	7 39	6 45	6 55	7 01	7 07F	7 17F	7 23	7 29	7 39				
7 45	7 55	8 01	8 07	8 13	8 19	8 25	8 35	7 45	7 55	8 01	8 07	8 13	8 19	8 25	8 35				
8 45	8 55	9 01	9 07	9 13	9 19	9 25	9 35	8 45	8 55	9 01	9 07	9 13	9 19	9 25	9 35				
10 15	10 25	10 31	10 37	10 43	10 49	10 55	11 05	10 15	10 25	10 31	10 37	10 43	10 49	10 55	11 05				
11 15	11 25	11 31	11 37	11 43	11 49	11 55	12 05	11 15	11 25	11 31	11 37	11 43	11 49	11 55	12 05				
PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM				
12 15	12 25	12 31	12 37	12 43	12 49	12 55	1 05	12 15	12 25	12 31	12 37	12 43	12 49	12 55	1 05				
1 15	1 25	1 31	1 37	1 43	1 49	1 55	2 05	1 15	1 25	1 31	1 37	1 43	1 49	1 55	2 05				
2 15	2 25	2 31	2 37	2 43	2 49	2 55	3 05	2 15	2 25	2 31	2 37	2 43	2 49	2 55	3 05				
3 45	3 55	4 01	4 11F	4 21F	4 27	4 33	4 45	3 45	3 55	4 01	4 07F	4 17F	4 27	4 35	4 45				
5 05	5 15	5 21	5 27	5 33	5 39	5 45	5 55	5 05	5 15	5 21	5 27	5 33	5 39	5 45	5 55				
6 00	6 10	6 16	6 22	6 28	TO LAST PASSENGER			6 00	6 10	6 16	6 22	6 28	TO LAST PASSENGER						
SATURDAYS									SATURDAYS										
AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM			
..	7 40	7 46	7 52	7 58	8 04	8 10	8 20	..	..	..	..	7 52	7 58	8 04	8 10	8 20		
8 30	8 40	8 46	8 52	8 58	9 04	9 10	9 20	8 30	8 40	8 46	8 52	8 58	9 04	9 10	9 20				
9 30	9 40	9 46	9 52	9 58	10 04	10 10	10 20	9 30	9 40	9 46	9 52	9 58	10 04	10 10	10 20				
11 00	11 10	11 16	11 22	11 28	11 34	11 40	11 50	11 00	11 10	11 16	11 22	11 28	11 34	11 40	11 50				
PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM				
12 15	12 25	12 30	12 36	12 42	12 48	..	..	12 15	12 25	12 30	12 36	12 42	12 48	12 54	..			
F - Via Smithfield Industrial Park.									● Passengers will only be set down along Merrylands and Greystanes Rds if travelling from outside the area or picked up for travel to stops other than on these roads.										
* No pick up or set down between Liverpool Shopping Centre and Cabramatta Station.																			

ated by Parramatta-Ryde Bus Service. Ironically Ken Butt became involved with route again when he acquired an interest in Parramatta-Ryde Bus Service, following the retirement of Des Kennedy from the company.

The review of the Red Arrow routes shows that Route 333 was the only route to retain the Red Arrow principle of limited stops throughout its life, but that it was also the most lightly patronised of all the Red Arrow routes in Sydney. It was also the only one to be completely and permanently transferred into Government hands when both North & Western Bus Lines' and Parramatta-Ryde Bus Service's routes were transferred to the Government. This transfer occurred when Sydney Buses took over in late 1999/early 2000. Under Government control, it was renumbered 530 and ceased when the ex-private routes were integrated with existing Government routes in March 2001. A timetable issued by Sydney Buses dated June 2000 labelled it as a "limited stop service", but stopped short of using the term Red Arrow.

