

The Times

February 2016

A journal of transport timetable history and analysis

Dwell Management Training

Course code : WC47



Inside: Something to dwell upon
Craig's Timetable
Deviation dilemma
Revisiting Malcolm

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Timetable 1890

HORNSBY AND ST. LEONARDS SERVICE.

Height in feet.	Miles from Sydney.	Down.	WEEK-DAYS.				SAT. ONLY.	
			Pass.	Mixed.	Mixed.	Mixed.	Pass.	Mixed.
—	—	Newcastle .....Dep.	a.m.	a.m.	a m	p m	p m	p m
62	—	Sydney ..... "	.....	.....	9 10	.....	.....	1 30
592	21	Hornsby .....Arr.	6 5	8 25	p m	2 30	1 25	.....
		"Dep.	7 25	9 20	12 15	3 35	2 21	4 55
619	22	Wahroonga "	7 40	9 25	12 20	3 55	2 30	5 0
554	24	Turrumurra "	7a45	9a30	12a25	4a 0	2a35	5a 5
449	25	Pymble "	7a48	9a34	12a30	4a 3	2a38	5a 8
379	26	Gordon "	7 53	9 44	12 40	4 10	2 43	5 13
321	28	Lindfield "	7a56	9a49	12a45	4a14	2a46	5a16
349	28	Roseville "	8a 1	9a54	12a50	4a19	2a51	5a21
321	29	Chatswood "	8a 4	9a58	12a55	4a22	2a54	5a25
238	31	St. Leonards .....Arr.	8 10	10 5	1 5	4 29	3 0	5 30
			8 15	10 10	1 10	4 35	3 5	5 35

Height in feet.	Miles from St. Leonards	Up.	WEEK-DAYS.				SAT. ONLY.	
			Pass.	Pass.	Mixed. Sat. ex.	Mixed.	Mixed.	Mixed.
238	—	St. Leonards .....Dep.	a.m.	a.m.	p m	p m	p m	p m
321	2	Chatswood "	8 30	10 15	2 55	5 40	1 40	3 15
349	3	Roseville "	8 37	10 22	3 2	5 47	1 47	3 22
321	4	Lindfield "	8a41	10a26	3a 6	5a51	1a51	3a26
379	5	Gordon "	8a44	10a29	3a 9	5a54	1a54	3a29
449	6	Pymble "	8a49	10a34	3a14	5a59	1a59	3a34
554	8	Turrumurra "	8 55	10 40	3 20	6 5	2 5	3 40
619	9	Wahroonga "	8a59	10a44	3a24	6a 9	2a 9	3a44
592	10	Hornsby .....Arr.	9a 4	10a49	3a29	6a14	2a14	3a49
		"Dep.	9 10	10 55	3 35	6 20	2 20	3 55
			9 21	11 0	3 40	6 30	2 22	4 55
62	31	Sydney .....Arr.	p m	p m	5 1	7 15	.....	5 50
—	92	Newcastle ..... "	.....	.....	.....	.....	5 25	.....

Stand Clear—Doors Closing

GEOFF LAMBERT, with JAMES NG and SCOTT FERRIS

IN 2005, AT THE HEIGHT OF YET another CityRail “timetable crisis”, I took it upon myself to conduct an analysis of the dwell times of trains at Central and Town Hall stations during the evening peak hour. The results showing the “Doors Open” and “Doors Closed” dwell time are shown at the foot of this page. The times are in minutes and seconds.

Why did I do this? I did it as part of an analysis which I undertook for the *Sydney Morning Herald*, to help their transport writer understand why the performance figures of CityRail were so bad. The results of the complete analysis were written up for *The Times* of April 2006.

In the table below, I present a measure of variability of dwell times at two stations. The average is 50 seconds, but the range of dwell times is from 30 seconds to 90 seconds. This is not good.

There are two attributes of a “good” dwell time—shortness and consistency. These attributes are also critical to other aspects of On Time Running [OTR] of a busy suburban network—travel times, train frequency and train separation.

That the variability of these parameters can be at least as important as their values is not intuitively obvious. It can, however be fairly easily demonstrated and I have previously presented some such demonstrations. For instance, it can be shown that the capacity of a railway line is highest when all trains run at the same speed (whether high or low) compared with a mixture of high and low speed trains. This holds true for dwell times also—variable dwell times have both *knock-backward* (long dwells) and *knock-forward* (short dwells) effects on OTR.

I do not know what motivated CityRail to try to fix things, but it decided to introduce “Dwell Management” techniques at these two stations and began training staff in the techniques. Hereunder are some relevant extracts from the training course, which go some way towards explaining what happens down on the platform. The report contains some mystifying acronyms, which I interpret as follows

- RPICS: (Remote) Passenger Information Control System.
- TLS: Train Location System (*The Times* September 2015).
- RMC: Rail Management Centre (ditto).

“Recent Analysis

Recent analysis has determined that departure performance out of Central is a key driver of OTR for the Western Line during the PM peak. The journey through the CBD via Wynyard, Town Hall and Central is an important driver of on time departure from Central.

Queuing analysis suggests that much of the delay through the CBD can either directly or indirectly be attributed to dwell times.

Effective management of dwell times by the Dwell Manager between 1500 hours and 1900 hours Monday to Friday is crucial to maintaining a consistent, reliable service across CityRail and achieving On Time Running targets. Dwell Managers, in liaison with the PPICS Operator, Right of Way, Repeaters and Guard, can ensure that trains travel through stations at regular intervals. This leads to a reduction in blocking down the line and has a positive impact upon journey times.

CityRail’s On Time Performance for the Western Line, Sector 3 is not meeting the 92% target.

For a train to have a good chance of presenting on time (within OTR targets) at Penrith it must leave Central ‘On Time’. To get out of Central on time it must make it through the city on a clean run.

One of the biggest drivers of delay is dwelling for longer than scheduled.

1. Dwell Managers Roles & Responsibilities

The function of the Dwell Manager is to know the dwell times given on the Count Down Clock and manage dwells accordingly, to be visible to customers, RPICS, ROW and Repeaters at all times and communicate with passengers by using a wireless PA (if available).

Prior to Train Arrival

- Remain visible on platform.



- Provide any feed back to the team.
- Ask right of way for TLS timings.
- Be active in managing the platform.
- Disperse crowds evenly along the platform.
- Move customers along the platform and keep targeted entrances and exits clear.

Train Approaching

- Coordinate movements of passengers on stations.
- Call staff to position through point to point radios to ensure 'all hands on deck'.
- Make sure customers are behind the yellow lines for their own safety when train is approaching.
- Determine targeted dwell length and communicate to count clock operator.

Train Arrives & Doors Open

- Liaise with other staff to ensure that customers are able to alight before others begin boarding the train.
- Ensure customers board promptly using all available doors and move down inside the carriages.
- Deter later boarders and reduce repeat door closures.

Doors Open & For Up To The Next 40 secs

- Responds to any delay.
- Draws staff attention to the countdown

	Open	Dwell	Closed	Open	Dwell	Closed
Time	time	Time	Time	Time	Time	Time
Avg	0:38	0:49	0:12	Avg	0:41	0:11
Min	0:22	0:32	0:04	Min	0:13	0:03
Max	1:02	1:42	1:11	Max	1:48	0:40

clock.

- Coordinates single quick whistle when majority of doors are clear.
- Door Closing Procedure 20 Secs Prior To Departure
- Coordinates voice cues and whistle blowing e.g. 'all aboard'.
- Makes announcements using the wireless PA (only when necessary)

Train Departs

- Remain visible on platform.
- Provide any feedback to the team.
- Ask right of way for TLS timings.

Times

2pm to 3pm

- Check staff are on duty
- Check issues for the day from the RMC

3pm to 3:45pm

- Coordinates a pre-peak briefing at 3.00pm for 10 mins
- Check equipment, including headsets

3:45pm to ?pm

- Peak mode

?pm to 8pm

- Coordinates a 5minute post peak debrief

2. RPICS Operator Roles & Responsibilities

The function of the RPICS Operator is to prepare and trigger dwell times on the Count Down Clock, liaise with the Dwell Manager and make announcements that keep passengers informed of train location, disruptions and departure time.

Train Approaching

- Refer to platform markings
- Announce stopping patterns
- Enlist assistance of passengers
- If delayed, enlist assistance of passengers

Train Arrives & Doors Open

- Prepare count down clock for triggering

Doors Open & For Up To The Next 40 secs

- Trigger count-down clock
- Support Dwell Manager with relevant announcements as requested
- Door Closing Procedure 20 Secs Prior To Departure
- Announce stand clear message if necessary or other announcements as requested

Train Departs

- Announce any delays or other modifications to normal operations for next train.

Times

3pm to 3:45pm

- Attend a short pre-peak briefing.
- Start running of countdown clock at 3:30pm

3:45pm to ?pm

- Peak mode

3. Resources for Dwell Management

Point to point radios with headsets

- Allow all staff to communicate on station which can be busy and noisy.
- Allow the whole team to 'hear' to each other, including those who can and can't see the train or platform directly
- Allow the dwell manager to communicate with team members.

Right of way, repeaters, guard coach, RPIC

Specifically, talk to the RPIC and instruct him/her to make relevant announcements

Countdown Clock

- To be introduced after Dwell Manager is in place and procedures will support additional tools
- Inform everyone of the dwell time targets.
- Including staff and passengers.
- Stop passengers entering the train at the last minute.
- Stopping patterns will not be shown for the last 10 seconds of dwell.
- Provide staff something to refer to when explaining the need to enter and exit the train quickly.

