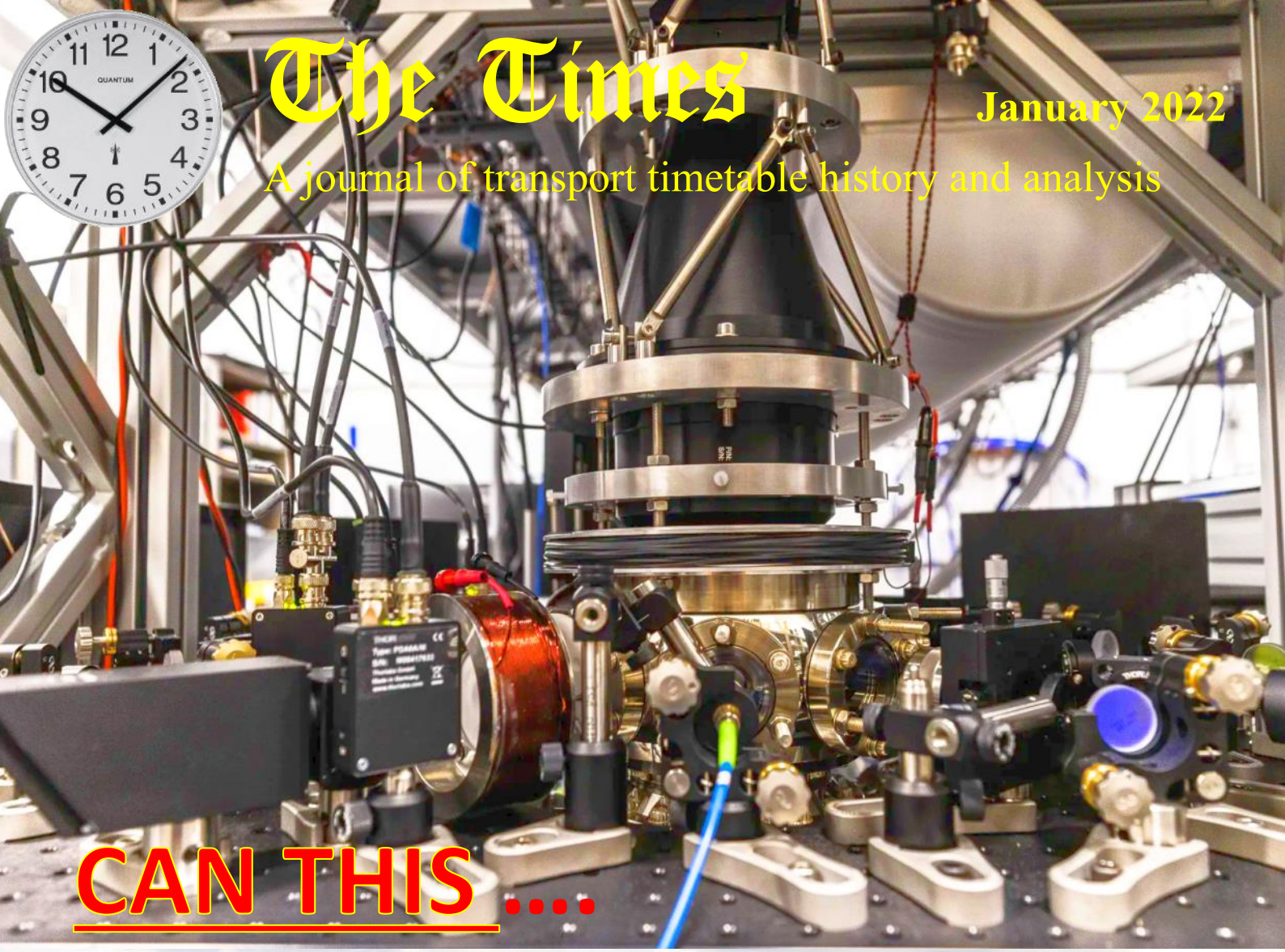

The Times

January 2022

A journal of transport timetable history and analysis

CAN THIS ....

... RUN THIS?

Inside: Timetables—hard to understand, harder to make
Can quantum computing do it?
The isolated line to Hawker
Looking at Moore's Guide

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The Times

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People who understand timetables don't understand people who don't understand timetables

MARCEL JACKSON *says "Timetables – are hard to read, even harder to build"*

WHEN YOU LOOK AT A train or university timetable you don't think about how the timetable was made – you're thinking about your trip or where your next class is.

In that moment, you couldn't care less about all the juggling and compromising that needs to happen to get a timetable working.

