

The Times

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AUSTRALIA'S GREAT TRAIN JOURNEYS

— WHAT'S NEW IN 2003 —

- Trainways – International Holiday Program
- Great Southern Railway Pass – 6 months unlimited travel from \$450
- Upgrade of Gold Kangaroo Service on The Overland

- New Timetables from 1 April 2003
- The Ghan to Darwin
- Pricing – 2003/04 & 2004/05

THE  GHAN

INDIAN PACIFIC

THE  OVERLAND

The Times

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About The Times

The Times is published monthly by the Australian Association of Time Table Collectors (AATTC) as our journal, covering historic and general items. Current news items are published in our other journal, *Table Talk*.

The Times on-line

AATTC's home page: <http://www.aatc.org.au>

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How to submit copy

Submit paper manuscripts or word-processor files (MS Word preferred) on disk or via e-mail. Illustrations should be submitted as clean sharp photocopies on white paper or scanned GIF or TIF format images with at least 300dpi resolution on disk or via e-mail.

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Disclaimer

Opinions expressed in The Times are not necessarily those of the Association or its members. We welcome a broad range of views on timetabling matters.

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For T.T.s, P.D.F. rules O.K.?

GEOFF LAMBERT examines *Portable Document Format timetables, currently taking the timetabling world by storm.*

Our cover this month is very impressive, is it not? You should see it in colour, at <http://www.aattc.com.au>. And, despite the timetable it mentions commencing on April Fool's Day 2003, it is not a joke.

This illustration, from a Great Southern Railway brochure distributed to travel agents, is typical of an increasing number of timetables—public and working; train, plane, bus and ferry—that are making their appearance on the web and being downloaded to consumers' home computers in what is known as PDF format.

What is PDF? We briefly mentioned PDF, or Acrobat, format display and printing files, in *The Times* of August 2002, in relation to *The Times* itself being available for downloading in PDF format at the above site.

PDF—it stands for *Portable Document File*—is a system of storing printable and computer-viewable material in a computer file in such a way that anyone with any sort of computer can access and see the results on-screen or on the printed page, exactly as its creator intended. It gets away from a problem that has plagued computerised visual information for the last 20 years—that what people see on the page is very dependent on what computer software (e.g. a word-processor) was used to create the material and what software and hardware the consumer had available to make use of it. By providing free of charge a program that can read and display any PDF file on any computer, the manufacturer, Adobe Systems, have created an instant “must-have” product that is now as ubiquitous on computers as

refrigerators are in kitchens. Nearly half a billion copies of the file reader have been downloaded by computer users world-wide.

PDF grew out of a history of graphics design by Adobe, that started some 20 years ago with the creation of software systems designed to allow computers to print professional-looking print in a range of fonts. This evolved into the so-called Postscript[®] computer language that was really designed to extend the font drawing capability to entire pages of documents of text and pictures. These things were really designed for use on Apple computers, particularly those that used the first laser printers. It was quickly extended to other computer systems and other types of printers. Since then, it has been supplemented by PDF—a kind of extension of Postscript, which it closely resembles if you care to examine the innards of files of both types.

PDF files are “compressed”—that is, they use digital techniques to economise on the space occupied, especially by the graphics, thus making downloading them relatively rapid.

A PDF is an “end-user” file—you can't do anything with it except view it or print it, even if you wanted to. It differs then from something like a word processor file that is amenable to change. PDF files are not created *de novo*, but are files first created by some other program such as a word processor, a page-layout program or, in the case of timetables perhaps, a spreadsheet. Any viewable or printable document created by any program can be converted to PDF format. These files

after having been finished to the creator's satisfaction are finally converted to PDF for distribution.

PDF files give the impression of clean, crisp layout, with sharp graphics and high-resolution images and print. Indeed, when viewed on a computer screen they can be enlarged almost limitlessly and still retain their sharpness. The file illustrated on the next page, for instance, can be enlarged to 16 times its normal size and still appear razor-sharp.

PDF format files are appearing everywhere and increasingly so for the presentation of transport timetable information. Although PDF files are not restricted to the Internet—you can obtain them on computer disk, for instance—the net is by far the most common method of distributing them to users. Most web-browsers are now designed to read and display PDF material directly from web-sites. Most also allow such files to be “downloaded” onto your own computer, so that you can view and print them without remaining connected to the Internet. Files can also be acquired via customised “file-transfer” programs. And, of course, you may find that other people are sending you PDF files via e-mail—that's how the Australia Southern material on our cover arrived on the Editor's desk. As Tony Bailey pointed out in the August edition, a lot of timetable material in PDF format is now being e-mailed to travel agents.

Sydney Buses “Better Buses East” provides our first example of a modern .PDF file, illustrated on page 4. Sydney bus timetables have traditionally been printed as booklets with a page size of about 200

SERVICES TO CITY

Time Period Showing Route Number	Showing Route Number									
	A	B	C	D	E	F	G	H	I	J
395 396 X96 397 X97	South Maroubra (Tyrwhitt St)	Maroubra Beach (Marine Pde)	Maroubra Junction (Anzac Pde & Maroubra Rd)	Kingsford (Anzac Pde & Gardeners Rd)	Anzac Parade Junction (Cleveland St)	Railway Square (Lee St)	Darlinghurst (Taylor Square)	Martin Place (Elizabeth St)	City (Elizabeth & Liverpool Sts)	Circular Quay (Young St)
Monday to Friday										
AM	395	.....	5.12	5.19	5.25	5.32	5.43	.....	.....	.....
▼	396	.....	5.25	5.32	5.38	5.45	.....	5.50	5.59	6.02
	395	.....	a5.40	5.47	5.53	6.00	6.11	.....	.....	.....
	396	.....	5.52	5.59	6.05	6.12	.....	6.17	6.26	6.29
	395	.....	6.07	6.14	6.20	6.27	6.38	.....	.....	.....
	397	6.09	.....	6.19	6.25	6.32	.....	6.37	6.45	6.49
	396	.....	a6.22	6.29	6.35	6.42	.....	6.47	6.56	6.59
	395	.....	6.37	6.44	6.50	6.57	7.08	.....	.....	.....
	397	6.38	.....	6.48	6.54	7.01	.....	7.07	7.15	7.19
	396	.....	6.50	6.57	7.03	7.10	.....	7.16	7.25	7.28
	395	.....	6.58	7.05	7.11	7.18	7.29	.....	.....	.....
	397	6.58	.....	7.08	7.14	7.21	.....	7.27	7.35	7.39
	X96	.....	7.03	7.10	7.16	.....	.....	7.27	7.35	7.39
	395	.....	7.10	7.17	7.23	7.30	7.43	.....	.....	.....
	396	.....	7.18	7.25	7.31	7.43	.....	7.49	7.58	8.01
	397	7.18	.....	7.28	7.34	7.46	.....	7.52	8.00	8.04
	395	.....	a7.25	7.32	7.39	7.51	8.04	.....	.....	.....
	X96	.....	7.29	7.37	7.44	.....	.....	8.01	8.05	.....
	395	.....	7.35	7.43	7.50	8.02	8.15	.....	.....	.....
	X97	7.31	.....	7.43	7.50	.....	.....	8.07	8.11	.....
	396	.....	7.39	7.47	7.54	8.06	.....	8.12	8.21	8.24
	395	.....	a7.46	7.54	8.01	8.13	8.26	.....	.....	.....
	X96	.....	7.50	7.58	8.05	.....	.....	8.22	8.26	.....
	397	7.47	.....	7.59	8.06	8.18	.....	8.24	8.32	8.36
	396	.....	a8.00	8.08	8.15	8.27	.....	8.33	8.42	8.45
	X97	7.57	.....	8.09	8.16	.....	.....	8.33	8.37	.....
	395	.....	8.06	8.14	8.21	8.33	8.46	.....	.....	.....
	X96	.....	8.10	8.18	8.25	.....	.....	8.42	8.46	.....
	397	a8.13	.....	8.25	8.32	8.44	.....	8.50	8.58	9.02
	396	.....	8.21	8.29	8.36	8.48	.....	8.54	9.03	9.06
	395	.....	8.25	8.33	8.40	8.52	9.05	.....	.....	.....
	396	.....	8.31	8.39	8.46	8.58	.....	9.04	9.13	9.16

EXPLANATIONS

Sign	Description
a	Wheelchair-accessible.