Platform markings

To be introduced after Dwell Manager is in place and procedures will support additional tools

- Help move passengers away from the train doors.
- Help passengers enter and exit the train more quickly and efficiently.
- Give staff something very tangible to which they can point to aid them in moving passengers along.
- Markings will be reinforced by announcements on the station.

Participants are expected to follow the checklist below and demonstrate the coordi-

nated whistling process. Completing this process is assessed.

1. Prior to train arrival, the Dwell Manager advises the RPIC Operator of the Count Down Clock setting, i.e. 60 secs or 50 secs or 40 secs or 30 secs. The default setting is 40 secs (if not advised otherwise by the Dwell Manager).
2. As the train arrives the Dwell Manager calls the team to the ready position.
3. The train arrives and stops at the platform and the Countdown Clock is started by the RPICS Operator.
4. The Dwell Manager and the Repeaters manage the crowd.
5. The Dwell Manager, Right of Way and Repeater are ready for coordinated whistle blowing (this will happen approximately when most passengers have exited the train).
6. The Dwell Manager counts 1, 2, 3 and all the Right of Way and Repeaters simultaneously blow their whistles. The Dwell Manager does not blow a whistle.
7. The Right of Way procedures commence as normal.
8. Specifically, talk to the RPIC and instruct him/her"

Does it work?

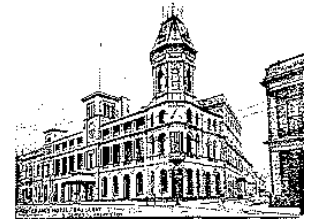
I don't know whether it works. It probably does. The target dwell time of 40 seconds is 10 seconds shorter than the average dwell time which I recorded. Whether this has been achieved—and consistently achieved—is hard to say. There are apparently no reports available. It must have been deemed to be a success because Dwell Management still happens.

On Time running has consistently improved over the last ten years since the dark days of 2005, but so many other measures have been taken with running times and recovery times that is not possible to tease out the effects of each. It is a bit like the myriad of efforts to reduce the road toll in recent decades. No one can convincingly prioritise the importance of each component.



Time Gentlemen, please!

GEOFF LAMBERT, courtesy VR NEWSLETER and JOHN FINNING



The following article appeared with a B&W photograph in *VR Newsletter* of February 1971.

“Genuine links with the past are becoming harder and harder to find and they're becoming worth more and more. But at Ballarat they've found one which few of us are ever likely to have seen—unless we frequent a certain licensed premise in Ballarat.

Craig's Family Hotel—Ballarat's first licensed hotel—dates back to 1852, predating the railway by a decade. And naturally, as Ballarat's leading hotel, it would have catered for the needs of many thirsty passing travellers [fancy that!].

Many branch lines have served the surrounding countryside and, no doubt, in the interests of both business and the need for customers to catch trains, the ever-thoughtful management acquired a train departure board.

Present licensee, Stan Jacobi, himself a V.R. man for seven years in the fifties, found the board under a mountain of dust and rubbish in the cellar. After a quick spruce up the board almost as good as the days when it faithfully told parched travellers it was time for the last one



TRAINS ON BRANCH LINES FROM THE MAIN LINE.

Trains leave Ballarat for Buninyong Line at 5.15 a.m.*, 7.5 a.m., 8.40 a.m.*, 9.55 a.m., 11.25 a.m., 1.10 p.m.*, 2.40 p.m., 4.40 p.m., 6.20 p.m.*, 8 p.m., (11 p.m. Saturdays only.)

Trains leave Ballarat for Scarsdale and Linton Line at 9.40 a.m., 4.20 p.m., (10.40 p.m. Saturdays only.)

Trains leave Ballarat for Geelong Line at 5.50 a.m., 10.45 a.m., 3.30 p.m.*, 7 p.m.

Trains leave Ballarat for Creswick and Daylesford Line at 4.40 a.m., 8.20 a.m., 1.30 p.m., 5 p.m., and (11.10 p.m. Saturdays only, as far as Allendale only*.)

Trains leave Ballarat for Maryborough Line at 7.45 a.m., 12.25 p.m., 3.35 p.m., and 10.55 p.m.

Trains leave Ballarat for Waubra Line at 6.20 a.m., 11.30 a.m.*, 4 p.m., (10.10 p.m. Saturdays only.)

before scurrying 500 yards (450 m) up Liddiard Street to the station to catch their train.

And what a choice of trains there was, too. Apart from lines still operating, the board carries time clocks for trains to Buninyong, closed 1947, Daylesford (via Creswick and Newlyn) closed 1953, and Waubra, closed 1969.

Stan is so pleased with his find that it has been restored to a position facing all guests as they head for the stairs in the foyer.

Craig's hotel has other claims to fame, too. Poet Adam Lindsay Gordon conducted stables at the hotel from 1867-8. Mark Twain and Nellie Melba rested there. So did Prince Albert. His 19th century bed is still in use in one of the rooms."

The board, in a glass-fronted cabinet, is now in the bar (photo page 7). Boards like it were sometimes patented devices—we described one on page 12 of the August 2008 issue of *The Times*. It seems—at least in this instance—that the manufacturer printed specific paper labels in strips to fill each space on a standard-size board with spindle holes.

The board was made by the *Railway Timetable Indicator Company* for either Craig's or the Victorian Railways—probably the former. The



Company (or its agent) was located in the seven-storey Oxford Chambers, 473 Bourke St, Melbourne. The Company appears to have left behind no traces other than this indicator. Google turns up nothing. Oxford Chambers, built in 1888-89, was originally intended to be an office block, but many of the 140 rooms were quickly converted to flats.

When was the board built?

We cannot judge the date of Craig's timetable from what the clocks show. The hands were moveable to suit changes in the timetable. The times shown in *VR Newsletter* differ from those shown in the case today.

We can get some idea, however, by comparing the train frequencies on this board with traditional timetables of the day. A close up of the board (page 5) shows that it has 40 clock-faces, printed on paper, arranged in columns to suit the number of trains on each of 7 lines. It shows the line name at the top, plus the sequence number and destination for each clock face. An "Index" panel on the left side shows all of the stations on each line.

Clock faces (3 are small faces) appear in all panels, but one has rotted away.

There are sequence numbers in 34 panels. Only 31 clocks have hands.

This indicates a service of 31 trains per day—or perhaps 34 if the three missing sets of hands fell off at some time. By "day", I mean on Saturdays—a working day with half-day early closing, where several lines had an extra service.

The Linton Line (opened 10-Oct-1890) appears in Craig's timetable—so Craig's clearly post-dates that.

In late 1890, a year after the line via Bacchus Marsh was opened (4-Dec-1889), Crisp&Lane published their *Railway Guidebook and Timetable*, (our page 5), which showed times of all services out of Ballarat. Some trains were described in the Guidebook as "off at present", because of a coal strike. The "coal strike" started as a maritime strike on 15th August 1890 and rapidly spread to the coal industry. This bitter strike was eventually crushed by government, with the last of the coal miners in the Illawarra going back to work in January 1891. The strike was the first of three which lead to the formation of the Australian Labour Party in 1892. The frequencies in Crisp's table during the time of the

Relevant WTT	Craig's		Crisp&Lane		<-----Ballarat Star----->														
	With numbers	With Hands	Listed	"On"	1-Oct 888	11-Aug 1890	24-Mar 1891	21-Sep 1891	9-May 1892	2-Jul 1894	3-Oct 1889	13-Jun 1890	25-Sep 1890	7-Jan 1891	25-Mar 1891	31-Dec 1891	30-Jun 1892	WTT	20-Sep 1894
Melbourne Line (incl Ballan)	5	4	7	7	5	6	5	5	6	6	3	4	4						
(Ballan)	0	0	2	2	4	1	1	(1)	(1)	(1)	2	1	1						
Geelong (& Melbourne)	4	3	4	3	0	3	3	3	4	4	4	4	4						
Dimboola & Adelaide Ararat & Stawell	4	4	5	4	5		5	4	5	5	5	6	5						
Waubra Line	3	3	4	3	3		3		2	2	2	3	2						
Maryboro' Line	3	3	4	4	4		4		5	5	4	3	4						
Daylesford & Woodend	5	4	5	4	4		5		5	5	5	5	5						
Buninyong	7	7	11	7	10	11	7	6	8	9	7	7	7						
Scarsdale & Linton	3	3	3	3	4		4		2	2	2	2?	2						
Total	34	31	43	35	39		36		37	38	34	33	34						

Railway Time Table.

RAILWAY TIME-TABLE FOR JUNE

BALLARAT TO BUNINYONG.

Leaves Ballarat—	Arrives Buninyong—
5.15 a.m.	5.40 a.m.
7.5 a.m.	7.30 a.m.
8.45 a.m.	9.10 a.m.
9.55 a.m.	10.20 a.m.
11.25 a.m.	11.50 a.m.
1.10 p.m.	1.35 p.m.
2.40 p.m.	3.5 p.m.
4.40 p.m.	5.5 p.m.
6.20 p.m.	6.45 p.m.
8.0 p.m.	8.25 p.m.
Sat. only 11.0 p.m.	11.25 p.m.

BUNINYONG TO BALLARAT.