Not surprisingly, though, this is a difficult process dating back many years and one that perplexes mathematicians even today.

To understand the difficulty associated with creating timetables – those timetables we all rely so heavily on – we need to understand the nature of difficulty itself. In particular, we need to understand how it applies in a mathematical context.

Seriously, how hard can it be?

Not surprisingly, some tasks in mathematics are harder than others – but even this perception is complicated. Many important computational tasks are hard, or at least appear to be hard.

Knowing precisely what "hard" and "easy" mean has itself turned out to be extremely challenging. To really know a computational task is hard, we have to really know that there isn't some nice efficient method waiting to be discovered that would render the task straightforward.

Our old friend timetabling is a classic example of a problem for which the precise difficulty is unknown.

I don't get it, and my train's leaving

Consider a university timetable: a computer can easily check that such a timetable has no clashes but a clash-free timetable cannot (in general) be guaranteed. Because of this, finding a timetable with the minimum number of clashes is a genuine mathematical challenge.

Commercial timetabling applications can't in general do any better than attempt to approximate the minimum number of clashes.

As yet, no-one has proved that timetabling cannot be solved efficiently. In fact, the ability to solve timetabling efficiently hinges on one of the foremost unsolved problems in mathematics: the so-called "P vs NP" problem.

A Millennium Problem

Roughly speaking, the "P vs NP" problem asks whether:

1) finding correct solutions to a problem (e.g. constructing a clash-free timetable) is genuinely a harder task than …

2) … simply checking a given correct solution (e.g. checking to see if a completed timetable is clash-free).

Intuitively, you would believe finding a solution should be harder than checking a solution.

Think of your favourite Sudoku puzzle: checking that your solution is correct is easy – each square, column and row can only contain each number from one to nine once. But finding the solution – completing the puzzle – is hard graft.

But it's not quite as simple as that.

In 2000, the Clay Institute chose "P vs NP" as one of seven Millennium Prize problems, with a $1 million prize for the person who solves it.

Constraint satisfaction

Algebraic and logical methods have proved particularly useful in understanding what determines the difficulty of a problem.

Among the computational problems in the NP class – i.e. problems that can't "easily" be solved by a computer – Constraint Satisfaction Problems (or CSPs, as they are affectionately known) have received particular attention.

Any problem that involves giving values to a large collection of objects that obey some constraints is a CSP – and timetabling is one such problem.

In a school or university setting, we assign exam slots to particular subjects, obeying the constraint that subjects with common enrolment are scheduled at different times.

Map coloring is a CSP closely related to timetabling. In the image below, we gave each state and territory one of three colours – red, green or blue – with the constraint that neighbouring states and territories must have different colours.

Map coloring is typical of "hard" problems in the class NP: given a successfully three-coloured map it is easy to verify that it obeys the neighbouring region constraint (so checking is easy). But in general there is no known efficient algorithm for deciding if a map can be a successfully three-coloured.

With every CSP one may associate an algebraic structure, but be warned: even by the imaginative standards of modern algebra, these structures are unusual beasts.

Numbers of the beast

In the familiar high school "algebra of numbers", operations such as addition and multiplication are used to combine

numbers to produce new ones. So, combining 1 and 2 using + gives 3.

For a CSP such as timetabling though, the role of numbers is taken by the available timetable slots, and the operations used to combine these are even more bizarre. (How bizarre are these operations? Well, they are "technical generalizations of symmetries", known as "polymorphisms". You did ask!)

Despite their unusual character, these weird algebraic oddities are known to precisely determine the difficulty of a CSP.

A problem such as timetabling turns out to have very few polymorphisms: a classic hallmark of a difficult problem.

Many mathematicians and theoretical computer scientists around the world are working hard to prove it is precisely this absence of interesting properties that causes computational difficulty.

Will anyone ever solve this mighty head-scratcher? The chance of winning a Millennium Prize – not to mention $1 million – is definitely a motivating factor.

Comment on this article – Letter to the Editor

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WHICH BRINGS US TO OUR 2ND STORY...

Quantum computers to run Sydney transport network??

TOM RABE *of the SMH*

CUTTING-EDGE QUANTUM computing will one day run Sydney's vast transport network under a world-first plan to use the technology that experts say can solve complex problems in seconds, rather than centuries.

The NSW government is set to brief the technology industry in coming weeks about a plan to establish a quantum technology hub near Central Station to run the city's transport network, with contracts set to be awarded in 2022.

The technology would allow instant re-timetabling and re-routing of services to reduce waiting times.