ROUTES X96, X97 INWARD STOPS

Takes up & sets down at all stops to Nine Ways Kingsford, then takes up only at Anzac Pde & Todman Ave, Anzac Pde & Abbotford St, then operates EXPRESS (via Eastern Distributor) to Bent St City, then sets down & takes up at all stops to Elizabeth & Liverpool Sts.

am - normal type / pm - bold type

Page 18 from the 393 X94 394 399 L94 X99 Sydney Buses timetable dated 28 April 2002. Although carrying this release date, which was to coincide with CityRail's new train timetable, the new service and new timetables were not released until late June. This timetable page, as it appears on the screen of your computer, or when printed on your colour printer is an exact copy of the paper timetable you will find on the timetable stand at a Sydney Buses Info. Centre.

mm wide by 210 mm high, folded in half vertically to a pocket-sized 100*210 mm. They have become increasingly graphic-oriented in recent years, with greater use of colour, more detailed maps and, on the front cover, photographs of local bus drivers.

The PDF file timetables for "Better Buses East" are essentially electronic copies of these paper timetables. Indeed, it is a fair bet that the PDF timetables that you can download from the web at www.sydneybuses.nsw.gov.au are the very same ones

that Sydney Buses sent to their printers for transformation into paper versions. That's the way we produce The Times these days too and it's the reason why the on-line versions and the paper copy you receive look identical— they *are* identical. The only difference with

the “BBE” timetable is that they lack the cover wrapper with the friendly bus driver and that the centre-spread route map, a very elaborate affair, comes as a separate file, 10 times the file size of

the timetable itself. In the PDF file, it is replaced with 2 blank pages saying merely “MAP”.

Our next illustration, below, is a page from a current Burlington–Northern Santa Fe employee

timetable. BNSF now provides its employees with their ETTs in PDF form, although paper copies still are produced— or at least were produced up to 2001. These timetables are made available to train

4 NORTHERN CALIFORNIA DIV.—No. 6—January 20, 2002—Bakersfield Subdivision

WESTWARD ↓	Length of Siding (Feet)	Station Nos.	Mile Post	Bakersfield Subdivision MAIN LINE STATIONS		Rule 4.3	Type of Oper.	Line Segment	Miles to Next Stn.	EASTWARD ↑
		17400	888.0	BAKERSFIELD	BCPTX		2MT CTC	7200	1.2	
			889.2	WEST BAKERSFIELD					1.9	
		16386	891.1	JASTRO	X(2)				6.6	
	9,015	16376	897.7	UNA			CTC		7.7	
	E4,833 W5,963	16368	905.4	SHAFTER					7.6	
	6,568	16359	913.0	WASCO					6.2	
	8,964	16352	919.2	ELMO					5.4	
	9,032	16344	924.6	SANDRINI					7.7	
	8,948	16340	932.3	ALLENSTWORTH					9.8	
	8,999	16322	942.1	ANGIOLA					8.8	
	E5,990 W9,951	16313	950.9	CORCORAN	T				9.4	
	8,879	16308	960.3	GUERNSEY					7.6	
	E8,963 W4,490	16246	967.4	HANFORD - SJV RRR	M				5.3	
	9,055	16237	973.2	SHIRLEY					9.0	
	9,051	16218	982.2	CONEJO					6.1	
	8,959	16210	988.3	BOWLES					4.7	
			993.0	THORPE					1.3	
			994.3	CALWA CROSSING	M			0.6		
		16200	994.9	CALWA	BCPT			107.2		

Tone Call-In					
RADIO COMMUNICATION	CH	DS	MC	FS	EMER
MP 886.5 to MP 889.4	84				
MP 889.4 to Calwa	55	1	4	5&7	9

1. Speed Regulations

1(A). Speed—Maximum

Passenger Freight

- Bakersfield to Calwa, including trains 100
TOB and over 79 MPH. 55 MPH.
Unless otherwise restricted, the maximum speed for freight trains is 70 MPH provided:
1. Train does not contain empty car(s). Refer to Rule 1(E) for determining speed for multiplatform, intermodal equipment.
 2. Train does not exceed 8,500 feet.
 3. Train does not average more than 80 TOB.
 4. Engineer can control speed to 70 MPH without use of air brakes.

(If unable to control speed to 70 MPH on long descending grades, two additional attempts are allowed to control speed with dynamic brake at slower speeds before speed must be reduced to 55 MPH while negotiating descending grade.)

Exceptions

Trains consisting entirely of intermodal equipment, autoracks (equipment designed to carry automobiles/trucks) or a combination of both:

- Same as above except train must not average more than 90 tons per operative brake under item (3).

Trains consisting entirely of loaded double-stack equipment:

- Same as above except train must not average more than 105 tons per operative brake under item (3).

Trains operating with solid double stack equipment only, may use a maximum of 32 axles of dynamic braking per engine consist.

MP 961.2 to MP 965.6 Running Track 20 MPH. 20 MPH.

1(B). Speed—Permanent Restrictions

Westward

- MP 888.0 to MP 889.6—Main 1 79 MPH. 55 MPH.
- MP 888.0 to MP 889.3—Main 2 40 MPH. 40 MPH.
- MP 889.3 to MP 889.6—Main 1 60 MPH. 55 MPH.
- MP 889.3 to MP 889.6—Main 2 40 MPH. 30 MPH.
- MP 889.8 to MP 890.1—Main 1 60 MPH. 55 MPH.
- MP 889.8 to MP 890.1—Main 2 60 MPH. 50 MPH.
- MP 892.9 to MP 893.3 70 MPH. 65 MPH.
- MP 967.5 to MP 969.5 45 MPH. 45 MPH.
- MP 967.7 to MP 967.8 30 MPH. 30 MPH.
- MP 973.7 to MP 975.8 55 MPH. 45 MPH.
- MP 993.6 to MP 994.1 (HER) 45 MPH. 45 MPH.
- MP 994.2 to MP 994.3 30 MPH. 30 MPH.
- MP 994.2 to MP 995.2 40 MPH. 40 MPH.

Eastward

- MP 995.2 to MP 994.2 40 MPH. 40 MPH.
- MP 994.3 to MP 994.2 30 MPH. 30 MPH.
- MP 993.9 to MP 992.8 (HER) 65 MPH. 65 MPH.
- MP 975.8 to MP 973.7 55 MPH. 45 MPH.
- MP 969.5 to MP 967.5 45 MPH. 45 MPH.
- MP 967.8 to MP 967.7 30 MPH. 30 MPH.
- MP 893.3 to MP 892.9 70 MPH. 65 MPH.
- MP 890.1 to MP 889.8—Main 1 60 MPH. 55 MPH.
- MP 890.1 to MP 889.8—Main 2 60 MPH. 50 MPH.
- MP 889.6 to MP 889.3—Main 1 60 MPH. 55 MPH.
- MP 889.6 to MP 889.3—Main 2 40 MPH. 30 MPH.
- MP 889.2 to MP 888.0—Main 1 79 MPH. 55 MPH.
- MP 889.3 to MP 888.0—Main 2 40 MPH. 40 MPH.

1(C). Speed—Switches and Turnouts

Trains and engines using auxiliary tracks must not exceed turnout speed for that track unless otherwise indicated.

- MP 888.0, Crossover 40 MPH.
- Jastro, WE Main 2 60 MPH. 50 MPH.
- Jastro, Crossovers 40 MPH.
- Jastro, Porterville Jct. switch 20 MPH.
- Una, Both ends siding 40 MPH.
- Shafter, Both ends siding and crossover 40 MPH.
- Wasco, Both ends siding 40 MPH.
- Elmo, Both ends siding 40 MPH.
- Sandrini, Both ends siding 40 MPH.
- Allensworth, Both ends siding 40 MPH.
- Angiola, Both ends siding 40 MPH.
- Corcoran, Both ends east siding 30 MPH.
- Corcoran, Both ends west siding 40 MPH.
- Guernsey, EE Siding 40 MPH.
- MP 961.2 Guernsey, Crossover 40 MPH.
- Hanford, WE east siding 40 MPH.
- Hanford, Both ends west siding 20 MPH.
- MP 965.6 Hanford, Crossover 40 MPH.
- Shirley, Both ends siding 40 MPH.
- Conejo, Both ends siding 40 MPH.
- Bowles, Both ends siding 40 MPH.
- Calwa, EE Yard, Turnout to Main Track 10 MPH.
- Calwa, End of 2 tracks and crossover 30 MPH.