Blacktown to Epping, late extended to Macquarie Centre – Route 590, later 630

This route was a joint venture of the Bosnjak family's Parramatta Bus Company and the Moore family's Harris Park Transport. Apparently there was a continuing fragile relationship between these two operators throughout their period of joint management. The route began on 14 December 1981 as 590, running between Blacktown and Epping. It replaced Route

201 which Parramatta Bus Company had been operating between Seven Hills and Baulkham Hills since earlier in 1981.

Like the Liverpool-Blacktown and Parramatta-Chatswood Red Arrows, the original timetable showed services running hourly during the day Mondays to Fridays, but with provision for meal breaks. Initially it ran only on weekdays. Each operator contributed one bus. Departures from either end were at the about same times. The off-peak running time was 44 minutes. Before about 7.15am, there were some short workings between Baulkham Hill and Seven Hills, replicating similar trips on Route 201.

Unlike most of the other Red Arrows, which received assistance from the UTA for timetable production, painting of buses and promotional material, these items were supplied by the Westfield shopping complex at North Rocks, past which the route directly operated.

Parramatta Bus Company came under the umbrella name of Westbus in October 1984 and the route was renumbered 630 on 21 September 1987, when route number 590 was required for the Chatswood-Hornsby route on the upper North Shore. On 22 January 1990, the route was extended from Epping to nearby Macquarie Centre and the timetable was considerably enhanced with trips running as late as 9.30 pm. An hourly Saturday service was added from that time. But in 2000, both weekday evening and Saturday services ceased.

As a reflection of the rivalry between the route's two operators, each produced its

own printed timetables on several occasions during the late 1990s. Harris Park Transport, however, ceased to be a bus operator on 22 December 2004 and its share of the route passed to Hillsbus, as Westbus's routes in that area had become known at the same time. After some problems with Hillsbus operations during 2005, during which time Sydney Buses ran the Harris Park share of the route for several months, the route became solely run by Hillsbus as from September 2005. Timetables from that time, however, ceased to refer to it was a Red Arrow route.

Route 630 continues to operate today, with only some minor route alterations compared with when it started. Those alterations include an extension in December 2010 from Macquarie Centre to Macquarie Park railway station, partly due to the need to move terminating buses away from Macquarie Centre to relieve congestion there. As a result of both the lengthened route and heavier traffic conditions, the through running time in the off-peak is now 75 minutes. Some peak hour trips are scheduled to take as long as 115 minutes.

Bankstown to Liverpool – Route 860

Route 860 was the last Red Arrow service to be introduced. It was a combination of two routes, 12 between Bankstown and Milperra Bridge (proprietor, Max Holman's South Western Coach Lines) and 69 between Milperra Bridge and Liverpool (proprietor, Milperra Bus Service). Although the UTA and DMT initiated discussions with these two operators in 1980/1, it took till 27 February 1984 for it

ROUTE No: 333: RED ARROW EXPRESS

PARRAMATTA STATION TO:

Adult Fare from Chatswood Station	Section Points	Adult Fare from Parramatta Station
\$1.50	Parramatta Station	—
\$1.50	Rydalmere & Grand Avenues.	\$0.50
\$1.50	Rydalmere Avenue & Victoria Road.	\$0.70
\$1.30	Victoria Rd. & Park Rd.	\$0.70
\$1.30	Victoria Rd. & Spurway St.	\$0.80
\$1.10	Victoria and Marsden Roads.	\$0.90
\$1.10	Victoria Rd. & West Pde.	\$0.90
\$0.90	Victoria Rd. & Belmore St.	\$0.90
\$0.90	Lane Cove Rd. & Quarry Rd.	\$1.10
\$0.90	Wicks & Cox's Roads.	\$1.10
\$0.80	Epping & Pittwater Roads	\$1.30
\$0.70	Epping Rd. & Cumberland Lane.	\$1.30
\$0.70	Epping Rd. & Centennial Ave.	\$1.50
\$0.50	Pacific Highway & Mowbray Rd.	\$1.50
—	Railway St., Chatswood Station.	\$1.50