NSW Transport Minister Rob Stokes said the government investment in quantum technology was needed more than ever after the pandemic, with the network likely to grow back unpredictably over the coming decade.

"The recovery from the pandemic makes it even more important because it's harder to predict," Mr Stokes said.

"Quantum computing can actually help us to deploy resources far more accurately, and we genuinely don't know what the long-term impacts of the pandemic are going to be on travel patterns and on travel preferences."

The government will build a Centre of Quantum Technology in Sydney's Tech Central, helmed by an advisory panel which includes 2018 Australian of the Year and University of NSW Professor Michelle Simmons.

Professor Simmons said quantum technology would likely transform how the intricate NSW transport system is run over coming years.

"It's a very powerful, transformational technology. It allows us to solve problems in real time that would otherwise take thousands of years," Professor Simmons said.

"Anyone who travels, whether it's by car, train, plane, you always want to minimise your time waiting around. You want things to be efficient. Some of the problems are so complex that classical computers can't solve them in a timeframe that's real for them."

Sydney University Professor and Q-CTRL founder Michael Biercuk said that quantum technology used pulses of microwaves and laser beams to manipulate atoms in a way to solve problems.

"We have the ability to put information into individual atoms, or individual circuits of special materials called superconductors, and when we do that we have a way to represent all the different ways that parts of the transport network are connected together," he said.

Mr Stokes said the technology would be able to reduce delays across the public transport network.

"While this might sound like the stuff of science fiction, Transport for NSW

is making quantum computing a reality. It has the potential to solve problems on the network in real time by instantly recalculating timetables and routes," Mr Stokes said.

Deputy Premier and Minister for Regional Transport and Roads Paul Toole said quantum computing could also calculate information during a bushfire or flood by mapping out the safest route on the road network or to the closest evacuation centre.

"The faster you get information in an emergency, the better your chances of protecting life and property are, so this will be a game changer when it's rolled out to the regions," Mr Toole said.

The government is seeking expressions of interest from global tech companies, as well as academics and researchers for trials across the transport network.

—

The Editor's cynical comment on all this is that the University has been trawling for funds for the Quantum Computer everywhere it can. And the cats? See "Schrodinger's Cat" at https://en.wikipedia.org/wiki/Schr%C3%B6dinger%27s_cat

The Isolated Narrow Gauge Railway from Port Augusta to Hawker

DAVID HENNELL

THE HISTORY OF THE SAR/CR narrow gauge Great Northern Railway/Central Australia Railway from Port Augusta, through the fascinating Pichi Richi Pass and Quorn to Marree, Oodnadatta and Alice Springs is both complex and very interesting. This article looks at a very small part of that history and its relevant train services.

A few important dates:-

- the narrow gauge line from Port Augusta to Quorn was opened on 15th December 1879 by the South Australian Railways (SAR)
- Quorn to Hawker opened on 28th June 1880 by the SAR
- Port Augusta to Oodnadatta was transferred from the SAR to Commonwealth government ownership on 1st January 1911 but operated by SAR until 31st December 1925 – the Commonwealth didn't have a railway organisation until 1917
- the operation of the Port Augusta to Oodnadatta line (including Quorn station) was transferred from the SAR to Commonwealth Railways on 1st January 1926
- the last southbound CR Ghan ran through Quorn on Saturday 11th August 1956
- the last northbound CR Ghan ran through Quorn on Monday 13th August 1956
- some residual traffic ran beyond Hawker for a few more weeks
- all traffic operated on the standard gauge line north from Stirling North from 4th October 1956 and shortly after the service on the narrow gauge line north of Hawker was suspended
- the last northbound train beyond Hawker ran on 6th October 1956 (not 4th October as is usually stated) [See the footnote at the end of the article.]
- the narrow gauge deviation across the bed of Hookina Creek was washed away 16th October 1956 and not restored
- Hawker to Beltana was officially closed on 7th March 1957

Other relevant dates appear in the appropriate place in the body of the text.

The behaviour of the creeks that rise in South Australia's Flinders Ranges could politely be described as unpredictable. After months or even years without flowing, rainfall elsewhere in the ranges can turn them into raging torrents with incredible destructive power and does so totally without warning. Hookina Creek immediately south of Hookina, the first station north of Hawker, was notorious for this. The long 840 ft, 256 m (740 ft, 226 m in some references) impressive substantial iron bridge over the creek was destroyed by floodwaters on 14th February 1955 and a deviation across the dry creek bed was opened on 28th February 1955. An emergency service was provided on the partially completed standard gauge line from Stirling North to Brachina during this period. Brachina was the first station beyond the point of convergence of the narrow and standard gauge tracks.