Leaves Buninyong—	Arrives Ballarat—
5.55 a.m.	6.20 a.m.
8.5 a.m.	8.30 a.m.
9.20 a.m.	9.45 a.m.
10.25 a.m.	10.50 a.m.
12.10 p.m.	12.35 p.m.
1.55 p.m.	2.20 p.m.
3.30 p.m.	3.55 p.m.
5.35 p.m.	6.0 p.m.
7.15 p.m.	7.40 p.m.
9.10 p.m.	9.35 p.m.
Sat. only 11.35 p.m.	12 a.m.

BALLARAT TO MELBOURNE.

Leaves Ballarat—	Arrives Melbourne—
5.33 a.m.	
6.25 a.m.	8.55 a.m.
7.35 a.m.	11.5 a.m.
11 a.m.	2.25 p.m.
4.45 p.m.	8.19 p.m.
7.10 p.m.	10.35 p.m.

The 5.33 a.m. train only goes as far as Ballan which it reaches at 6.53. On Saturday night a train leaves Ballarat at 9.10, and arrives at Ballan at 10.39.

MELBOURNE TO BALLARAT.

Leaves Melbourne—	Arrives Ballarat—
6.50 a.m.	10.25 a.m.
11.40 a.m.	3.18 p.m.
2.45 p.m.	6.25 p.m.
4.40 p.m.	7.15 p.m.
6.25 p.m.	10 p.m.

A train also leaves Ballan at 7.30 a.m., arriving in Ballarat at 8.56 a.m.; and on Saturday nights a train leaves Gordon at 11.16, reaching Ballarat at 12.13 a.m.

BALLARAT TO GEELONG.

Leaves Ballarat—	Arrives Geelong—
5.20 a.m.	7.50 a.m.
9.20 a.m.	11.50 a.m.
3.30 p.m.	5.55 p.m.

GEELONG TO BALLARAT.

Leaves Geelong—	Arrives Ballarat—
8.25 a.m.	10.40 a.m.
12.28 p.m.	3 p.m.
6.30 p.m.	9.5 p.m.

BALLARAT TO STAWELL.

Leaves Ballarat—	Arrives Stawell—
6.25 a.m.	10.12 a.m.
10.50 a.m.	2.40 p.m.
3.45 p.m.	7.55 p.m.
7.40 p.m.	10.17 p.m.
10.25 p.m.	2.25 a.m.

The 7.40 is Adelaide express.

STAWELL TO BALLARAT.

Leaves Stawell—	Arrives Ballarat—
3.40 a.m.	6.13 a.m.
6.45 a.m.	10.21 a.m.
11.8 a.m.	3.10 p.m.
3.3 p.m.	6.43 p.m.
9.30 p.m.	1.28 a.m.

The 3.40 a.m. is Adelaide express.

BALLARAT TO MARYBOROUGH.

Leaves Ballarat—	Arrives Maryborough
7.45 a.m.	10.10 a.m.
12.25 p.m.	2.35 p.m.
3.30 p.m.	5.37 p.m.
10.55 p.m.	12.56 a.m.

MARYBOROUGH TO BALLARAT.

Leaves Maryborough—	Arrives Ballarat—
7.25 a.m.	9.55 a.m.
12.20 p.m.	2.45 p.m.
4.40 p.m.	6.55 p.m.
6.5 p.m.	8.33 p.m.
10.5 p.m.	12.15 a.m.

BALLARAT TO WAUBRA.

Leaves Ballarat—	Arrives Waubra—
6.20 a.m.	7.33 a.m.
11.30 a.m.	12.43 p.m.
4 p.m.	5.13 p.m.

On Saturdays a train leaves Ballarat at 10 p.m. reaching Waubra at 11.13 p.m.

WAUBRA TO BALLARAT.

Leaves Waubra—	Arrives Ballarat—
8.7 a.m.	9.20 a.m.
1.17 p.m.	2.30 p.m.
5.35 p.m.	6.48 p.m.

On Saturdays a train leaves Waubra at 11.30 p.m. reaching Ballarat at 12.43 a.m.

BALLARAT TO SCARSDALE.

Leaves Ballarat—	Arrives Scarsdale—
7.15 a.m.	8.11 a.m.
12.15 p.m.	1.10 p.m.
4.20 p.m.	5.16 p.m.
10.48 p.m.	11.43 p.m.

The .48 p.m. train leaves on Saturdays only.

SCARSDALE TO BALLARAT.

Leaves Scarsdale—	Arrives in Ballarat—
8.35 a.m.	9.31 a.m.
1.30 p.m.	2.25 p.m.
5.40 p.m.	6.35 p.m.
12 p.m.	12.57 a.m.

The 12 p.m. train leaves on Saturdays only.

BALLARAT TO DAYLESFORD.

Leaves Ballarat—	Arrives Daylesford—
4.40 a.m.	6.35 a.m.
8.20 a.m.	10.42 a.m.
1.30 p.m.	3.45 p.m.
5 p.m.	7.8 p.m.
11.10 p.m.	

The 11.10 p.m. train runs, on Saturdays only, as far as Allendale, where it arrives at 12.3 a.m.

DAYLESFORD TO BALLARAT.

Leaves Daylesford—	Arrives Ballarat—
7.15 a.m.	8.40 a.m.
11.10 a.m.	1.30 p.m.
1.50 p.m.	4.36 p.m.
8.40 p.m.	8 p.m.
8.55 p.m.	10.52 p.m.

A train leaves Allendale at 12.15 a.m., for Ballarat on Sundays only.



strike come close to, but do not match exactly with, those of Craig's timetable.

Timetables for all the trains at Ballarat were regularly published in the *Ballarat Star*, a newspaper that could be annoyingly tardy in updating the timetables that it presented. After mid-1893, it became quite hopeless.

The key to the riddle may lie with the Buninyong line trains. Craig's allows for 7 trains per day. On 18-Oct-1889, shortly after opening of this line (11-Sep-1889), 10 Buninyong trains are shown in the *Star*. This number rose to 11 by March 1890 and fell back to 7 in September (presumably because of the coal strike); down further to 6 in January 1891. The Buninyong trains were never fully restored. There were 8 trains by 25-March-1891 and 9 by 1892/93. Service fell back to 7 in June 1892 and remained like that in the *Star* until at least September 1894. This frequency agrees with the 1894 WTTs. These later WTTs show only three trains to Maryborough, but five trains

seem to have been allowed for in the clock-faces.

The mass of contradictory data leads to a tentative conclusion that Craig's timetable was built in late 1890.

The Depression of 1893 had a severe effect on population, gold mining and the Victorian Railways. This meant that the golden age of the Ballarat train service was never to be repeated.

So what was the train service like in the pre-Craig's, pre-strike and pre-Depression heyday of Ballarat railways in 1890? The table above, cut and pasted from the 13-June-1890 issue of *The Ballarat Star*, gives an idea. There are 41 trains shown, a little lower than the 43 shown by Crisp&Lane—but I think Mr Crisp double-counted the Ballan trains.

Always Ballarat's premier hotel, Craig's is now operating as the very swish "*Royal Hotel*". The photo has been taken by John Finning of Ballarat, to whom I am greatly indebted.



Deviation Dilemma

JAMES T WELLS

Melbourne's Bus Route 548, Kew to La Trobe University has some interesting aspects.

Up to 2012, the service was run by the Ivanhoe Bus Co; it is now operated by Ventura.

The service is a cross suburban one running north-south. It runs on the top end of Burke Rd, a major arterial road and is the only service on the north part of the road. It crosses the Yarra River; parallel services are some distance away.

First of all, the southern terminal arrangements are of interest.

The 548 used to terminate in Burke Rd near Cotham Rd and then commenced its north bound journey by running anti clockwise around suburban streets capped off by a right hand turn out of Gordon St onto Burke Rd at an uncontrolled intersection. Incidentally, this is where the long gone Outer Circle railway crossed Burke Rd.

This had a number of problems – the use of narrow streets, the absence of any opportunity for a layover, and buses facing southwards at the terminus for a northbound journey. The last might sound trivial but for nervous first time passengers it doesn't help.

Without doubt the major issue was the lack of any layover. This means if you are late one way you'll be late the other way as well. Layovers are difficult to provide in many suburban situations. Outbreaks of Nimbyism (front yards) will occur if buses dwell for extended periods in ordinary suburban streets. Finding a parking space may be a problem; not interfering with drive ways another.

If a layover had been scheduled in, say Leonard St, the bus would have to do two circuits if not running late.

The current Ventura service now does a long anticlockwise loop along Harp Rd, and reaches Cotham Rd along Normanby Rd which is where the terminus timing point is located. This is about 600m from Burke Rd.

This is of undoubted benefit to passengers travelling to the Normanby Rd area but is bad news for south bound passengers seeking to alight on Burke Rd south of Harp Rd. They have to endure the loop and possibly a layover. Off peak services get a 2 minute layover but this is of no great consequence unless the bus arrives early

Those passengers seeking to interchange with tram no 72 which runs along Burke Rd and terminates at Cotham Rd opposite the old terminus for bus 548 would also be inconvenienced. At least north bound interchangers no longer have to go around a loop.

Maybe the right solution for the 548 is not the Normanby Rd loop but to extend it along Burke Rd to Camberwell Junction. A turn back loop could use Camberwell Rd (south east), then Seymour Grove (west) back to Burke Rd. It should be possible to have a layover facility on Seymour Grove, although it is residential.

The main advantages would be to give Balwyn and East Kew residents direct access to the Camberwell shopping area and to facilitate interchange with heavy rail at Camberwell and with trams 70 and 75 at the Junction.