RED ARROW EXPRESS

NORTH & WESTERN BUS LINES
Phone: 816 2622

PARRAMATTA RYDE BUS SERVICE
Phone: 638 3121

PARRAMATTA — CHATSWOOD RED ARROW EXPRESS

ROUTE 333

via
RYDALMERE, ERMINGTON, WEST RYDE, NORTH RYDE, LANE COVE

19 JANUARY, 1981

A JOINT DEVELOPMENT OF THE URBAN TRANSIT AUTHORITY OF NSW AND THE BUS AND COACH ASSOCIATION (NSW)

CONNECTING SERVICES

The Route 590 Red Arrow Express provides many connections with other bus and train services.

AT BLACKTOWN

- Local bus services around Blacktown, Doonside, Quakers Hill, Parklea and Mt. Druitt.
- Liverpool - Blacktown Red Arrow bus.
- Suburban trains to Penrith, Emu Plains and Richmond.
- Interurban and country trains.

AT SEVEN HILLS

- Local bus services to Toongabbie, Lalor Park and Kings Langley.
- Suburban trains to the City or Penrith.

AT BAULKHAM HILLS

- Local bus services to Parramatta, Castle Hill and Kellyville.

AT CARLINGFORD

- Local bus services to Pennant Hills, Beecroft, Parramatta, Dundas Valley, Ryde and Eastwood.

AT EPPING

- Local buses to Ryde, Eastwood and Beecroft.
- Government buses to Wynyard :
 - Routes 288 & 290 : via Macquarie University and Macquarie Centre.
 - Route 289 : via Epping Road and Kent Road, North Ryde.
 - Route 291 : via Epping Road (direct).
- Suburban trains to the City and to Hornsby (with interurban and country train connections).

Westfield SHOPPINGTOWN NORTH ROCKS

INVITE YOU TO PUT US ON YOUR SHOPPING LIST

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- COLES NEW WORLD
- PAULS HOME CENTRE
- FOSSEYS • IGLOO
- LOWES MENSWEAR
- ANITA JEWELLERS
- JUST JEANS
- SUSSAN
- THRIFT CHEMIST
- POOL SHOP

Plus OVER 70 SPECIALITY SHOPS

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• SWIMMING SCHOOL
• SQUASH COMPLEX
• EDUCATION CENTRE
• CRAFT CLASSES
• COMMUNITY INFORMATION CENTRE

MORE UNDERCOVER PARKING AIR CONDITIONED

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PARRAMATTA
BUS CO PTY LTD
Phone 630 2119

AND

CARLINGFORD
BUS SERVICE
Phone 633 2181

**BLACKTOWN - EPPING
RED ARROW EXPRESS**

ROUTE

590

Via

**SEVEN HILLS BAULKHAM HILLS
NORTH ROCKS CARLINGFORD**

from 14 December 1981

A JOINT DEVELOPMENT OF
THE URBAN TRANSIT AUTHORITY OF NSW
AND THE
BUS AND COACH ASSOCIATION (NSW)