Narrow gauge traffic was further disrupted by Hookina Creek flooding on 10th and 15th July 1956. The 1955 deviation across Hookina Creek was washed away on 16th October 1956, less than a fortnight after the last train had crossed the creek bed. [Aside: the devastating floods continue into the 21st century – the glorious preserved narrow gauge Wirreanda Creek bridge north of Gordon was destroyed by flooding in January 2007.]

This article looks at the train service to Hawker after the diversion of passenger traffic on to the new standard gauge line from Stirling North to Copley. Trains continued to cross the Willochra Plain north of Quorn for nearly 14 years.

SAR 26th August 1956 PTT

The standard gauge railhead arrived at Telford on 17th May 1956 and the break of gauge was established at

TABLE 40—continued. **26-Aug-1956**

PORT AUGUSTA, QUORN and HAWKER

NORTHBOUND.

Station.		Monday*.	Thursday*.
		p.m.	p.m.
PORT AUGUSTA	dep.	2 50	2 50
Stirling North	dep.	3 30†	3 30†
Woolshed Flat	dep.	4 00	4 19
QUORN	dep.	4 45	6 15
Willochra	dep.	5 08	6 54
Gordon	dep.	5 36	7 38
Wilson	dep.	6 04	8 23
HAWKER	arr.	6 28	8 45

† Passengers from Adelaide travel by Alice Springs mixed train and change trains at Stirling North

SOUTHBOUND.

Station.		Tuesday*.	Saturday*.
		a.m.	a.m.
HAWKER	dep.	7 30	5 00
Wilson	dep.	7 53	5 32
Gordon	dep.	8 18	6 14
Willochra	dep.	8 41	6 54
QUORN	dep.	9 20	9 10
Woolshed Flat	dep.	9 52	9 53
Stirling North	dep.	11 05‡	11 05‡
PORT AUGUSTA	arr.	11 16	11 17

‡Passengers for Adelaide change trains at Stirling North

*Will not depart from Port Augusta, Quorn, or Hawker ahead of time, but elsewhere may run ahead of time as circumstances permit.

Copley, the previous station. At the date of this timetable, the Alice Springs table shows Copley as the transfer point for all passenger services. Given the dates of the last Ghans through the Pichi Richi Pass and the service at the time, these would have commenced operating only north of Copley with the southbound arrival on the morning of Tuesday 14th August. The northbound transfer times of 8 40 p.m. to 11 00 p.m. at Copley weren't too bad as one could retire for the night quite soon after boarding the narrow gauge train. Southbound times were another matter, being 4.23 a.m. to 5.45 a.m. [If you think that these southbound times were unpleasant, they became 3.51 a.m. to 4.54 a.m. on 27th January 1957 – bad enough in summer but in winter… !]

The Hawker section of Table 40 (the Central Australia Railway table) shows a twice weekly service from Port Augusta to Hawker. Unfortunately, it doesn't give arrival times at Stirling North and Quorn but these can quite easily be approximated.

The Monday/Tuesday service was provided by one of the modern narrow gauge air-conditioned NDH class Gloucester railcars of 1954 vintage. Prior to 12th August 1956, they had operated twice weekly from Port Augusta to Marree but, with the suspension of passenger services beyond Hawker, only one trip weekly was operated. Significantly slower than the railcar, the weekly mixed ran northbound on Thursday, returning from Hawker on Saturday after a two-night layover. Note the usual CR statement about the possibility of early running although scope for it would have been somewhat limited as the sections were rather short, Port Augusta to Quorn being 24¾ mi (40 km) and 41 mi (66 km) for Quorn to Hawker.

Connections were made at Stirling North with CR's Copley standard gauge trains from and to Port Pirie Junction, with SAR's broad gauge Adelaide connections being made at that station. Connections at Quorn from and to Adelaide via Terowie were anything but convenient – Monday's Model 75 railcar from Terowie was due into Quorn a mere 35 min after the Hawker departure and the Thursday Hawker required a 24 h 55 min layover at Quorn. Tuesday's return connection required two nights at Quorn (approx 9.00 a.m. Tu to 8.20 a.m. Th, another 'just miss', no doubt also deliberate) but the Saturday one actually worked, it being approx 7.25 a.m. to 8.20 a.m.

Early 1957

The rail passenger service between Port Augusta and Quorn was replaced by a road service after Monday 14th January 1957.