Ah, you shout, there's a tram line there and

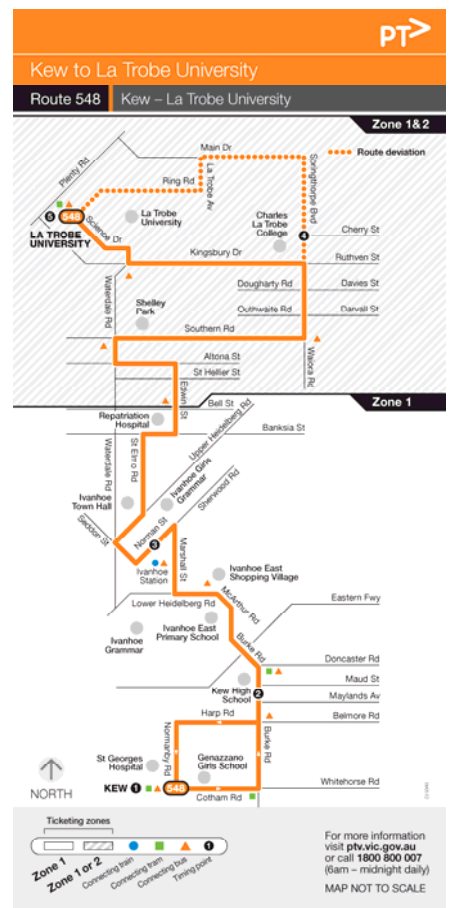
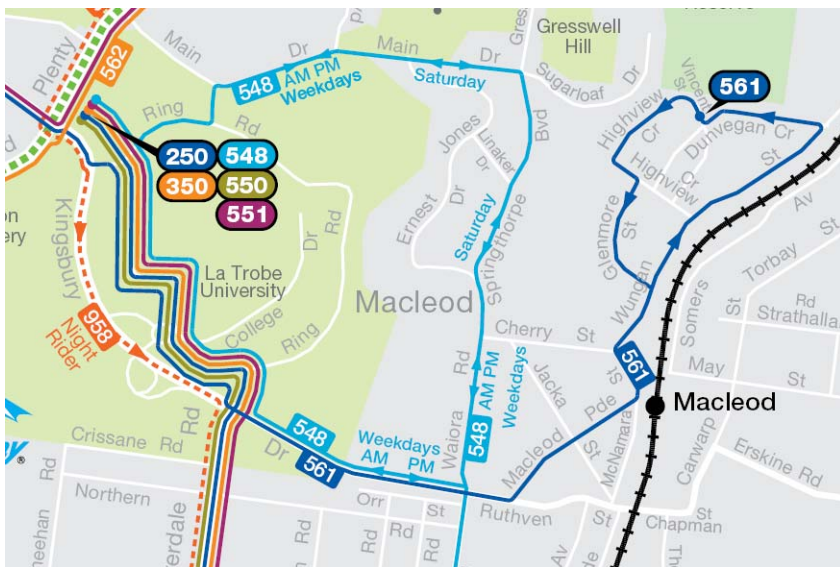
we don't need two different public transport modes along the street. The area is congested enough as it is. The 72 runs every 12 minutes or so which is quite adequate for the demand.

It does appear to be policy in Melbourne not to comingle bus and tram routes. But the drivers of 72 trams are well used to dealing with buses as the 72 shares with bus routes 216 and 219 along Commercial Road / Malvern Rd from St Kilda Rd as far as Williams Rd, a distance of about 2.2km and right through the busy Prahran shopping district. There's also the 220 as far as Orrong Rd.

But let's be a bit more open minded and suggest that the 548 be extended all the way to Caulfield station. This would fix a gap in Melbourne's public transport grid as currently there's no service along Burke Rd south of Gardiner except for 'deviation' trips of the 624 bus service. Some would say that the answer is a tramline along here; others that the 72 could be truncated to Gardiner so it would no longer have the amazing dog leg in it. Burke Rd would then become the domain solely of the 548 bus which keeps things simple; the tram tracks could be tarred over or removed.

These are interesting thoughts but we now need to look at the official 'deviation' that the 548 is involved with at the other end of its route.

There are two routes from the Waiora Rd /



Kingsbury Drive intersection. The first, more southerly one, follows Kingsbury Drive and enters La Trobe University at Watervale Rd.

The other proceeds north along Waiora Rd into Springthorpe Boulevard to serve the western part of the suburb of Macleod. It then turns to the west to enter the University from the north. For the train buffs, its route gets very close to the now removed Mont Park freight-only steeply graded branch from Macleod.

This is the route marked as the 'deviation' one but based on the number of trips perhaps the other should be so named. The Macleod route is a little bit longer and serves a much larger residential area than the southern one.

This proceeds along Science Rd, thus providing direct access to much of the campus. Both routes terminate near Plenty Rd along which the Bundoora tram 86 runs.

The service pattern is that all Saturday services use the Macleod route (there are no Sunday ones), as do all a.m. southbound services, and all northbound services. It's not a peak hour thing; the change occurs around noon.

So there are three different service patterns here. First, the simple in/out via Macleod that runs on Saturdays and then two loops – the morning one clockwise and the afternoon one anti clockwise. Dwell time off peak at the Uni. terminus is again only two minutes.

There is logic here. The focus seems to be on getting the students to the University quickly – they only want to use the southern part of the loop as this services the Uni. much more directly.

Commuters in Macleod get a direct service to Ivanhoe station in the morning and back again in the afternoons. Is this the best way for them to get to the CBD? Some on the eastern side of the suburb would access bus 561 which serves Macleod railway station. One possibility is to ride the 548 to Kingsbury Drive and change to the 561.

A word about the students. Universities are typically major generators of public transport patronage, at least the old inner city ones are. La Trobe has about 25,000 students at its "Melbourne" campus so it's disappointing that the demand for the 548 service is so poor; reflected in having only four services pre 9.30 am on Mondays to Fridays. Maybe the fare zone change at Bell St is a factor. What a contrast with Sydney's 891 – see "The Times" May 2012!

Ventura
Route 548 Kew via Ivanhoe

Service operates from 22.04.2012 until further notice

Monday to Friday		Monday to Friday		Monday to Friday		Saturday		Public Holidays (1)									
am	pm	am	pm	am	pm	am	pm	am	pm								
Wheelchair Accessible Services																	
Service Information																	
Morning (am) / Afternoon (pm)																	
La Trobe Uni Terminus (Bundoora)	H6:13	H6:33	-	H6:54	H7:04	H7:14	-	H7:28	-	H7:48	-	H8:03	-	H8:42	H9:13	H9:43	
Cherry St/Waiora Rd (Macleod)	6:19	6:39	-	7:01	7:11	7:21	-	7:35	-	7:55	-	8:10	-	8:50	9:00	9:50	
Bell St/Ewin St (Heidelberg Heights)	6:28	6:48	-	7:11	7:21	7:31	-	7:47	-	8:07	-	8:22	-	9:02	9:30	10:00	
Ivanhoe Station/Norman St (Ivanhoe)	6:37	6:57	7:15	7:22	7:32	7:42	7:52	8:00	8:10	8:20	8:23	8:30	8:35	8:40	9:11	9:39	10:09
Carmichael St/Lower Heidelberg Rd (Ivanhoe East)	6:41	7:01	7:20	7:27	7:37	7:47	7:57	8:05	8:15	8:25	8:28	8:35	8:40	8:45	9:15	9:43	10:13
Kew High School/Burke Rd (Kew East)	6:47	7:07	7:27	7:34	7:44	7:54	8:04	8:12	8:22	8:32	8:35	8:42	8:47	8:52	9:21	9:49	10:19
Genazzano College/Cotham Rd (Kew)	6:53	7:13	7:35	7:42	7:52	8:02	8:12	8:20	8:30	8:40	8:43	8:50	8:55	9:00	9:28	9:56	10:26

Route 548 La Trobe University via Ivanhoe

Service operates from 22.04.2012 until further notice

Monday to Friday		Monday to Friday		Monday to Friday		Saturday		Public Holidays (1)									
am	pm	am	pm	am	pm	am	pm	am	pm								
Wheelchair Accessible Services																	
Service Information																	
Morning (am) / Afternoon (pm)																	
La Trobe Uni Terminus (Bundoora)	H10:13	H10:43	H11:13	H11:43	12:18	12:48	1:18	1:48	2:15	-	2:58	-	3:30	3:40	4:03	4:23	4:43
Cherry St/Waiora Rd (Macleod)	10:20	10:50	11:20	11:50													
Bell St/Ewin St (Heidelberg Heights)	10:30	11:00	11:30	12:00	12:30	1:00	1:30	2:03	2:30	-	3:13	-	3:45	3:55	4:18	4:38	4:58
Ivanhoe Station/Norman St (Ivanhoe)	10:39	11:09	11:39	12:09	12:39	1:09	1:39	2:13	2:40	3:08	3:23	3:37	3:55	4:05	4:28	4:48	5:08
Carmichael St/Lower Heidelberg Rd (Ivanhoe East)	10:43	11:13	11:43	12:13	12:43	1:13	1:43	2:17	2:44	3:12	3:27	3:41	3:59	4:09	4:32	4:52	5:12
Kew High School/Burke Rd (Kew East)	10:49	11:19	11:49	12:19	12:49	1:19	1:49	2:23	2:50	3:19	3:34	3:48	4:05	4:15	4:38	4:58	5:18
Genazzano College/Cotham Rd (Kew)	10:56	11:26	11:56	12:26	12:56	1:26	1:56	2:30	2:57	3:28	3:43	3:57	4:13	4:23	4:46	5:06	5:26

For more information visit ptv.vic.gov.au or call 1800 800 007 (6am - midnight daily)

(1) Saturday timetable operates Labour Day and Melbourne Cup Day only
 (2) Sunday timetable operates all public holidays
 All times are subject to alteration without notice.