Mondays to Fridays Timetable

BLACKTOWN STATION	SEVEN HILLS STATION	LANGDON RD & GOODEN DRIVE	BAULKHAM HILLS SHOPS	CROSS & CARY STS	WESTFIELD NORTH ROCKS	CARLINGFORD SHOPS	EPPING STATION	EPPING STATION	CARLINGFORD SHOPS	NORTH ROCKS SHOPS	CROSS & CARY STS	BAULKHAM HILLS SHOPS	LANGDON RD & GOODEN DRIVE	SEVEN HILLS STATION	BLACKTOWN STATION
AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM
..	6:20	6:28	6:34	..	..	..	..	..	..	..	..	6:03	6:09	6:17	..
..	6:55	7:05	7:12	7:17	7:23	7:29	7:35	..	..	..	..	6:35	6:41	6:50	..
7:35	7:42	7:53	8:00	8:05	8:11	8:18	8:25	..	..	..	..	7:03	7:09	7:18	7:27
8:30	8:37	8:47	8:54	8:59	9:05	9:11	9:17	7:40	7:45	7:52	7:57	8:03	8:09	8:18	8:27
9:20	9:26	9:35	9:41	9:46	9:52	9:58	10:04	8:30	8:35	8:42	8:48	8:54	9:00	9:09	9:17
10:25	10:31	10:40	10:46	10:51	10:57	11:03	11:09	9:20	9:25	9:32	9:37	9:42	9:48	9:56	10:04
11:20	11:26	11:35	11:41	11:46	11:52	11:58	12:04	10:25	10:30	10:37	10:42	10:47	10:53	11:01	11:09
PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM
12:20	12:26	12:35	12:41	12:46	12:52	12:58	1:04	11:25	11:30	11:37	11:42	11:47	11:53	12:01	12:09
1:20	1:26	1:35	1:41	1:46	1:52	1:58	2:04	12:25	12:30	12:37	12:42	12:47	12:53	1:01	1:09
2:15	2:21	2:30	2:36	2:41	2:47	2:53	2:59	1:25	1:30	1:37	1:42	1:47	1:53	2:01	2:09
3:35	3:42	3:53	3:59	4:04	4:10	4:17	4:23	2:15	2:20	2:27	2:32	2:37	2:43	2:51	2:59
4:35	4:42	4:53	4:59	5:04	5:10	5:17	5:23	3:35	3:41	3:49	3:54	4:00	4:08	4:17	4:27
5:35	5:42	5:52	5:58	6:03	6:09	6:15	6:20	4:35	4:41	4:49	4:54	5:00	5:07	5:15	5:24
..	6:17	6:25	6:31	..	..	..	..	5:35	5:41	5:49	5:54	5:59	6:06	6:13	..
..	..	..	..	..	..	..	..	6:25	6:30	6:37	6:42	6:47	..	..	..

- No services on Saturdays, Sundays and Public Holidays.
- Red Arrow buses stop only at specially marked stops along the route, as shown on map. This allows for a fast cross suburban service.
- Buses operate EXPRESS between Blacktown Hospital and Toongabbee Creek, Winston Hills. This means passengers will not be set down on journeys from Blacktown or Seven Hills nor picked up on journeys to Seven Hills or Blacktown, between Blacktown Hospital and Toongabbee Creek.

Authorised by the Department of Motor Transport



The Solari Board

From WIKIPEDIA, THE FREE ENCYCLOPEDIA

Abfahrt Departure				Abfahrt Departure			
Zeit	Über	Nach	Gleis	Zeit	Über	Nach	Gleis
16:37	Eitz-Koelnsen	Northeim	3	17:20	Hamburg Hbf	HAMBURG ALTONA	7
16:51	Göttingen-Kassel	Frankfurt im Mainhafen	3	17:21	Wolfsburg	BERLIN OSTBF.	9
16:58	Celle-Lüneburg	Hamburg Hbf	4	17:26	Göttingen-Kassel	WÜRZBURG AUFBURG	4
17:06	Langerhagen	HANNOVER FLUGH.	2	17:28	Wunstorf-Haste	MÜNCHEN HBF	2
17:06	Lerfeld	Langerhagen	2	17:30	Stallhagen	MINDEN	4
17:06	Göttingen-Fulda	FRANKFURT/M	10	17:30	Eitz-Koelnsen	GÖTTINGEN	3
17:06	Berlin-Spandau	BERLIN SÜDKREUZ	12	17:31	Bielefeld-Hamm	TRIER	12
17:09	Wunstorf	RHEINE	11	17:31	Berlin-Spandau	KÖLN	12
17:11	Langerhagen	BENNEHÖHLEN	2	17:33	Wietzen	BERLIN OSTBF.	9
17:20	Wunstorf-Revsbühl	NORDEICH MOLE	12	17:34	Sarngshausen	HASTE	1
						LEHRTE	13

WEGEN EINES TOTALSPERRUNG ZWISCHEN SONTRA UND EICHENBERG VERSPÄTET SICH D. 60490 VOM 14.7. BIS 03.08. UM 13 MIN.