1(D). Speed—Other

- Lone Star Spur, MP 901.9 to end of track 10 MPH.
- Bakersfield—Tracks 424, 425, 532, 533, and 534 5 MPH.
- Bridge 889.8, cars heavier than 143 tons 25 MPH.

Temperature Restrictions

When air temperature exceeds threshold temperatures, all trains will be governed by the following table on main tracks through these limits unless a more restrictive speed is in effect. Temperature degrees are shown in Fahrenheit.

crews via BNSF's web-site- which also happens to be in the public domain, which is how The Times was able to obtain and present them. Presumably, crews download and print out on their home or work computers only those pages they need to run their own trains.

The timetable page reproduced our page 5 is from BNSF's Northern California Division, one of 13 separate Divisions, each with their on-line ETT.

The timetable to the right is one downloaded from Transperth's web-site, a complex travel planning web-site encompassing bus and train throughout the metropolitan area. The web-site contains an interactive itinerary planner which will present you with an on-screen representation of the best option for getting from A to B. But it can also be used to print timetables for a particular service. One can search for timetables on the basis of suburb served, route number or timetable number. When presented with the resultant timetable, you then have the option of various on-screen views, or of downloading the entire timetable in PDF format- which is what we have done to capture the timetable to the right. Here it appears very small, but when viewed with Acrobat Reader, it is seen to be 245 x 588 mm. That's over half a metre long and obviously, when in paper form, is meant to be concertina folded into a much slimmer version. Clearly, you would never be able to print out this timetable at full size on a single piece of paper, though it probably could be done on a printer with a continuous paper feed, like an old-fashioned dot-matrix printer.

Next offering (overleaf) is an air-line timetable- this is for Virgin Blue's Australian services. The timetable is downloadable from Virgin Blue's web-site and arrives as a 4-page PDF file. This is page 1, a rather spare timetable by to-

From Perth timetable

Weekdays	Perth	City West	West Leederville	Subiaco	Daglish	Shenton Park	Karakeata	Loch Street	Claremont	Swanbourne	Grant Street	Conesville	Mosman Park	Victoria Street	North Fremantle	Fremantle
am	5:23	5:25	5:27	5:29	5:30	5:32	5:34	5:35	5:37	5:39	5:40	5:42	5:44	5:45	5:47	5:51
	5:38	5:40	5:42	5:44	5:45	5:47	5:49	5:50	5:52	5:54	5:55	5:57	5:59	6:00	6:02	6:06
	* 5:57	5:59	6:01	6:03	6:04	6:06	6:08	6:09	6:11	6:13	6:14	6:16	6:18	6:19	6:21	6:25
	* 6:12	6:14	6:16	6:18	6:19	6:21	6:23	6:24	6:26	6:28	6:29	6:31	6:33	6:34	6:36	6:40
	* 6:27	6:29	6:31	6:33	6:34	6:36	6:38	6:39	6:41	6:43	6:44	6:46	6:48	6:49	6:51	6:55
	* 6:41	6:43	6:45	6:47	6:48	6:50	6:52	6:53	6:55	6:57	6:58	7:00	7:02	7:03	7:05	7:09
	* 6:57	6:59	7:01	7:03	7:04	7:06	7:08	7:09	7:11	7:13	7:14	7:16	7:18	7:19	7:21	7:25
	B* 7:10	7:12	7:14	7:16	7:17	7:19	7:21	7:22	7:24			EXPRESS				7:33
	A* 7:20	7:22	EXPRESS	7:24		EXPRESS		7:30	7:32	7:33	7:35	7:37	7:38	7:40	7:44	
	B* 7:27	7:29	7:31	7:33	7:34	7:36	7:38	7:39	7:41	7:42	7:43	7:45	7:46	7:48	7:50	7:54
	A* 7:38	7:40	EXPRESS	7:42		EXPRESS		7:48	7:50	7:51	7:53	7:55	7:56	7:58	8:02	
	B* 7:46	7:48	7:50	7:52	7:53	7:55	7:57	7:58	8:00			EXPRESS				8:09
	A* 7:56	7:58	EXPRESS	8:00		EXPRESS		8:06	8:08	8:09	8:11	8:13	8:14	8:16	8:20	
	B* 8:05	8:07	8:09	8:11	8:12	8:14	8:16	8:17	8:19			EXPRESS				8:28
	SP 8:15	8:17	EXPRESS	8:19	EXPRESS	8:21	EXPRESS	8:23	8:25	8:27	EXPRESS	8:30	8:31	8:33	8:35	EXPRESS
	A* 8:18	8:20	EXPRESS	8:22		EXPRESS		8:28	8:30	8:31	8:33	8:35	8:36	8:38	8:42	
	B* 8:25	8:27	8:29	8:31	8:32	8:34	8:36	8:37	8:39			EXPRESS				8:48
	A* 8:35	8:37	EXPRESS	8:39		EXPRESS		8:45	8:47	8:48	8:50	8:52	8:53	8:55	8:59	
Then at the following minutes past each hour																
	:45	:47	:49	:51	:52	:54	:56	:57	:59	:01	:02	:04	:06	:07	:09	:13
	:00	:02	:04	:06	:07	:09	:11	:12	:14	:16	:17	:19	:21	:22	:24	:28
	:15	:17	:19	:21	:22	:24	:26	:27	:29	:31	:32	:34	:36	:37	:39	:43
	:30	:32	:34	:36	:37	:39	:41	:42	:44	:46	:47	:49	:51	:52	:54	:58
Until																
pm	2:53	2:55	2:57	2:59	3:00	3:02	3:04	3:05	3:07	3:09	3:10	3:12	3:14	3:15	3:17	3:21
	* 3:03	3:05	3:07	3:09	3:10	3:12	3:14	3:15	3:17	3:19	3:20	3:22	3:24	3:25	3:27	3:31
	* 3:13	3:15	3:17	3:19	3:20	3:22	3:24	3:25	3:27	3:29	3:30	3:32	3:34	3:35	3:37	3:41
	* 3:20	3:22	3:24	3:26	3:27	3:29	3:31	3:32	3:34	3:36	3:37	3:39	3:41	3:42	3:44	3:48
	* 3:28	3:30	3:32	3:34	3:35	3:37	3:39	3:40	3:42	3:44	3:45	3:47	3:49	3:50	3:52	3:56
	* 3:43	3:45	3:47	3:49	3:50	3:52	3:54	3:55	3:57	3:59	4:00	4:02	4:04	4:05	4:07	4:11
	B* 3:53	3:55	3:57	3:59	4:00	4:02	4:04	4:05	4:07			EXPRESS				4:16
	A* 4:03	4:05	EXPRESS	4:07		EXPRESS		4:13	4:15	4:16	4:18	4:20	4:21	4:23	4:27	
	B* 4:12	4:14	4:16	4:18	4:19	4:21	4:23	4:24	4:26			EXPRESS				4:35
	A* 4:23	4:25	EXPRESS	4:27		EXPRESS		4:33	4:35	4:36	4:38	4:40	4:41	4:43	4:47	
	B* 4:32	4:34	4:36	4:38	4:39	4:41	4:43	4:44	4:46			EXPRESS				4:55
	A* 4:42	4:44	EXPRESS	4:46		EXPRESS		4:52	4:54	4:55	4:57	4:59	5:00	5:02	5:06	
	B* 4:49	4:51	4:53	4:55	4:56	4:58	5:00	5:01	5:03			EXPRESS				5:12
	A* 5:00	5:02	EXPRESS	5:04		EXPRESS		5:10	5:12	5:13	5:15	5:17	5:18	5:20	5:24	
	B* 5:07	5:09	5:11	5:13	5:14	5:16	5:18	5:19	5:21			EXPRESS				5:30
	A* 5:17	5:19	EXPRESS	5:21		EXPRESS		5:27	5:29	5:30	5:32	5:34	5:35	5:37	5:41	
	B* 5:24	5:26	5:28	5:30	5:31	5:33	5:35	5:36	5:38			EXPRESS				5:47
	A* 5:35	5:37	EXPRESS	5:39		EXPRESS		5:45	5:47	5:48	5:50	5:52	5:53	5:55	5:59	
	B* 5:43	5:45	5:47	5:49	5:50	5:52	5:54	5:55	5:57			EXPRESS				6:06
	* 5:55	5:57	5:59	6:01	6:02	6:04	6:06	6:07	6:09	6:11	6:12	6:14	6:16	6:17	6:19	6:23
	* 6:13	6:15	6:17	6:19	6:20	6:22	6:24	6:25	6:27	6:29	6:30	6:32	6:34	6:35	6:37	6:40
	* 6:30	6:32	6:34	6:36	6:37	6:39	6:40	6:41	6:43	6:45	6:46	6:48	6:50	6:51	6:53	6:56
	* 6:45	6:47	6:49	6:50	6:51	6:53	6:55	6:56	6:58	7:00	7:01	7:03	7:05	7:06	7:08	7:11
Then at the following minutes past each hour																
	:00	:02	:04	:06	:07	:09	:11	:12	:14	:16	:18	:20	:21	:23	:26	
	:30	:32	:34	:36	:37	:39	:41	:42	:44	:46	:48	:50	:51	:53	:56	
Until																
am	12:00	12:02	12:04	12:05	12:06	12:07	12:10	12:11	12:13	12:15	12:16	12:18	12:20	12:21	12:23	12:26
	* 1:00 F	1:02 F	1:04 F	1:05 F	1:06 F	1:08 F	1:10 F	1:11 F	1:13 F	1:15 F	1:16 F	1:18 F	1:20 F	1:21 F	1:23 F	1:26 F
	* 2:00 F	2:02 F	2:04 F	2:05 F	2:06 F	2:08 F	2:10 F	2:11 F	2:13 F	2:15 F	2:16 F	2:18 F	2:20 F	2:21 F	2:23 F	2:26 F
Saturdays																
am	5:28	5:30	5:32	5:34	5:35	5:37	5:39	5:40	5:42	5:44	5:45	5:47	5:49	5:50	5:52	5:55
	5:58	6:00	6:02	6:04	6:05	6:07	6:09	6:10	6:12	6:14	6:15	6:17	6:19	6:20	6:22	6:25
	6:28	6:30	6:32	6:34	6:35	6:37	6:39	6:40	6:42	6:44	6:45	6:47	6:49	6:50	6:52	6:55
	6:58	7:00	7:02	7:04	7:05	7:07	7:09	7:10	7:12	7:14	7:15	7:17	7:19	7:20	7:22	7:25
Then at the following minutes past each hour																
	:15	:17	:19	:21	:22	:24	:26	:27	:29	:31	:32	:34	:36	:37	:39	:43
	:30	:32	:34	:36	:37	:39	:41	:42	:44	:46	:47	:49	:51	:52	:54	:58
	:45	:47	:49	:51	:52	:54	:56	:57	:59	:01	:02	:04	:06	:07	:09	:13
	:00	:02	:04	:06	:07	:09	:11	:12	:14	:16	:17	:19	:21	:22	:24	:28
Until																
pm	6:30	6:32	6:34	6:36	6:37	6:39	6:41	6:42	6:44	6:46	6:47	6:49	6:51	6:52	6:54	6:58
Then at the following minutes past each hour																
	:00	:02	:04	:06	:07	:09	:11	:13	:15	:16	:18	:20	:21	:23	:26	
	:30	:32	:34	:36	:37	:39	:41	:43	:45	:46	:48	:50	:51	:53	:56	
Until																
am	12:00	12:02	12:04	12:05	12:06	12:08	12:10	12:11	12:13	12:15	12:16	12:18	12:20	12:21	12:23	12:26
	1:00	1:02	1:04	1:05	1:06	1:08	1:10	1:11	1:13	1:15	1:16	1:18	1:20	1:21	1:23	1:26
	2:00	2:02	2:04	2:05	2:06	2:08	2:10	2:11	2:13	2:15	2:16	2:18	2:20	2:21	2:23	2:26
Sundays and Public Holidays																
am	6:58	7:00	7:02	7:04	7:05	7:07	7:09	7:10	7:12	7:14	7:15	7:17	7:19	7:20	7:22	7:25
	7:28	7:30	7:32	7:34	7:35	7:37	7:39	7:40	7:42	7:44	7:45	7:47	7:49	7:50	7:52	7:55
	7:58	8:00	8:02	8:04	8:05	8:07	8:09	8:10	8:12	8:14	8:15	8:17	8:19	8:20	8:22	8:25
	8:28	8:30	8:32	8:34	8:35	8:37	8:39	8:40	8:42	8:44	8:45	8:47	8:49	8:50	8:52	8:55
Then at the following minutes past each hour																
	:45	:47	:49	:51	:52	:54	:56	:57	:59	:01	:02	:04	:06	:07	:09	:13
	:00	:02	:04	:06	:07	:09	:11	:12	:14	:16	:17	:19	:21	:22	:24	:28
	:15	:17	:19	:21	:22	:24	:									