Ivanhoe Bus Company-liveried bus #4 with Ventura stickers, passes Stradbroke Park while heading north along Burke Rd, Kew on a route 548 to La Trobe University.

Photo M. Walker

More Standardisation Nonsense?

ANDREW MCLEAN

Current plans to standardise and upgrade to 21 tonne axle load on the “Murray Basin” lines (Yelta, Sea Lake, and Manangatang, and possibly Murrayville as well) and the reopening of Maryborough - Ararat (to the same 21t axle load standard) are most welcome. What we must question though, is the proposal to dual gauge Gheringhap-Ballarat-Maryborough.

Like Newton, Victoria has “Three Laws” of standardisation:

- There is no overall plan. Standardisation proceeds in fits and starts, often without warning and definitely without forward planning. No-one knows what the gauge mess will look like in 10, 20 or 50 years time, except that it will be a mess.
- Any particular Standardisation scheme can only benefit one sector (e.g. Interstate freight, grain and mineral sands, long distance passenger, suburban passenger) and better still, will sabotage every one else, and
- Every scheme must make the next scheme more difficult and expensive.

Like previous schemes, the present proposal is not part of a grander, better scheme that benefits everyone, but rather a scheme that is designed to benefit grain and mineral sands, and nothing else.

Dual gauge in Victoria suffers from three main problems:

The difference in gauge is 1600 – 1435 = 165 mm. The base of normal 60 kg/m rail is 147 mm wide, so using 2x60 kg rails together would leave a gap of just 18 mm, insufficient for a practical clip. This means that the heaviest rail usable for dual gauge is only 50 kg/m;

The closeness of the rails makes dual gauge pointwork extremely expensive, maintenance-intensive, slow, and potentially unreliable, and;

Speeds for broad gauge trains on dual gauge are limited to 80 km/h for safety reasons, as a brake block (for example) might come to rest in the gap between the rails, potentially leading to a derailment. I am not sure that anyone actually believes this, and the cynical would suggest that this “concern” was invented to protect the broad gauge empire from encroaching standardisation, but it’s what we have to live with at the moment. Not so long ago, the fastest “safe” speed was only 65 km/h, and it will be fascinating to see if 80 km/h isn’t the limit either.

Dual gauging Ballarat – Maryborough is supposed to benefit passengers by allowing the (broad gauge) service to continue. So what effect does dual gauge actually have on the Maryborough service?

Table 1 shows the results of MACLINE (I’m “Mac”) simulations for a Vlocity travelling from Ballarat to Maryborough, with 60 second dwell times at Creswick, Clunes, and Talbot, and no silly speed restrictions over dual gauge pointwork. For the 80 km/h limit on dual gauge, I’ve assumed conservative curve limits equivalent to 150 mm equilibrium cant on standard gauge (167 mm EC on broad, and roughly equivalent to today’s limits), whereas the higher speeds assume 200 mm EC, better than now, but still lower than Class 1 track.

These times compare well with today’s times on broad gauge at (mostly) 100 km/h of 54 minutes on the down and 53 on the up, of which perhaps 4 minutes is recovery time. Crucially, dual gauging is likely to make Ballarat – Maryborough 10 minutes slower, whereas the same service running on upgraded standard gauge only might be 5 minutes faster.

This presents potential Maryborough travellers with a fascinating choice; is it better to get to Ballarat 15 minutes faster then have to change, or is a through train better? How do we balance the needs of commuters to Ballarat with through passengers to Melbourne? Or is there a third choice?

Gheringhap – Ballarat is also to be dual gauged, even though it has no passenger service. According to the “Final Business Case”,

“V/Line periodically uses this section of track for the movement of Vlocity trains and cars from Melbourne via Gheringhap to the Ballarat workshops for servicing, there is a dis-benefit associated with standardising this track. PTV considers that retention of broad gauge access is an essential component to ongoing maintenance requirements for V/Line. These train movements can be slow and there are limited options available to facilitate these movements directly via Sunshine – Ballarat. While these dis-benefits are still to be quantified, it is felt that standardising this section may also limit future passenger rail options between Geelong and Ballarat.

“The requirement to dual gauge the Gheringhap to Ballarat section is to meet PTV’s requirement to “future proof” this rail line for broad gauge passenger services.”

Buses between Ballarat and Geelong typically take 90 minutes (via Buninyong) or 95 minutes (via Lal Lal) with about 10 stops. A rail service would have fewer stops, but does dual gauge ruin the case for passenger rail?

The alternative to 72 km of an extra broad gauge rail north of Gheringhap (“future proofing”) is just 4 km of an extra standard gauge rail south of Nth Geelong (“limit future options”).

Table 2 shows the MACLINE predicted running times for a Vlocity starting at Nth Geelong, and running express to Ballarat. As this is an extremely well aligned route, there are no curve restrictions, even at 130 km/h. Any intermediate stops for a Vlocity cost 2 minutes each.

For those who might dream of a “local” Geelong – Ballarat service, a standard gauge Vlocity with 4 intermediate stops (Bell Post Hill, Bannockburn, Lethbridge and Meredith, each costing 2 minutes, plus

Table 1: Predicted times, Vlocity, Ballarat – Maryborough

Max Speed (km/h)	80	100	115	130
Ballarat to...				
Creswick	15:30	12:50	11:50	11:10
Clunes	30:30	25:50	23:40	22:20
Talbot	45:50	38:10	35:10	33:20
Maryborough	58:20	48:50	45:00	43:00

Table 2: Predicted times, Vlocity, Nth Geelong – Ballarat express

Max speed (km/	80	100	115	130	160
Nth Geelong to.....					
Ballarat	65m00s	52m20s	45m50s	41m00s	34m50s

4 to Geelong) would be perhaps 55 minutes, a huge gain, whereas a broad-on-dual service would be about 80 minutes, only just better than the bus. So much for “future proofing”!

Regardless of whether Gheringhap – Ballarat is dual or standard only, having a high quality standard gauge freight line available to Ballarat should surely raise an eyebrow or two in the interstate freight sector, as standardising Ballarat – Ararat would suddenly provide instant “double” track between Gheringhap and Ararat.

Gheringhap – Cressy – Ararat is about 184 km, and unchecked eastbound intermodal trains are typically timetabled for 128 minutes, an average speed of 86 km/h. Gheringhap – Ballarat – Ararat, although hillier, is 20 km shorter at 164 km, and straighter as well. What would happen if an eastbound freight were to go via Ballarat rather than Cressy?

Table 3 shows the MACLINE predicted times for an NR on 1000 t and 1500 t, at maximum speeds of 115 and 80 km/h.

Table 3: Predicted times, NR on freight, Ararat – Ballarat - Gheringhap

Trailing load (t)	1000	1500
Max speed 115 km/h...	101 min	116 minutes
80 km/h...	131 min	142 min

Table 4 the first 5 morning downs to Ballarat.

Southern Cross	0514	0613	0726	0817	0917
Ballarat	0641	0741	0913	0945	1045
Running time	87	88	107	88	88

Table 5 service back in the afternoon

Ballarat	1521	1552	1715 Bus	1802	1912
Southern Cross	1640	1713	1910	1927	2038
Running time	79	81	115	85	86

These times assume that freight can pass through Ballarat station at 50 km/h, requiring a minimum curve radius of about 200 m, a figure easily achieved on a well aligned centre track.

Firstly, we can see that it is quite likely that an eastbound freight would be faster via Ballarat, and the higher the power/mass ratio, the greater the benefit. (As the power/mass ratio increases, grades become less important, and curves and route length become more important.)

Secondly, running all eastbounds via Ballarat would eliminate all present Gheringhap-Ararat crossing delays in both directions. Currently, there are 35 mandatory westbounds per week, delayed a total of 251 minutes (7 minutes per train) and 36 eastbounds delayed a total of 607 minutes (17 minutes per train). Together with potential gains in running times, the use of a standardised Ballarat – Ararat line by interstate freight clearly offers a significant advantage.

Of course, standardising Ballarat - Ararat

would affect the present passenger service, as through Ararat–Ballarat–Bacchus Marsh –Melbourne services would no longer be possible. However, through services from Dimboola (and Maryborough, and potentially Mildura) would be possible via Ballarat and Nth Geelong. The question is – can a standard gauge Vlocity get from Melbourne to Ballarat quickly enough to be practicable?

We have one passenger train to use as an example, but unfortunately The Overland is run as slowly as possible in the hope that it will simply fade away. Although the 1802 Albury is timetabled to reach Tottenham at 1815 (10 km in 13 minutes, or 46 km/h) this is way too fast for a crack interstate train, and The Overland is given no less than 23 minutes for the same journey, at an astonishing 26 km/h!

Realistically, a Vlocity should be able to reach Newport (17 km via Tottenham) in say 20 minutes, and from then on, things are somewhat different.

Newport – Nth Shore is 56 km, and an average of 150 km/h here would take 22 minutes. Allowing 4 minutes around to “Nth Geelong C”, and 41 minutes on to Ballarat (from Table 2) gives a total express time of 87 minutes. Obviously a Nth Shore stop would be made, and if we allow 5 minutes recovery, it should be possible to timetable an unchecked standard gauge Vlocity to Ballarat in 95 minutes. Although this is nowhere near as fast as the best timing via Bacchus Marsh, it is in fact far better than the worst.