NEUE ABFAHRTSZEIT IST DAHER 06:30 UHR.

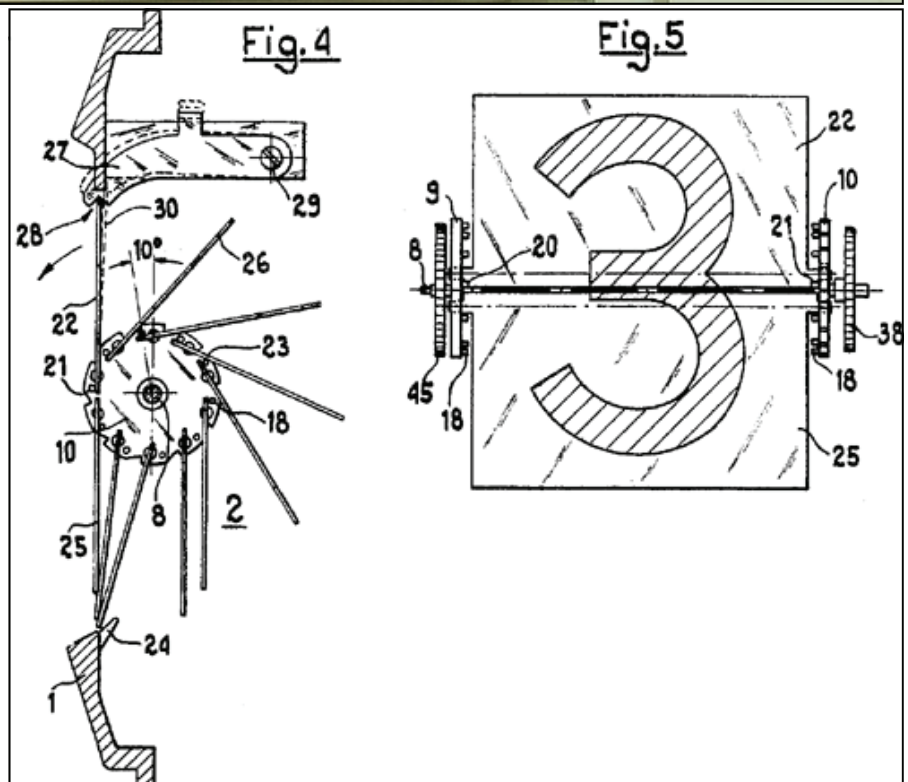
A **SPLIT-FLAP DISPLAY**, sometimes simply flap display, is a display device that presents alphanumeric text, and possibly fixed graphics, often used as a public transport timetable in some airports or railway stations, often called Solari boards, named after display manufacturer Solari di Udine from Udine, Italy.

Each character position or graphic position has a collection of flaps on which the characters or graphics are painted or silk-screened. These flaps are precisely rotated to show the desired character or graphic. These displays are often found in railway stations and airports, where they typically display departure or arrival information, although digital equivalents are far more common now.

Sometimes the flaps are large and display whole words, and in other installations there are several smaller flaps, each displaying a single character. The former method is limited to the words it can display on the flaps, while the latter system is not, and output messages can be changed without the need for the addition or replacement of flaps, although images cannot. In the example image on the right, the destinations in the centre of the picture are split into characters, while the messages left and right of these occupy one flap each.

During a power loss or disruption the display will freeze. At first this may be an advantage because the information is still correct. When the information becomes outdated it might be worse than no information.

Flip-dot displays and LED display boards may be used instead of split-flap displays in most applications. Their output can be varied more easily (by reprogramming instead of replacement of physical parts in the case of graphics) but they suffer from lower readability. They also can refresh more quickly, as a split-flap display often must cycle through many states.