day's graphic standards. But this means it is also rather small in size and transmits quickly to your computer— it is only 41 kilobytes (KB) in size and downloading it is a mat-

ter of only a few seconds. Compare with the Action Bus Route 17 route map, described next, which occupies 1.7 Megabytes and took the editor some 7 min-

utes to download.

Which brings us to the aforesaid route map. This (page 8) came from a web site that allows one to

VIRGIN BLUE FLIGHT SCHEDULE

Adelaide-Brisbane

FLIGHT	DEPART	ARRIVE	M	T	W	T	F	S	S
DJ753	09:40	11:25	✈	✈	✈	✈	✈	✈	✈
DJ773	19:55	21:40	✈	✈	✈	✈	✈	✈	✈

Brisbane-Adelaide

FLIGHT	DEPART	ARRIVE	M	T	W	T	F	S	S
DJ750	06:00	09:10	✈	✈	✈	✈	✈	✈	✈
DJ770	16:10	19:20	✈	✈	✈	✈	✈	✈	✈

Adelaide-Cairns

(via Melbourne)

FLIGHT	DEPART	ARRIVE	M	T	W	T	F	S	S
DJ162/649	19:50	00:25	✈	✈	✈	✈	✈	✈	✈

Cairns-Adelaide

(via Melbourne)

FLIGHT	DEPART	ARRIVE	M	T	W	T	F	S	S
DJ710/149	10:00	13:20	✈	✈	✈	✈	✈	✈	✈
DJ716/161	17:00	19:25	✈	✈	✈	✈	✈	✈	✈

Adelaide-Canberra

(via Melbourne)

FLIGHT	DEPART	ARRIVE	M	T	W	T	F	S	S
DJ136/709	06:15	09:30	✈	✈	✈	✈	✈	✈	✈
DJ142/715	09:45	16:25	✈	✈	✈	✈	✈	✈	✈

Adelaide-Gold Coast

(via Sydney)

FLIGHT	DEPART	ARRIVE	M	T	W	T	F	S	S
DJ401/507	06:20	09:35	✈	✈	✈	✈	✈	✈	✈

Gold Coast-Adelaide

(via Sydney)

FLIGHT	DEPART	ARRIVE	M	T	W	T	F	S	S
DJ510/416	10:50	15:55	✈	✈	✈	✈	✈	✈	✈

Adelaide-Launceston

(via Melbourne)

FLIGHT	DEPART	ARRIVE	M	T	W	T	F	S	S
DJ158/628	17:20	20:30	✈	✈	✈	✈	✈	✈	✈

Launceston-Adelaide

(via Melbourne)

FLIGHT	DEPART	ARRIVE	M	T	W	T	F	S	S
DJ617/157	13:10	16:50	✈	✈	✈	✈	✈	✈	✈

Adelaide-Mackay

(via Brisbane)

FLIGHT	DEPART	ARRIVE	M	T	W	T	F	S	S
DJ753/917	09:40	13:50	✈	✈	✈	✈	✈	✈	✈

Mackay-Adelaide

(via Brisbane)

FLIGHT	DEPART	ARRIVE	M	T	W	T	F	S	S
DJ918/770	14:20	19:20	✈	✈	✈	✈	✈	✈	✈

Adelaide-Melbourne

FLIGHT	DEPART	ARRIVE	M	T	W	T	F	S	S
DJ136	06:15	07:55	✈	✈	✈	✈	✈	✈	✈
DJ142	09:45	11:25	✈	✈	✈	✈	✈	✈	✈
DJ150	13:50	15:30	✈	✈	✈	✈	✈	✈	✈
DJ158	17:20	19:00	✈	✈	✈	✈	✈	✈	✈
DJ162	19:50	21:30	✈	✈	✈	✈	✈	✈	✈