Table 4 shows the first 5 morning downs to Ballarat, **Table 5** shows the service back in the afternoon.

Running unchecked via Nth Geelong would beat the 0726 down and the 1715 up bus comfortably, and lose only about 10 minutes to the typical counter-peak train via “the straight”.

Table 6 shows the present Maryborough train service.

This service is designed to allow commuting into Ballarat, and this just happens to align with the “Flagship” train on the down, which is why this is so much faster than the up. Dual gauging to Maryborough will add 10 minutes to these times, and so an unchecked time of about 2:25 via Nth Geelong is certainly far from a disaster for Maryborough line travellers, as it is effectively equal to “today plus 10”, and in fact is likely to beat any additional Maryborough services should dual gauge happen.

Of course, Maryborough is only a side show to what might happen to Ballarat – Ararat – Dimboola, should Ballarat-Ararat be standardised, as the line to Dimboola is clearly a potential racetrack.

Read Up	Table 6	Read Down
0940	Southern Cross	1633
0821	Ballarat	1739
0805	"	1745
0712	Maryborough	1839
2:28	Running time	2:06

Table 7 shows the predicted times for a Ballarat – Dimboola Vlocity at 130 and 160 km/h, including dwell times of two minutes at Ararat, Stawell, and Horsham, one minute at Beaufort and Murtoa, and 5 minutes recovery into Dimboola.

These can be combined with a Melbourne – Ballarat time of 95 minutes to arrive, and 100 to depart, and then can be compared with today’s mix of train and bus, and the results are shown in Table 8:

Table 8: Possible times via Nth Geelong v Existing train and bus

Even at 130 k/h, a through Vlocity eventually catches the best bus, and is far better than the rest, and surprisingly perhaps Ararat itself is potentially no worse off. At 160 km/h, however, even via Tottenham and Nth Geelong, there is no contest. Now if only we had a high standard, standard gauge line from Ballarat to Melbourne.

Earlier on, we could see that eastbound freight could make significant gains running via Meredith rather than Cressy, so it must be obvious that if freight could only keep going via Ballan even bigger gains would be possible.

Unchecked eastbound intermodal freights from Ararat to Tottenham are given about 3:20 to 3:30, but just as importantly, the 26 eastbounds per week are delayed a total of 1206 minutes, or an average of 46 minutes per train. How does this compare with “the straight”?

If we go back to 1992, 9186 Express

Table 7: Predicted Vlocity times Ballarat – Dimboola

Max Speed (km/h)	130	160
Ballarat to.....		
Beaufort	25	22
Ararat	52	43
Stawell	70	57
Murtoa	99	81
Horsham	115	94
Dimboola	139	110

Goods was allowed only 80 km/h Ararat -Beaufort and 90 km/h to Sunshine, and it had to slow for hand staff exchanges at Buangor, Trawalla and Linton Junction. It then crawled through Ballarat station at 15 km/h when a run at Warrenheip bank would have been smarter, and went round what is now the “Bungaree back track” and had to slow down through Bacchus Marsh. Despite all this, 9186 was timetabled Ararat-Tottenham in 3:22, just as good as today’s best. So the vital question here is what happens if all these restrictions go, the line limit is raised to 115 km/h, and we replace 1992’s best loco (a G) with an NR, 30% more powerful.

Table 9 shows the predicted times for an NR on 1000 t and 1500 t at 115 km/h and 80 km/h from Ararat to Tottenham via Ballan, with a new alignment from the horseshoe curve to the up end of Parwan Loop, an absolute “no-brainer” for freight and express passenger traffic, as it shortens the route by about 4 km, reduces curvature and climbing, and avoids Bacchus Marsh station.

Firstly we note that the running time for freight at 115 km/h via Ballan might be

over an hour faster. Secondly, if we had built the new line “parallel” to the Ballarat line instead of the Geelong line in 1995, it would now surely be double track standard gauge east of Linton Junction. Crossing delays for eastbound freight between Ararat and Linton Junction (89 km, just over an hour apart) might be perhaps a third (say 15 minutes) of the delays suffered between Ararat-Cressy-Tottenham, over three hours apart. This gives the astonishing result that building the standard gauge line via Cressy instead of via Ballan to allegedly benefit freight is

Table 9: Predicted times, NR on freight, Ararat – Ballan – Tottenham (min)

Trailing load (t)	1000	1500
Max speed	129	140
... 80 km/h	158	171

Table 8: Possible times via Nth Geelong vs Existing train and bus

SC dep	130V	160V	805	817	917	1217	1826
Change to bus at	O’land	Ara	Ball	Ara	Ara		
Ararat	2:32	2:23	3:34	2:27	2:59	2:27	2:08
Stawell	2:50	2:37	3:59	3:03	3:24	2:58	2:39
Horsham	3:35	3:14	4:50	3:53	4:12	3:46	3:27
Dimboola	3:59	3:30	5:13	4:23	5:33	3:57	

costing east-bounds an average of no less than 90 minutes per train!

Let's imagine the benefits from a second, standard gauge track from Warrenheip to Sunshine: Freight from Adelaide - well over an hour faster. Passengers to Dimboola - well over an hour faster. Freight from Mildura to Melbourne - probably an hour faster as well. Passengers from Ballarat - 20 or 30 minutes faster mostly, but if it's four or five in the afternoon, it might also be an hour faster.

These advantages are so enormous that we must try to answer two vital questions:

Why on earth did we build a third track to Geelong instead of a second track to Ballarat? And;

How can we repair this disaster?

The answer to the first question is simple: the gauge muddle allows, in fact seems to require, massive investment in the wrong

places because we are not allowed to build a railway that benefits everybody. If a magic wand had miraculously standardised all of Victoria in 1960 say, we wouldn't have three or four tracks to Seymour, and three to Nth Geelong, while still having just one to Ballarat!

And today, our decision makers are no smarter, and say we must spend money making Geelong - Maryborough slower (to "protect" almost non-existent services) instead of making Sunshine - Ballarat faster and better.

The answer to the second question is then clear - the only way to stop making idiotic decisions due to the gauge mess is to get rid of the mess, and for Western Victoria, this means a standard gauge line between Sunshine and Ballarat, and conversion, not dual gauge, beyond. And here, timetabling intrigue is guaranteed!

One possibility would be to build a separate standard gauge line, just as we did to Albury, and later, Nth Geelong. Both of these lines, of course, were designed to prevent further standardisation. Another possibility then is to build a proper dual gauge line, and by proper, I mean four rail, which overcomes most of the problems of three rail dual gauge, at not much greater expense. This would result in a single track standard on top of a double track broad, something Spain is already doing, although the other way around. We would then let nature take its course, as it finally did from Seymour to Albury.

Ultimately, this doesn't cost any more than the current proposal (dual gauge the future Sunshine - Ballarat second track instead of the present Gheringhap - Maryborough line) but the outcomes are vastly different!

Back to the Past on the route 389

The article on the PM's Favourite Bus has evoked further information from
ROSS WILSON, RICHARD PECK and ROBERT HENDERSON

Ross Willson:

From 19 September 1948 buses on Route 322 (Bondi-Vaucluse) were diverted to Manning Road via Point Piper. Identified as Route 324, they traversed Dover Road, New South Head Road, Wunulla Road, Wyuna Road, Wolseley Road, New South Head Road and Manning Road. The section from Dover Road to Vaucluse was served by Route 325, Martin Place-Watsons Bay.

From 1 May 1949, at least on Saturday nights, Sundays and Holidays, this diversion ceased. On arrival from Bondi Beach at Rose Bay, buses were to proceed to Vaucluse via the 325. Buses from Bondi Beach to Vaucluse were to show Route 325.

Richard Peck:

Of all the private motor bus routes approved during these years, the service to Bondi is probably the most unusual in that multiple operators were licensed and had integrated timetables.

The first private motor bus route from Central Railway to Bondi Beach is listed on page 10 of the GG 8.7.1921. It took 30 minutes to run from Eddy Ave via Elizabeth St, Liverpool, Oxford St and Old South Head Roads then O'Brien, Hall and Roscoe Streets to Bondi Beach. This route had been approved on 20.4.20 when Mrs Barbara Bottle was approved. She later had interests in other routes and

apparently became involved with the Leyland General Omnibus Co (MTA members 1923-24) whose manager was Fred Lane (MTA member 1926-28). Correspondence with Waverley Council in 1924 indicates a possible sale of her interest to them. From the MTA lists they ran 4 buses to Bondi in 1923.

Woollahra Council on 2.5.22 noted that CL (or CA?) Foster (Pacific Bus Co) had the right of road on this route, meaning that he was the original operator or took over those rights. The MTA list of March 1923 shows his buses as 77, 242 and 159 but he does not appear on their September list. S Beer of Haberfield is noted in the MTA list from 1923-1926 running buses 77, 159 & 242 from North Bondi.

A Mr J Theodorakis (Bondi Omnibus Service) had one bus on this route. Hamers Ltd are noted by Vic Hayes as running 3 buses in 1923 but they were gone by 1925. North Bondi Motor Bus Co (L Donald, manager) were registered on 5.10.23 and Vic Hayes notes their running one bus from 1923-25 from North Bondi-Central. A C Bridges is noted by Vic Hayes as having 1 bus in June 1925 on the North Bondi run.