Many game shows of the 1970s used this type of display for the contestant podium scoreboards. Usually, the flip was left-to-right on a vertical axis, although up/down on a horizontal axis was not completely unknown. In Italy, split-flap displays have also been occasionally used as destination signs for transit vehicles, there was also a brief vogue for them in the U.K. in the mid 1980s.

Advantages to these displays include:

- high visibility and wide viewing angle in most lighting conditions
- little or no power consumption while the display remains static
- Distinct metallic flapping sound draws attention when the information is updated.

In the case of the latter the Massachusetts Bay Transportation Authority has specifically designed the new LED replacements for its aging Solari boards at North Station and South Station to emit an electronically generated flapping noise to cue passengers to train boarding updates.

Operational boards in transport terminals

The boards are currently in use at the following stations (a selection only):

Australia

Melbourne Airport (Melbourne Tullamarine Airport, IATA Code MEL). Located in T2 (international terminal).

Germany

Frankfurt Am Main Gate A Check-In Area.

Frankfurt Airport (Flughafen Frankfurt am Main, IATA Code FRA) has Solari boards throughout the airport, still in use as of March 2012 [photo at top of this story]. Each row ends with a pair of green and red lights which flash to indicate that flight is boarding. They indicate each flight's destination, its flight number and carrier, and its departure gate and time. This particular board is known for mixing up, and creating new airport names.

Singapore

Singapore Changi Airport (Singapore Changi Airport, IATA Code SIN). Terminal 2 (Departures).

United States

Atlantic City Rail Terminal. Located in waiting area.

Jacksonville International Airport in Florida. It is on the second floor, in between the two check-in desks.

Newark Penn Station. In waiting area located above entrance to track concourse.

New Haven Union Station. Above stairway to platform concourse. Combined Metro-North and Amtrak. These will soon be replaced by two LED boards as part of an improvement project at Union Station.

Philadelphia's 30th Street Station. Mounted above centrally located information desk. Small flip boards located at the head of each track stairway.

Providence Station. Located in waiting area

San Francisco Ferry Building. Located in the Great Nave, and a new installation (2013) rather than a "hold-out" from the pre-digital era.

Trenton Rail Station. Two side-by-side low profile boards in over-track concourse. Served by all trains except River Line Light Rail.

Boards no longer in operation

Stations previously equipped with these boards included, amongst others:

United Kingdom

London Charing Cross, split into two sections with promotional images on destination blinds and up to two calling points per blind, operator shown below calling points, however as of 18 July 2007 these have now been dismantled and taken away replaced by the new LED boards like those used at Waterloo and Victoria.

London Liverpool Street, taken out of service September 2007. A live webcam



used to broadcast frequently updated images of this board, but is now replaced by a cessation announcement. The board, pictured, was blue coloured, with one destination per blind, operator above calling points, and could show a range of special messages, including "Boat Train", "Special Service", "International", "Stansted Express" and "This train has been replaced by a substitute road service".

London Victoria, replaced November 2004

London King's Cross, replaced in the early 2000s

Edinburgh Waverley, replaced by an LED departure board

Birmingham New Street, replaced by LCD screens. The large clock from the board survives above the gateline, with the remaining panels replaced by advertising.

London Waterloo, replaced by LCD units in the early 2000s, still there out of use until December 2006, when it was taken down to make way for an LED departure board that became operational in March 2007.

London Paddington, was situated across the platforms and used to carry advertisements on the back, facing arriving passengers.

Watford Junction, black coloured, full flip columns for Silverlink County services to Northampton, Southern services to Gatwick Airport, and Virgin Trains and First ScotRail services to North Wales, the North-West and Midlands of England and various destinations in Scotland. However, for Silverlink Metro services to London

Euston and Silverlink County services to St Albans Abbey the calling points are fixed and only the time of the next train is changeable, due to all trains calling at the same stations.

United States

New York City's Grand Central Terminal, replaced by LCD units made by Solari di Udine during reconstruction of the terminal. It was one of the most famous of the Solari departure boards in the world (above).