Melbourne-Adelaide

FLIGHT	DEPART	ARRIVE	M	T	W	T	F	S	S
DJ141	08:25	09:15	✈	✈	✈	✈	✈	✈	✈
DJ149	12:30	13:20	✈	✈	✈	✈	✈	✈	✈
DJ157	16:00	16:50	✈	✈	✈	✈	✈	✈	✈
DJ161	18:35	19:25	✈	✈	✈	✈	✈	✈	✈
DJ165	20:25	21:15	✈	✈	✈	✈	✈	✈	✈

Adelaide-Perth

FLIGHT	DEPART	ARRIVE	M	T	W	T	F	S	S
DJ365	15:00	15:50	✈	✈	✈	✈	✈	✈	✈

Perth-Adelaide

FLIGHT	DEPART	ARRIVE	M	T	W	T	F	S	S
DJ352	09:05	14:25	✈	✈	✈	✈	✈	✈	✈

Adelaide-Sydney

FLIGHT	DEPART	ARRIVE	M	T	W	T	F	S	S
DJ401	06:20	08:45	✈	✈	✈	✈	✈	✈	✈
DJ411	11:35	14:00	✈	✈	✈	✈	✈	✈	✈
DJ421	16:30	18:55	✈	✈	✈	✈	✈	✈	✈

Sydney-Adelaide

FLIGHT	DEPART	ARRIVE	M	T	W	T	F	S	S
DJ406	09:30	11:05	✈	✈	✈	✈	✈	✈	✈
DJ416	14:20	15:55	✈	✈	✈	✈	✈	✈	✈
DJ426	19:25	21:00	✈	✈	✈	✈	✈	✈	✈

Brisbane-Cairns

FLIGHT	DEPART	ARRIVE	M	T	W	T	F	S	S
DJ873	07:55	10:10	✈	✈	✈	✈	✈	✈	✈
DJ883	17:25	19:40	✈	✈	✈	✈	✈	✈	✈

Cairns-Brisbane

FLIGHT	DEPART	ARRIVE	M	T	W	T	F	S	S
DJ870	05:50	08:00	✈	✈	✈	✈	✈	✈	✈
DJ876	10:45	12:55	✈	✈	✈	✈	✈	✈	✈

Brisbane-Canberra

FLIGHT	DEPART	ARRIVE	M	T	W	T	F	S	S
DJ558	09:35	12:25	✈	✈	✈	✈	✈	✈	✈

Canberra-Brisbane

FLIGHT	DEPART	ARRIVE	M	T	W	T	F	S	S
DJ563	12:55	13:30	✈	✈	✈	✈	✈	✈	✈

Brisbane-Darwin

FLIGHT	DEPART	ARRIVE	M	T	W	T	F	S	S
DJ467	20:10	23:40	✈	✈	✈	✈	✈	✈	✈

Darwin-Brisbane

FLIGHT	DEPART	ARRIVE	M	T	W	T	F	S	S
DJ432	00:20	04:45	✈	✈	✈	✈	✈	✈	✈

browse timetables and maps by route number— one has to know what route goes where to reach this site quickly. Once there, you are presented with a timetable in viewable format. But, the site asks “Need to print?... Download the [route](#) or [route map](#) in convenient PDF format”, with active links to the download process indicated in colour and underlined— the *de facto* standard for representation of links. Clicking on one of these causes either the timetable or the route map to be downloaded. This process illustrates a variation on how to acquire timetables in PDF format. What you get for your click is a PDF file on-screen, something that happens because your web browser has been configured to work with Acrobat Reader. But, you can then *save* this file to your local hard disk and it thenceforth resides there as a PDF file which you can examine at your leisure. Some web-sites differ from this in that activating a PDF link results in an “automatic download” of your PDF timetable

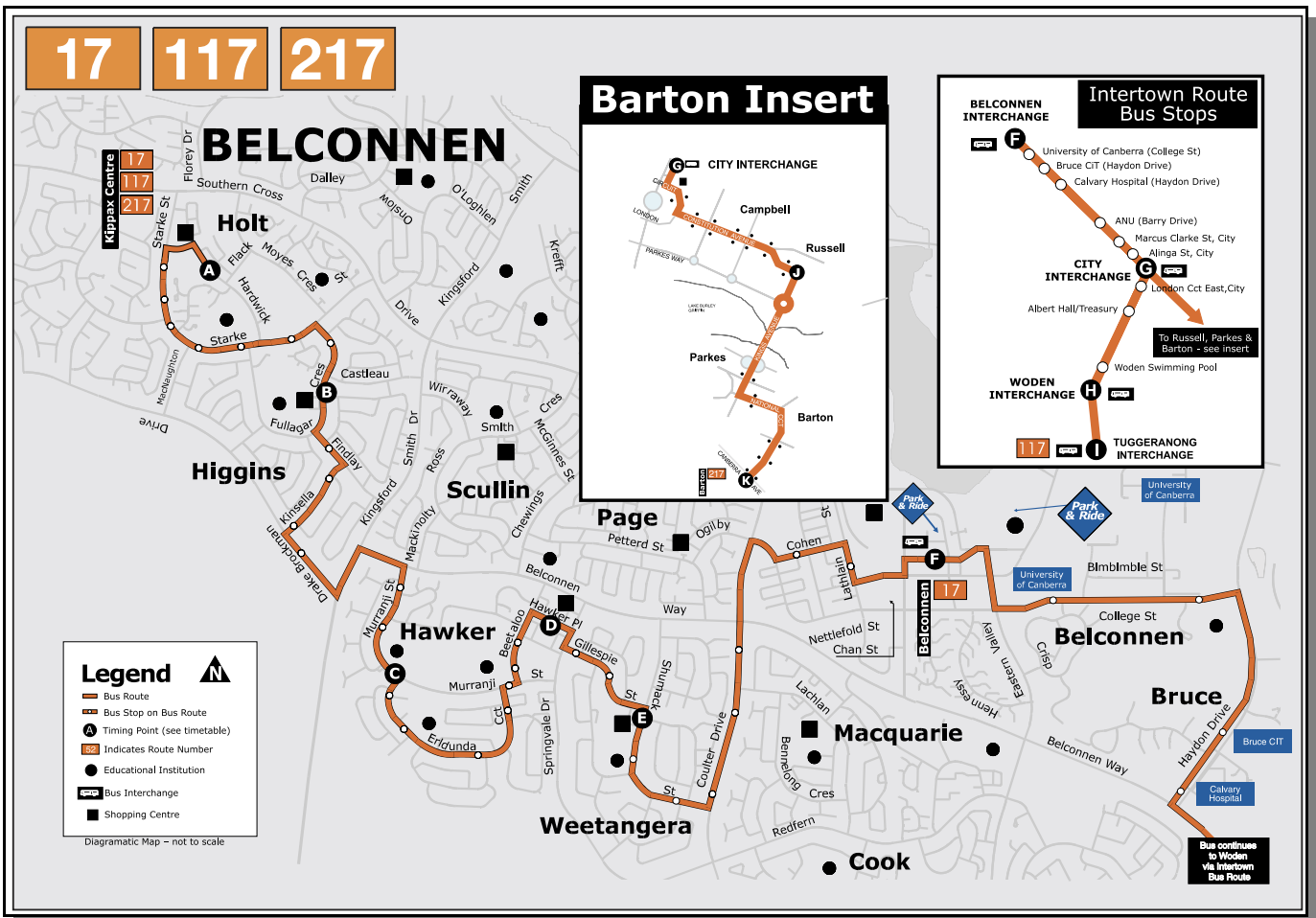
and it goes straight onto your hard disk and is only optionally viewable by your web browser at the end of the download.

As mentioned, because this route map is graphically very rich, it occupies a lot of disk space and takes 6-7 minutes to download on a 56KB modem. It is arguable that such long download times deter people from bothering to acquire PDF files like this.

On page 9 is a “roll your own” PDF file constructed from Sydney Ferries web page, showing the “London Underground style” route map of the Sydney Harbour ferry network. It is “roll your own” because Sydney Ferries does not actually supply it in PDF format. Despite the gush in the headline to this story, PDF file format timetables are only just now taking off. Probably only 20% of timetable sites made timetables available in PDF format as at the middle of 2002.