By the GG 7.3.24 the route to Bondi was listed on pages 25 and 26 (taking 37/38 minutes) Eddy Ave, Elizabeth St, Liverpool St, Oxford St, Old South Head Rd then O'Brien St, Hall St, Campbell

Pde to Ramsgate Ave North Bondi (p.25) or Old South Head Rd, Campbell Pde and Ramsgate Ave (p.26). Curiously this latter was listed as "via Hall St" in its title. When numbered the routes were 136/160 with every second bus via 137/161 and the Central Railway terminus altered to Pitt St because of construction of the city underground Railway. Buses ran Eddy Ave, Pitt, Barlow, and Hay Sts back to Pitt St. From December 1925 this became Eddy Ave again.

The Doran Report listed Bondi buses as at 15 June 1925 as: AH Bernier 1 bus North Bondi - Central Railway, Hamers Ltd 4 buses NB-CR, C Bridges 1 bus NB-CR, H Connell 2 buses Murrivier Rd-CR, L Donald 1 bus NB-Bondi Beach-CR, Pope & Sons 3 buses NB-CR, Standard Motor Co 2 buses NB-CR, OH Sues 1 bus NB-CR, H Lane 2 buses NB-CR, RE Cooper 2 buses NB-CR via O'Sullivan Rd, SH Jackson 2 buses NB-Annandale.

A combined timetable of private buses from North Bondi-Central Railway on routes 136/160 & 137/161 dated Sep.1925 was published by Grace Bros and the Motor Bus Advertising Co, 16 O'Connell St Sydney, shows all routes current in Sydney at that time. Only the North Bondi routes were shared and the proprietors are shown and coded thus: a-Hamers Ltd (J.Hamer), b- Standard

Depart North Bondi

6.18dN 19cN 25dN 39aN 46cN 53bN
7.0eN 7f N 14fN 21aN 28fN 35bN 42d 43cN 49d 56a
8.3a 10c 17b 24e 31f 38f 45a 52f 59b
9.6d 7c 13d 20a 27a 34c 41b 48e 55f
10.2f 9a 16f 23b 30d 31c 37d 44a 51a 58c
11.5b 10f 12e 19f 26f 33a 40f 47b 54d
12.22d 29a 30cSS 36a 43c 50b 57e
13.4f 11f 18a 25f 32b 39d 46d 56a
14.0a 7c 14b 21e 28f 35f 42a 49f 56b
15.3d 10d 17a 24a 31c 38b 45e 52f 59f
16.6a 13f 20b 27d 34d 41a 48a 55c
17.2b 9e 16f 23f 30a 37f 44b 51d 58d
18.5a 12a 26b 33e 40f 47f 54a
19.1f 8b 15d 22d 29a 36a 43c 50b 57e
20.4f 11f 18a 25f 32b 39d 46d 53a
21.0a 7c 14b 21e 28f 35f 42a 49f 56b
22.3d 10d 17a 24a 31c 38b 45e 52f 59f
23.6a 13f 20b 27d 34d 41a

Motor & Engineering Works (A Brett), c - OH Suess, d- Henry Lane, e- Alfred H Barnier, f- WW Pope & Sons (SA Pope).

N indicates does not operate on Sundays, the timetable otherwise being for the whole week. A=additional, SS= Sat & Sunday additional. A similar return timetable could be constructed. Note the gap at lunchtime. Timetable from 1925 show this was a 7 minute service which became 6 minutes by 1929.

There was friction between Waverley Council and the Traffic Section of the Police Department in July 1924 when the Austral Motor Conveyance Co (Pope & Mason) were given permission to alter their original Rose Bay North route to Edgecliff and Old South Head Rds effectively on the North Bondi route without council having been given the right to comment. They tried again on 12.2.25 and 22.12.25. They had 7 buses running to South Head Cemetery in 1930.

At some point the Metropolitan Omnibus Transport Co (MOTC) owned by F Stewart was operating on route 161 as part of its route structure. They had apparently taken over the licence of Norman Teague. In July 1930 they applied to amalgamate their O'Sullivan and Old South Head Rd routes.

The Murriverie Rd route (132/155) ran from Eddy Ave, Elizabeth St, Liverpool St, Oxford St, Queen St, Edgecliff Rd, Old South Head Rd, Victoria Rd, Birriga Rd, Old South Head Rd, Murriverie Rd to North Bondi (37 mins). Timetables of 1925 show this as roughly a half hour service. This had become 20 mins by 1929. It was numbered 132 then 155.

This had apparently been started by Mrs Livi and Mr Bell (see below, route 162), then by the Leyland General Omnibus Co and in 1925 operated by H Connell, MOTC, JH Vigour and Mrs Tolhurst. It became a feeder route from 31.10.31.

North Bondi-South Annandale (158)

This imaginative cross city route ran from Johnstone St Annandale, Parramatta Rd, City Rd, Cleveland St, Bourke St, Oxford St, Queen St, Edgecliff Rd, Old South Head Rd, Victoria Rd, Birriga Rd, Curlew St, Campbell Pde, to Ramsgate Ave. in 52/51 minutes.

SH Jackson (MTA member 1925-26) proposed this in 1924 but it was initially rejected by Annandale council because of other bus traffic in the area with suggestions that existing operators be encouraged to run through to Bondi. When operating from 1925 it was known as route 158 but had ceased by the Government Gazette of 1926.

After being rejected by Waverley Council along Curlew St (16.10.23), L Donald, manager of North Bondi Motor Bus Co then applied to run North Bondi-Newtown via Ramsgate Ave, Campbell Pde, Curlew St, Edgecliff and Queen Sts and Redfern (16.9.24). Note that the proprietors were Donald, H Connell and VW McLean of Bondi.

The O'Sullivan Rd route (159) ran from Eddy Ave, this ran via Elizabeth, Liverpool, Oxford Sts, Victoria Rd, Bayswater St, New South Head Rd, O'Sullivan Rd, O'Brien St, Hall St, Campbell Pde (Bondi Beach stand) to Ramsgate Ave. (41 mins). Timetables from 1929 show this as a 45 min service and therefore 2 buses would be needed to maintain the service.

R Cooper (Cooper Bros) was operating a service to Bondi Beach as early as 18.7.22 with bus 241 but by 5.8.24 this was diverted via O'Sullivan Rd with 2 buses, having purchased one from O Suess, this being 475. Waverley on 1.8.24 approved the route to Old South Head Rd & Curlew St and on 16.12.24 it was to be extended weekends (but approved all) days to Nth Bondi. Cooper as listed as sole proprietor in the 1925 timetable.



K Clatworthy was given permission by Waverley Council on 9.1.25 and Woollahra Council on 9.2.25 provided he commence within two months. Comfort Coach Co were operators by July 1930 when they applied to amalgamate their Old South Head Rd and O'Sullivan Rd routes.

The Curlew St route (6/162) ran from Eddy Ave, this ran via Elizabeth, Liverpool, Queen Sts, Edgecliff Rd, Oxford St, Old South Head Rd, Victoria Rd, Birriga Rd, Curlew St, Campbell Pde (Bondi Beach stand) to Ramsgate Ave. (38/37 minutes). It was originally designated route 6 and changed permanently to 162. Only one bus was necessary to maintain service as it left Central at 7.6am, 8.44am, 10.8am, 11.32am, 12.56pm, 2.41pm, 4.5pm, 5.29pm, 6.53pm, 8.17pm, 9.41pm and 11.5pm in the 1925 timetable on all days (including holidays).

EW Bell (also Mrs Livi & Bell) were given permission by Woollahra Council to operate 2 buses to Bondi on 9.4.23. He had the following buses on several routes and is believed to have franchised drivers: 181 248 301 321 357, 9.23 181 248 357 His residence was shown as Palm Beach. The 1925 timetable shows the proprietor as Leonard Donald of North Bondi who has been mentioned earlier.

Ivan (John) Repin was an immigrant from Russia who arrived in Sydney in 1925. He drove buses for Bell before commencing his own run with 1 bus. Waverley Council on 16.11.26 approved his plying & to extend from Military Rd via Ramsgate, Campbell, Curlew St, Birriga, Victoria, Old South Head, Edgecliff Rds to Military Rd /Hastings Pde, Military Rd, Campbell Pde, Hall St, Sophia St, then Curlew St as before. He opened a coffee shop business in 1930. He apparently became a silent partner in the Bondi Motor Service (John Soboleff, Peter Waclaw FD, Artemy T Curlew St, Anthony Gordon Gorsky FD, Peter Repin FD, Michael Teseikin, Nestas Kochkodamoff. Also as

Route 87

EDGECLIFFE POST OFFICE TO CENTRAL RAILWAY STATION.

Time of Journey—22 minutes.

Leave Edgecliffe—Mon. to Fri.: A.M., 6.51, 7.9, 7.27, 7.45, 8.3, 8.21, 8.39, 8.57, 9.25, 10.0, 10.30, 11.0, 11.30, 12.0; P.M., 1.0, 1.30, 2.0, 2.30, 3.0, 3.19, 3.36, 3.54, 4.12, 4.30, 4.48, 5.6, 5.24, 5.42, 6.0, 6.18, 6.36, 6.54, 7.12, 7.30; Fri. add.: P.M., 7.48, 8.6, 8.24, 8.42, 9.0, 9.18, 9.36, 9.54, 10.12; Sat.: A.M., 6.51, 7.9, 7.27, 7.45, 8.3, 8.21, 8.39, 8.57, 9.15, 9.33, 9.51, 10.9, 10.27, 10.45, 11.3, 11.21, 11.39, 11.57; P.M., 12.15, 12.33, 12.51, 1.9, 2.0, 3.0, 4.0, 4.55, 5.45, 6.35, 7.25; Hol.: A.M., 9.25, 10.30, 11.30; P.M., 1.0, 2.0, 3.0, 4.0, 4.55, 5.45, 6.35, 7.25.