New York City's Penn Station also featured these boards in both the Amtrak portion and the Long Island Rail Road (LIRR) portion. The board in the Amtrak portion, which showed departure information, was replaced in 2000 by an LCD board. The boards in the LIRR portion featured departing trains as well as boards at the head of each stairway to platforms for tracks 13 through 21, which displayed the stops and connections associated with the posted train. These were replaced over a period of several weeks between February and April 2006. The new signs, also made by Solari di Udine, use a combination of LCD and LED technology.

New York's Museum of Modern Art has a Solari flap display board in its permanent collection, on display in the design wing. The board itself works, and displays the original flight departure data for museum visitors (though reset to EST). The board was originally used in Milan's Malpensa Airport.

Retrieved from <http://en.wikipedia.org/w/index.php?title=Split>

CountryLink



Trackwork timetable for Moree Services

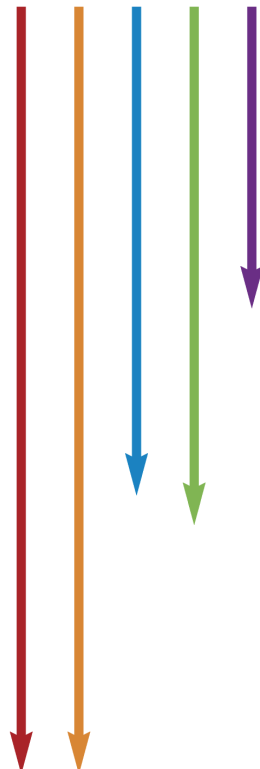
Monday 15 April 2013 to Thursday 20 June 2013

- From **Monday 15 April 2013 through to Thursday 20 June 2013** inclusive, Australian Rail Track Corporation (ARTC) will be conducting track maintenance work on the North West Moree line.
- As a result of the trackwork, CountryLink will be altering the XPLOER train timetable and associated connecting coach services.
- Mode of transport will depend on date of travel.
- Please ensure that you check the dates shown on the timetable as train and road coach services will vary throughout the trackwork period.
- On some days XPLOER train services will operate part of the way and will then be replaced by a road coach service.
- On some days XPLOER train services will operate the whole way.
- On some days road coach services will operate the whole way.
- CountryLink apologises for any inconvenience during this period.

Sydney (Central) – Moree

Days of Operation	Daily
Service No.	243
Sydney (Central)	10:05
Strathfield	u10:16
Hornsby	u10:38
Gosford	u11:19
Wyong	u11:35
Fassifern	u12:05
Broadmeadow	12:24
Maitland	12:47
Singleton	13:16
Muswellbrook	13:52
Aberdeen	a14:03
Scone	14:14
Murrurundi	a14:40
Willow Tree	a15:02
Quirindi	15:14
Werris Creek	15:34
Gunnedah	16:22
Boggabri	16:59
Narrabri <i>arr</i>	17:40
Connection	...
Narrabri <i>dep</i>	...
Wee Waa	...
Burren Junction	...
Bellata	a18:15
Moree	18:55

See opposite for services and dates



Train from Sydney to Moree

Thursday 25 to Sunday 28 April 2013 inclusive
 Thursday 9 to Sunday 12 May 2013 inclusive
 Thursday 23 to Sunday 26 May 2013 inclusive
 Thursday 6 to Friday 7 June 2013 inclusive
 Thursday 20 June 2013

Coach from Sydney to Moree

Tuesday 14 to Friday 17 May 2013 inclusive
 Monday 10 June 2013

Train from Sydney to Werris Creek then a coach from Werris Creek to Moree

Monday 13 May 2013
 Friday 14 to Sunday 16 June 2013 inclusive

Train from Sydney to Gunnedah then a coach from Gunnedah to Moree

Monday 15 to Wednesday 24 April 2013
 Monday 29 April to Wednesday 8 May 2013
 Saturday 18 to Wednesday 22 May 2013
 Monday 27 May to Wednesday 5 June 2013
 Tuesday 11 to Thursday 13 June 2013
 Monday 17 to Wednesday 19 June 2013