Instead, this PDF version of the route map was created on the editor’s home computer by printing the page by means of a program designed to create PDF files directly from screen or printable images. This is the sort of program a transport organisation would use to prepare the PDF files which they make available for downloading. There are a number of such programs (“PDF makers”), many of them freeware. This particular one was created with a commercial product, Acrobat, sold by Adobe, the company that established the PDF standard and distributes the free Acrobat Reader mentioned earlier in this story.

Last of all is a capacity map associated with what one might call the Standard Working Time Table site of the NSW Rail Infrastructure Corporation. This is made available over the Web to potential “Rail Operators”— organisations like Pacific Na-



State Transit's *Better Buses* program

An insight into recent network changes in Sydney's eastern suburbs

by **ADRIAN DESSANTI**

In June 2002 State Transit (Sydney's government bus operator) launched one of the largest route restructuring efforts undertaken in recent years. A new route network was introduced for the entire Eastern Suburbs area, involving all bus routes numbered from 300 to 399, as well as the cross-regional Route 200 service from Chatswood to Bondi Junction and Route 400 from Burwood to Bondi Junction. The restructure also involved all three Eastern Suburbs bus depots – Waverley, Rand-

wick and Port Botany, with some impacts also flowing on to Wyloughby depot on Sydney's lower north shore. While many services remained unchanged, many others were substantially altered or withdrawn, and new ones introduced.

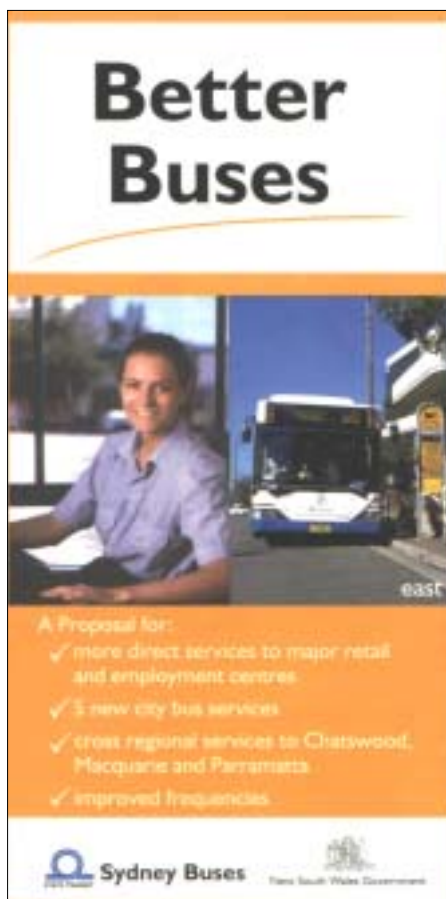
The Better Buses Eastern Suburbs program, as it was known, was initiated in mid-2001 with the release of a proposed network based on surveys, research on patronage figures and population forecasts. The proposed network

was released by means of a fold-out A2 spread showing the proposed route network across the entire Eastern Suburbs, with accompanying discussion regarding the particular changes occurring in each local government area affected. The Better Buses brochures were made available through distribution in local newspapers across the eastern and south-eastern suburbs, including the *Wentworth Courier* and the *Southern Courier*. Posters were also produced for display in buses, and copies of the brochures were also distributed to local councils, libraries and shopping centre information kiosks. State Transit received almost 3,500 submissions from members of the community and commuters during the consultation period undertaken in the second half of 2001.

Marketing and distribution – lessons from the original North West review

This method of distribution was markedly different from the first Better Buses program undertaken by State Transit 18 months earlier, for the north-western route restructure following the purchase of the North and Western and Riverside Bus and Coach companies by the State Government. For the original Better Buses North-West program, smaller fold-out DL-size maps were produced for the areas affected by the proposed changes between Parramatta in the west and Chatswood in the east. One DL-size map was produced for the western half of the north-

Left – Better Buses Eastern Suburbs, inviting people to have their say about proposed route changes.



Left – Original Better Buses brochure, in DL size, released for the proposed new North-Western route network in mid-2000.

western network, covering Parramatta, West Ryde and Macquarie, and a second for the eastern half centered on Chatswood and Lane Cove. These maps were distributed in a letterbox drop undertaken by a private contractor, used to deliver local newspapers and catalogues. However, many residents complained that they did not receive copies of the brochures, and upon investigation by State Transit, it was found that the original contractor used did not fulfil its duties, missing out on delivering brochures to a substantial number of properties in various areas (Kennedy, 2002). Of course the result was claims of conspiracy on the part of State Transit, where residents complained of a vendetta that proposed changes to their local area were being kept from them. Subsequently, a second letterbox drop was conducted.

The need to produce two separate brochures for distribution was also seen as necessary given the need to segregate the proposed changes into two stages, resulting from the

impacts the changes would have on operations. A number of depots would be affected, with Ryde and Willoughby being the two directly impacted, and impacts also on operations at Burwood, Leichhardt, North Sydney and Brookvale. Stage 1 of the Better Buses changes was introduced on Sunday 4 March 2001, while Stage 2 was introduced on 24 June 2001. Interestingly, the recent changes introduced to the Eastern Suburbs network were introduced on Sunday 23 June 2002 – almost a year to the day since Stage 2 of the north-western network was introduced. (An earlier date for the implementation of the Better Buses Eastern Suburbs network was planned – Sunday 28 April 2002 – though due to the postponement of the new CityRail timetable that was planned to commence on Sunday 21 April, State Transit and some private operators postponed introducing new timetables for their services as well.)

Redistributing services to match demand

In attempting to restructure the route network in the Eastern Suburbs, State Transit was seeking to redress some current inconsistencies in the existing route network where certain services had an oversupply of buses and others were lacking in capacity. Examples where services were reduced and/or redirected to match demand – while still providing a frequent service – included Routes 380, 381 and 400. Along the Bondi Road corridor, Route 380 services made a diversion via Denham and Dudley Streets at Bondi, which added several minutes to the direct trip along Bondi

Road between Bondi Beach and Bondi Junction, for a seemingly insignificant benefit. One of the changes resulting from Better Buses was the deletion of the Denham Street and Dudley Street loop from the existing 380 service, making it more direct along Bondi Road. The Route 381 service, which was introduced in 2001 to segregate short workings on the existing 380 service to and from Bondi Junction, remains as a link to Denham Street and Dudley Street, though at a greatly reduced frequency to the previous Route 380 service. And residents of Denham and Dudley Streets are largely within a 3 to 5 minute walk of the more frequent Route 380 service along Bondi Road, outside of the times that the 381 now operates.

Similarly with the Route 400 service, a major cross-regional limited-stops service operating between Burwood and Bondi Junction via Sydney Airport, the previous timetable had a 5-minute service operating between Pagewood Eastgardens and Bondi Junction on weekdays. However, it became apparent that providing such a high-frequency service throughout the day was preventing buses from being freed up to operate on other routes, again for no seemingly significant benefit. Buses would “bunch up” en route, with one or two full buses and another two buses following almost empty. Subsequently, as part of the Better Buses changes, the frequency of the Pagewood – Bondi Junction leg of the Route 400 service was reduced during off-peak times from 5 minutes to 7/8 minutes, while the existing 20-minute service west of Pagewood was retained. Peak hour services remain at 5-minute intervals and existing evening and weekend services remain as previously. In this regard a high-frequency service is still provided on the Route 400 corridor while some buses are now available to operate in other areas.

Serving areas of changing demographics and urban form

State Transit’s Eastern Suburbs’ operations account for 40% of their business (Kennedy, 2002), and as such is a vital component of their core Sydney Buses business. However, with changing demographics and patronage levels, services had to be redesigned to meet the new urban form developing in certain areas of the Eastern Suburbs. Examples of where such dramatic change in urban form and land uses are occurring include:

- Bondi Junction, where the former Westfield shopping centre and other adjacent centres are being amalgamated and redeveloped into one large centre. New high-rise residential and commercial development is currently being constructed, and a proposed redevelopment of the current Oxford Street Mall into a vibrant town centre are promoting Bondi Junction as a major regional centre for the area.
- Former industrial lands in the former Central Industrial Area (CIA) of South Sydney, incorporating the suburbs of Alexandria, Zetland, Waterloo and Rosebery, being redeveloped into residential areas. Many large industries have vacated this area for larger sites in Sydney’s western suburbs, and subsequently developers have seen the opportunity to redevelop these former sites into major medium and high-

density residential areas. This is especially the case around the Green Square town centre and railway station.