Leave Central Railway—Mon. to Fri.: A.M., 6.42, 7.0, 7.18, 7.36, 7.54, 8.12, 8.30, 8.48, 9.6, 9.27, 9.57, 10.27, 10.57, 11.27, 11.57; P.M., 12.27, 1.27, 1.57, 2.27, 2.57, 3.27, 3.45, 4.3, 4.21, 4.39, 4.57, 5.15, 5.33, 5.51, 6.5, 6.27, 6.45, 7.3; Fri. add.: P.M., 7.21, 7.39, 7.57, 8.15, 8.33, 8.51, 9.5, 9.27, 9.45, 10.3; Sat.: A.M., 6.42, 7.0, 7.18, 7.36, 7.54, 8.12, 8.30, 8.48, 9.6, 9.24, 9.42, 10.0, 10.18, 10.36, 10.54, 11.12, 11.30, 11.48; P.M., 12.6, 12.24, 12.42, 1.0, 1.18, 2.27, 3.27, 4.27, 5.20, 6.10, 7.0; Hol.: A.M., 9.0, 9.15, 11.0, 12.0; P.M., 1.27, 2.27, 3.27, 4.27, 5.20, 6.10, 7.0.

Route 155

MURRIVERIE ROAD TO CENTRAL RAILWAY.

Time of Journey—37 minutes.

Leave Murriverie Rd.—Mon. to Sat.: A.M. 7.0, 7.27, 7.54, 8.21, 8.48, 9.15, 9.42, 10.9, 10.36, 11.3, 11.30, 11.57, P.M. 12.24, 1.24, 1.51, 2.18, 2.45, 3.12, 3.39, 4.6, 4.33, 5.0, 5.27, 5.54, 6.25, 6.52, 7.19, 7.46, 8.22, 9.7, 9.43, 10.28, 11.4. Leave Grosvenor St. only—A.M. 6.22, 6.49. Fri. & Sat. add.: P.M. 8.40, 10.1. Sat. add.: P.M. 11.22, 11.49. Sun. & Hol.: A.M. 8.21, 8.57, 9.42, 10.18, 11.3, 11.39, P.M. 12.24, 1.33, 2.18, 2.54, 3.39, 4.15, 5.0, 5.36, 6.52, 7.28, 8.13, 8.49, 9.34, 10.10, 10.55.

Leave Railway—Mon. to Sat.: A.M. 6.46, 7.13, 7.40, 8.7, 8.34, 9.1, 9.28, 9.55, 10.22, 10.49, 11.16, 11.43, P.M. 12.10, 12.37, 1.4, 2.4, 2.31, 2.58, 3.25, 3.52, 4.19, 4.46, 5.13, 5.40, 6.7, 6.34, 7.5, 7.32, 7.59, 8.26, 9.2, 9.47, 10.23, 11.8, 11.44. Fri. & Sat. add.: P.M. 9.20, 10.41. Sat. add.: A.M. 12.2, 12.29. Sun. & Hol.: A.M. 9.1, 9.37, 10.22, 10.58, 11.43, P.M. 12.19, 1.4, 2.13, 2.58, 3.34, 4.19, 4.55, 5.40, 6.16, 7.32, 8.8, 8.53, 9.29, 10.14, 10.50, 11.35.

Route 158

NORTH BONDI AND BONDI BEACH TO SOUTH ANNANDALE. (VIA CLEVELAND STREET).

Leave North Bondi—Mon. to Sat., Sun. & Hol.: A.M. 6.50, 8.14, 8.42, 10.6, 10.42, 12.0, P.M. 1.1, 2.10, 3.0, 4.10, 4.52, 6.16, 6.58, 8.23, 8.57, 10.21, 10.56. Arrive Grace Bros.—A.M. 7.33, 8.57, 9.25, 10.49, 11.25, P.M. 12.43, 1.44, 2.53, 3.43, 4.53, 5.35, 6.59, 7.41, 9.6, 9.40, 11.4, 11.39. Leave Johnstone St.—Mon. to Sat., Sun. & Hol.: A.M. 7.47, 9.12, 9.48, 11.5, 11.45, P.M. 1.2, 2.0, 3.17, 3.58, 5.17, 5.50, 7.20, 7.55, 9.21, 10.1. Leave Grace Bros.—A.M. 7.56, 9.21, 9.57, 11.14, 11.54, P.M. 1.11, 2.9, 3.26, 4.7, 5.26, 5.59, 7.29, 8.4, 9.30, 10.10.

Route 162

NORTH BONDI AND BONDI BEACH TO CENTRAL RAILWAY (Via Curlew Street).

Proprietor—Leonard Donald, 9 Owen Street, North Bondi.

Time of Journey—38 minutes, North Bondi to Railway.

Leave North Bondi—Mon. to Sat., Sun. & Hol.: A.M., 6.21, 7.59, 9.23, 10.47; P.M., 12.11, 1.56, 3.20, 4.44, 6.8, 7.32, 8.56, 10.20.

Leave Railway—Mon. to Sat., Sun. & Hol.: A.M., 7.6, 8.44, 10.8, 11.32; P.M., 12.56, 2.41, 4.5, 5.29, 6.53, 8.17, 9.41, 11.5.

Route 203

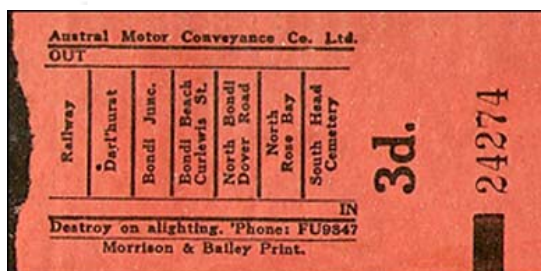
ROSE BAY NORTH TO CENTRAL RAILWAY (VIA EDGECLIFFE ROAD).

Time of Journey—44 minutes.

Leave Rose Bay North—Mon. to Sat.: A.M. 5.58, 6.49, 7.7, 7.34, 8.1, 8.28, 8.46, 9.13, 9.40, 10.7, 10.25, 10.52, 11.19, 11.46, P.M. 12.4, 12.31, 12.58, 1.39, 1.57, 2.24, 2.51, 3.18, 3.36, 4.3, 4.30, 4.57, 5.15, 5.42, 6.9, 6.49, 7.7, 7.34, 8.1, 8.28, 8.46, 9.13, 9.40, 10.7, 10.25, 10.52, 11.19, 11.46. Hol.: A.M. 8.1, then same as week days. Sun.: P.M. 12.4, then same as week days.

Leave Railway—Mon. to Sat.: A.M. 6.15, 6.42, 7.9, 7.36, 7.54, 8.21, 8.48, 9.15, 9.33, 10.0, 10.27, 10.54, 11.12, 11.39, P.M. 12.6, 12.33, 12.51, 1.18, 1.45, 2.26, 2.44, 3.11, 3.38, 4.5, 4.23, 4.50, 5.17, 5.44, 6.2, 6.29, 6.56, 7.36, 7.54, 8.21, 8.48, 9.15, 9.33, 10.0, 10.27, 10.54, 11.12, 11.39, 12.6, 12.33. Hol.: A.M. 8.48, then same as week days. Sun.: P.M. 12.51, then same as week days.

Leave Curlew St.—Mon. to Sat.: A.M. 6.8, 6.35.



FD John Repin & Artemy I Tirbak). Their depot was located in Campbell Pde. 5 buses are known in 1930.

Robert Henderson:

In the November issue of The Times, Geoff Lambert listed the long history of transport to where Malcolm Turnbull once lived and the many modes of travel that have provided transportation for Malcolm and his forebears. But, yet there is at least one more transport type involved in the story. And that is the humble world of the private bus.

In the 1920s private buses ran rampant throughout the Sydney metropolitan area until Premier Jack Lang in 1931 banned them when they even appeared to compete with any form of Government-run transport. As there was a closely-knit network of Government tram lines in the eastern suburbs, it wasn't hard for Jack Lang to find private buses that competed with the trams. And some of those buses were running in the very same area where Malcom has lived in Woollahra. But all these buses ground to a halt on 31 October 1931.

Route 87 ran between Edgecliffe (which has since lost that final 'e') and Central Railway via Ocean Street, Jersey Road, Paddington Street, Elizabeth Street and then along Oxford Street on its way to the Railway.

Then there was a group of routes coming from places like the South Head Signal Station, Rose Bay North and North Bondi also bound for Central Railway or, in one case, South Annandale. These routes all ran via Edgecliffe Road, Queen Street and then along Oxford Street. They were:

- Route 155, Murriverie Road, Bondi to Central Railway
- Route 158, North Bondi to South Annandale
- Route 162, North Bondi to Central Railway
- Route 203, Rose Bay North to Central Railway
- Route 209, South Head Signal Station to Central Railway

Timetables for bus routes that were running in Sydney in September 1925 were listed in a publication called the Complete Time Table of Metropolitan Motor Bus Services, compiled "from then Official Records of the Traffic Department", and published by the Motor Bus Advertising Co of 16 O'Connell Street, Sydney.

Extracted from that publication and shown at left are timetables for each of these Woollahra-based private bus routes (except 209, which is inexplicably missing).