Coach from Sydney to Muswellbrook then a train from Muswellbrook to Moree

Saturday 8 to Sunday 9 June 2013

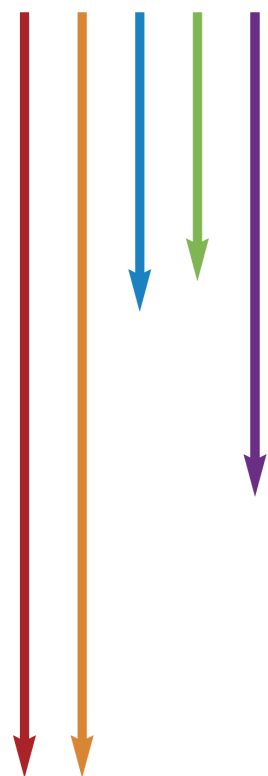
Yet another timetable display. This mixed tabular and graphical version is currently (May 2013) being used by CountryLink to explain its rather complicated timetable in use while ARTC upgrades the Moree track. It is colour-coded but, in the black and white version here, the arrows left-to-right match the boxes top-to-bottom.



Moree – Sydney (Central)

Days of Operation	Daily
Service No.	244
Moree	07:55
Bellata	a 08:35
Burren Junction	...
Wee Waa	...
Narrabri <i>arr</i>	...
Connection	...
Narrabri <i>dep</i>	09:11
Boggabri	09:56
Gunnedah	10:28
Werris Creek	11:26
Quirindi	11:53
Willow Tree	a12:03
Murrurundi	a12:26
Scone	12:50
Aberdeen	a12:59
Muswellbrook	13:08
Singleton	13:44
Maitland	14:13
Broadmeadow	14:36
Fassifern	d14:56
Wyong	d15:26
Gosford	d15:40
Hornsby	d16:23
Strathfield	d16:45
Sydney (Central)	17:00

See opposite for services and dates



Train from Moree to Sydney

Monday 15 April 2013
 Friday 26 to Monday 29 April 2013 inclusive
 Friday 10 to Monday 13 May 2013 inclusive
 Friday 24 to Monday 27 May 2013 inclusive
 Friday 7 June 2013

Coach from Moree to Sydney

Tuesday 14 to Friday 17 May 2013 inclusive

Coach from Moree to Werris Creek then a train from Werris Creek to Sydney

Saturday 18 May 2013
 Tuesday 11 June 2013
 Saturday 15 to Monday 17 June 2013 inclusive

Coach from Moree to Gunnedah then a train from Gunnedah to Sydney

Tuesday 16 to Thursday 25 April 2013
 Tuesday 30 April to Thursday 9 May 2013
 Sunday 19 to Thursday 23 May 2013
 Tuesday 28 May to Thursday 6 June 2013
 Wednesday 12 to Friday 14 June 2013
 Tuesday 18 to Thursday 20 June 2013

Train from Moree to Muswellbrook then a coach from Muswellbrook to Sydney

Saturday 8 June to Monday 10 June 2013

Narrabri – Wee Waa – Burren Junction

Days of Operation	Fri	Mon	Mon	Fri
Service No.	329	331	333	335
Narrabri	06:30	07:50	17:50	17:50
Wee Waa	07:00	08:20	18:25	18:25
Burren Junction	07:40	...	...	19:00

Burren Junction – Wee Waa – Narrabri

Days of Operation	Mon	Fri	Mon	Fri
Service No.	332	330	334	336
Burren Junction	...	07:50	...	19:10
Wee Waa	08:30	08:30	18:35	19:40
Narrabri	09:05	09:05	19:00	20:10

Symbols

- a** Stops to pick up and set down passengers only when required.
- d** Stops to set down passengers only.
- u** Stops to pick up passengers only.

Please contact the CountryLink Call Centre on **13 22 32** for more information or visit the CountryLink web site at www.countrylink.info