- Declining residential growth in certain areas, coupled with an ageing population, has caused a shift in demand for community services, including transport services.

As a result of these changes in urban form over recent years, State Transit undertook to provide more direct services linking these areas experiencing significant change. Examples of this include:

- New direct routes from Vaucluse, Rose Bay, Bellevue Hill, North Randwick, South Coogee, South Maroubra and Surry Hills to Bondi Junction (Routes 313 Coogee and North Randwick, 317 Pagewood and South Maroubra, 326 Bellevue Hill and City, 352 Surry Hills, Newtown

and Marrickville, 386 Rose Bay and Vaucluse)

- New full time services through Rosebery and Zetland linking new residential areas with the City and Pagewood (Route 301)
- Restructuring services in areas of stagnant growth in terms of both population and patronage (Routes 302, 303 West Kensington, 360 Clovelly and Waverley)

The results were to restructure the network to better serve new areas whilst at the same time delivering services at existing or similar levels to other areas. The benefits of this were to redirect buses to routes of greatest need and to introduce new bus routes operating between destinations that had never been connected before. Examples of these new routes included Route 352, between Bondi Junction and Marrickville Metro, running via Paddington, Surry Hills, Sydney University and Newtown. This is the first time a direct service has been provided linking Paddington, Surry Hills and Sydney University via Cleveland Street, given that the western end of Cleveland Street has not seen a regular bus service operate along it for many years. It also provides an opportunity for students attending Sydney University and living in Surry Hills, Paddington and Bondi Junction with a direct service on weekdays.

Other new routes include Route 386 between Vaucluse and Bondi Junction via Rose Bay; Route 326 between the City and Bondi Junction via Bellevue Hill; Route 317 from South Maroubra and South Coogee; and Route 313 between Coogee and Bondi Junction via Carrington Road. In the case of these routes, they replace sections of other services that were discontinued as a result of stagnant or declining patronage. Three of the services mentioned above now provide services to new destinations

Right – State Transit has taken the opportunity of its Better Buses program to introduce a new suite of timetables and region guides for Sydney Buses services, in a distinctive new format. Designed by TransitGraphics, the new timetables show a picture of a local bus driver and include an easier to read timetable layout and route map.



that were not available with the former services they replaced, making them more attractive for local residents.

Reductions in services

Some areas of the Eastern Suburbs network have experienced service cuts – the common route through West Kensington and Surry Hills (Routes 301, 302, 303) have a 15-minute combined frequency throughout the day seven days a week as opposed to a 10-minute service which was provided pre-Better Buses. Further, the common frequency along the New South Head Road corridor east of Double Bay has been reduced from 10 minutes during the off-peak to 15 minutes, with a reduction in the frequencies of the 324 and 325 services to and from Watsons Bay from 20 minutes to 30 minutes. West of Double Bay frequencies remains at 10-minute intervals every day as it was previously.

While a reduction in service levels has caused some concern to locals – who in many cases have been used to a high frequency ser-

vice for many years – the general consensus is that State Transit has tried to provide a frequent service on most routes without providing too much capacity in any one particular area where it may not be needed. And this has also occurred whilst State Transit have introduced new services to other areas.

Generally the recent changes to the Eastern Suburbs route network have largely resulted in a redistribution of services to where they are needed most, especially in areas which are experiencing significant population change. Frequencies and service levels in many areas have remained static or decreased slightly, while maintaining a consistent frequency all day long, and others have seen an increase in service levels and/or a wider choice of destinations, which is equally as important when providing a bus network than simply running high-frequency services. This latter point is certainly applicable to an area like Surry Hills, which not only has City services

along Crown and Cleveland Streets, but also a new cross-suburban service operating to the east and west.

To the future

The Better Buses program now moves on to the Warringah and Pittwater areas of the State Transit network, following major changes to the North-West, Newcastle and Eastern Suburbs networks over the past two years. The proposed changes for Warringah are expected to be released in late 2002 (around October), with consultation occurring until planned implementation in May 2003. This will leave the South and West network to be the final area to be overhauled, which is expected to occur in early 2003, around the same time the Warringah changes are expected to be implemented.

References

Kennedy, L. 2002. *“Future Bus Plans for Sydney”* – Seminar presented by State Transit at the Institute of Engineers Sydney branch, June 2002.



World's busiest dead-end

ROSS WILSON found an interesting claim in an old NSWGR publicity booklet. But, was it true?

Many readers will recall "Railways at Work", a booklet first issued by the Department of Railways in 1947. In the third impression (July 1952) under the heading 'ELECTRIC TRAINS AND TROUBLE', we are told:

The system of automatic signalling installed permits the safe operating of trains at relatively short intervals. In the evening period 25 trains leave St. James station between 4.45 p.m. and 5.45 p.m., believed to be the most intensive traffic at any dead-end station in the world..

This is an extraordinary claim and is worthy of investigation. Presumably the claim should be qualified by interpreting it as a reference to a dead-end terminus of a double track railway with two discrete platforms.

TRAINS DEPARTING ST. JAMES AS AT 23 NOVEMBER, 1952, Mondays to Fridays:

p.m.	To- Calling at (beyond Redfern)-	5.25 Cronulla Sydenham (f), Hurstville-Cronulla
4.46	Herne Bay All stations	5.28 Mortdale All stations
4.48	Hurstville All stations	5.31 Cronulla, Sydenham (f), Hurstville-Cronulla: connection Sutherland-Helensburgh
4.53	Cronulla Sydenham (f), Rockdale (f), Hurstville-Cronulla	5.34 East Hills All stations
4.55	Hurstville All stations	5.36 Hurstville All stations
4.57	Sutherland Sydenham (f), Kogarah-Sutherland	5.39 Cronulla Sydenham, Hurstville-Cronulla
4.59	East Hills All stations	5.43 Mortdale All stations
5.1	Hurstville All stations	= 23 trains
5.4	Cronulla Sydenham (f), Penshurst-Cronulla	A total of 25 can be arrived at by including the 4.44 (All to Sydenham, Rockdale, Kogarah, Hurstville-Sutherland) and the 5. 46 (Herne Bay).
5.7	Hurstville All stations	Note f: Stops regularly to pick up passengers, but does not set down.
5.10	East Hills All stations	One contender for this claim is the Waterloo & City line, from Waterloo to Bank, a distance of some 1 mile 46 chains. The Working Time table of 13 June 1955 shows 21 trains leaving Waterloo for Bank between 8.28 and 9.29 a.m.
5.12	Hurstville All stations	
5.14	Cronulla Sydenham (f), Hurstville-Cronulla: connection Sutherland-Waterfall	
5.16	Mortdale All stations	
5.18	National Park Sydenham, Rockdale, Hurstville-The National Park	
5.20	Herne Bay All stations	
5.22	Hurstville Sydenham-Hurstville	



St James, with its innards exposed during construction of the City Railway. Two island platforms were built, the outer edges of each being used for City Circle traffic, the inner edges, destined for use on an Eastern Suburbs Railway were never used. The 25 trains per hour (one source says 26) arrived at the left-hand platform and travelled into tunnels under Macquarie St, to reverse and emerge on the right hand platform.

Go Great Western!

TRIS TOTTENHAM *comments on our two-part article on the set of Great Western Railway service timetables in the February and March 2001 issue of The Times.*

Letter

Following the comments in the letter from John Williams in the May 2001 edition of *The Times* following your article 'Go Great Western!' in the March 2001 edition, I feel that I had better put pen to paper and provide a couple of comments.

1. There is a small preservation site and operating railway in the Forest of Dean – it runs from St. Mary's Halt near Lydney to Norchard and track exists to Parkend which may now be opened to passengers.

2. Crumlin [low level] on the line from Newport to Ebbw Vale lost its passenger trains in 1962. Crumlin [high level] on the line from Pontypool to Neath across the valleys through Aberdare lost its passenger service in 1964.

3. The line from Aberystwyth to Carmarthen was closed in 1965 [Beeching]. A small part of this line north of Bronwydd Arms is now preserved as the Gwili Railway. The branch to Newcastle Emlyn closed in 1952 [the 2.0 ft. gauge Teifl Valley operates west of Henilan on this former line].

4. The Corris Railway is not yet operational although a preservation society exists and has run some trains. Last I heard they were still awaiting official sanction [June 2002] to carry passengers. A section of track exists south of Maespoeth [A lease has been secured on the track bed to Tan-y-coed near Wales' centre of Alternate Technology a distance of about 3 miles].

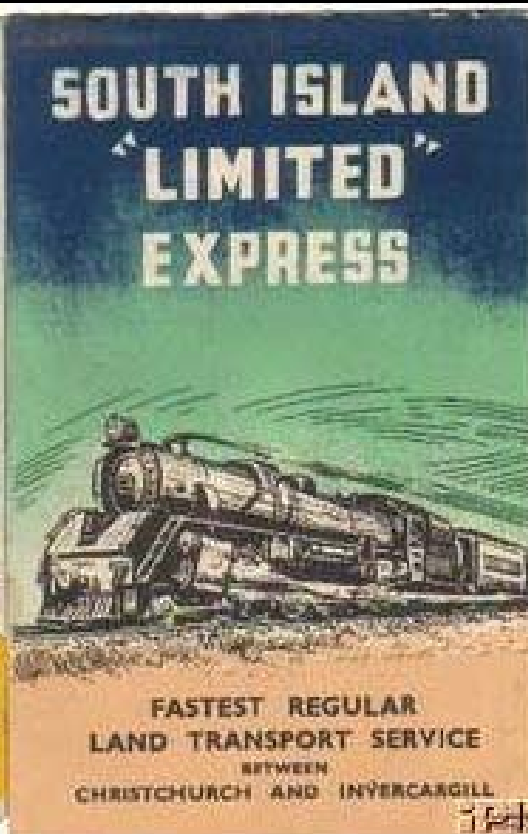
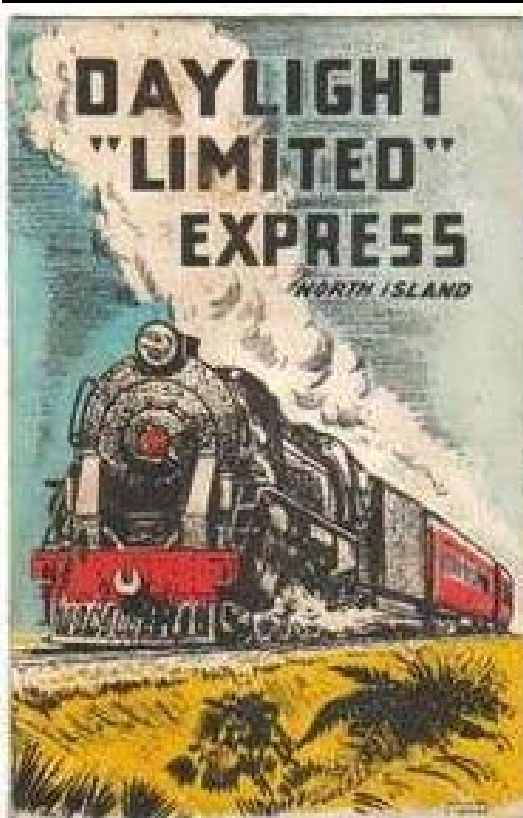
5. Of interest also is the Stour-

bridge Junction to Town branch. Following the fact that for many years there has been no Sunday service on this branch it has been proposed that a modern day "Parry People mover" be trialled on Sundays on this branch. At this time there is no indication when the service will commence.

In conclusion it is interesting to compare what was the norm nearly 70 years ago compared with today. One also has to remember that not all railway closures in Britain were as a result of the Beeching axe. As pointed out, closures have been in place from almost the earliest days of the railways.

Yours faithfully,

Tris Tottenham



This month's "space-filler" shows the covers of two timetable brochures recently offered for sale on the on-line auction site EBay. A range of timetables is continuously on offer on EBay sites based in the U.S. (<http://listings.ebay.com/aw/plistings/list/all/category4131/index.html>), the U.K. (<http://listings.ebay.co.uk/aw/listings/list/category1445/index.html>) and Australia (<http://listings.ebay.com.au/aw/listings-local/list/category1445/index.html>).

Calm, cool and collected

DAVID HENNELL found many things worthy of comment in the August issue. However, he has, remained calm, cool and collected in his responses.



The August 2002 issue of *The Times* is extremely interesting as it shows the diversity of timetables better than most. Now for my 3d. worth.

Victor Isaacs' articles are always fascinating and are very rarely infested with gremlins but a few infiltrated the one on timetables from the Queensland *Government Gazettes*.

"Queensland was unique among the colonies for not starting its railway system from the capital." On this basis, then, Western Australia and Tasmania must also have been unique as their first common carrier railways didn't start from the capital either. The first public railway in Western Australia was from Geraldton to Northampton (opened 26th July 1879) with Fremantle - Perth - Guilford opening on 1st March 1881. In Tasmania, the Launceston and Western Railway Company's broad gauge line between Launceston and Deloraine opened on 10th February 1871 with the narrow gauge Hobart Town to Evandale section being opened by the Tasmanian Main Line Railway Company on 1st March 1876.

The extension from Redlynch to Kamerunga (opened 20th October 1888 and closed 15 June 1891) ran about 1 mile north west from Redlynch and terminated on the river flats adjacent to the Barron River. It was not part of the extension up the Cairns Range. Jungara is 1½ miles south of Redlynch on the flatter and straighter part at the start of the range ascent. The section from Redlynch to Myola opened 15 June 1891 and replaced the line to Kamerunga.

Victor overlooked mentioning that the Richmond shown in the two 1888 Cairns Railway timetables is the fifth

station called Richmond in Australia and one of two in Queensland. [So now there are two names (at least) that occurred five times - Maryvale and Richmond.]

When I was teaching at Ballarat High School in the early 1970s, I taught, amongst other subjects, Form V (now Year 11) Mathematics A (*i.e.* the maths for those who don't do real maths). One area that was covered in the Maths A course was the use of graphs in the real world. I added train graphs to those already being discussed. One exam question that I wrote, about train graphs, required the students to determine by graphical means whether or not it was possible for one train to reach a particular station without delaying a following train. The only difficulty was that the answer depended on the student's knowledge of train operations. As a consequence, we decided to accept as correct both the conclusion that the second train was delayed and the one that it wasn't delayed provided the graph was correct and the reasoning behind the answer explained.

Calm, Cool, Collected and *Eureka* were the stations on an electric model railway used for safeworking instruction by the Western Australian Government Railways Institute. The training railway dates from 20th December 1912. As the timetable illustrated in *Timetable Oddity #1* was designed for a model railway, it is not surprising that the sectional running times were very short.

The illustrated timetable shows the railway as being arranged as in the box, below left.

WAGR also had a dummy booking office that was used to train booking clerks. It consisted of a drop tube

ticket cabinet, ticket dating press and tickets printed to and from Calm, Cool, Collected and Eureka. Until 1951, basic WAGR tickets were white for first class and green for second class (for both suburban and country journeys) and both white and green tickets in the standard format were provided for these stations. Other colours were used for excursion, sleeping berth, etc., tickets but I don't know if any of these were used for training purposes.

On 1st July 1951, Mr. R. E. B. Lee, the Comptroller of Accounts and Audit, introduced directional colours for tickets for Western Australian country rail journeys based on those of the Victorian Railways - not surprising, as he transferred from VR to WAGR during 1948. These replaced the white and green country tickets. As a consequence of the changes to the tickets, a new set of Calm, Cool, Collected and Eureka tickets conforming to the directional colours was printed. Under the new system, tickets for journeys involving both Down and Up journeys were overprinted with a thin red circle, akin to the white circle on the equivalent VR country tickets.

When one examines the new tickets, it soon becomes apparent that, based on the ticket colours and markings, the railway is now organised as the box, bottom right:

The obvious question is was the training timetable altered in or about 1951 to match the new Up and Down directions as specified by the tickets or did the country tickets and the timetable contradict one another for the remainder of the period in which training was provided using the two of them?

Cheers,

David Hennell

<p>Calm → Cool → Collected → Eureka</p> <p>↑ Zero</p> <p>where the Down direction is from Calm to Eureka (arrows).</p>	<p>Eureka ← Calm → Cool → Collected</p> <p>↑ Zero</p> <p>where both Calm to Collected and Calm to Eureka are Down</p>
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