SAR Weekly Notice 10/57 dated 11th March 1957 states that "The co-ordinated passenger service 3.15 p.m. Port Augusta to Quorn on Tuesdays is CANCELLED commencing Tuesday, 12th March, 1957. The only connection to Quorn and Hawker from Adelaide via Port Pirie Junction will be on Thursdays, departing Adelaide 8.30 a.m."

However, the next timetable seen by the author has both a Stirling North – Quorn and a Port Augusta – Quorn passenger road service each week so either the curtailment doesn't seem to be as drastic as it first appears or that one trip was either reinstated or the cancellation rescinded.

The following issue of SAR Weekly Notice has more bad news for the Pichi Richi Pass. WN 11/57 dated 18th March 1957 states that 'All goods train services between Quorn and Port Augusta are cancelled.".

CR circular OC.12/57 dated 26th June 1957 amending CAR WTT

Pages 16 and 17 of the then current Central Australia Railway WTT were to be replaced by the pages with the corresponding numbers as provided in this typed duplicated foolscap circular.

14-Jan-1957

PORT AUGUSTA - QUORN.

		MON.	TUES.	THURS.	THURS.
Adelaide	dep.	-	-	-	8.30-a.m.
Port Augusta	arr.	-	-	-	3.12-p.m.

CO-ORDINATED SERVICE.

		GOODS	PASSGR.	GOODS	PASSGR.
Port Augusta	dep.	Road 10.00-am	Rail 10.00am	Road 11.00am	Road 3.30pm
Stirling North	arr.	-	10.10am	-	-
	dep.	-	Road 11.15am	-	-
Quorn	arr.	11.30am	12.15pm	12.30pm	4.30pm

QUORN - HAWKER.

		825 Mon. Mixed		861 Fri. Mixed
Adelaide (Via Terowie)	dep.	7.45-am		-
Quorn	arr.	5.01-pm		-
Quorn	dep.	5.30-pm		1.45-am
Willochra	dep.	5.57		2.12
Gordon	dep.	6.24		2.39
Wilson	dep.	6.54		3.09
Hawker	arr.	7.19-pm		3.34-am

HAWKER - QUORN.

		828 Mon. Mixed			864 Fri. Mixed
Hawker	dep.	10.00-p.m.			6.15-am
Wilson	dep.	10.26			6.41
Gordon	dep.	10.50			7.05
Willochra	dep.	11.13			7.28
Quorn	arr.	11.45-p.m.			8.00-am
Quorn (Via Terowie)	dep.	-			8.35-am
Adelaide	arr.	-			6.03-pm

QUORN - PORT AUGUSTA.

		Mon. Goods	Tues. Passgr.	Thurs. Goods	Thurs. Passgr.
CO-ORDINATED SERVICE.		Road	Road	Road	Road
Quorn	dep.	1.00pm	10.00am	1.00pm	2.00pm
Stirling North	arr.	-	*11.00	-	-
	dep.	-	Rail *11.20	-	-
Port Augusta	arr.	2.30pm	11.30am	2.30pm	3.00pm
Stirling North	dep.	-	*11.16am	-	-
Adelaide	arr.	-	5.30pm	-	-

* TUESDAYS: Passengers from Quorn change from road service at Stirling North to Budd Rail Car (for Port Augusta) or southbound Alice Springs train (for Adelaide).

The feature common to all sections of the Port Augusta – Hawker service is the quantity '2'. There are 2 road passenger services for the Port Augusta/Stirling North – Quorn section along with two goods road services. Also, there are two mixed trains between Quorn and Hawker. The road passenger vehicle appears based in Quorn (if there were Port Augusta placement runs, why wouldn't they be advertised?) whereas the road goods truck operates from the Port Augusta end. The Stirling North rail/road connections are explained in the footnote. It is unfortunate that there is no suitable shoppers' service provided from Quorn to Port Augusta as the vehicle returns after only 30 minutes in the large town. Running times suggest that the vehicles and road conditions were still somewhat primitive as 1 h for 25 mi (40 km) for the bus wasn't wonderful. And it's 1½ h for the goods truck.

The Pichi Richi Pass was still used for the transfer of locomotives and rolling stock for some years to come. One assumes that a goods train was run through the Pass when (if?) loading demanded.

The Hawker mixeds' times seem a little strange and one direction for each trip seems to be a placement run – fine for goods traffic but not so good for passengers. However, they maintain an excellent single weekly connection from/to Adelaide via Terowie, this being a significant change from the 1956 scenario as this is now the only way it is possible to make the Adelaide – Hawker journey at all conveniently. The Port Augusta – Hawker connections are effectively non-existent.

Foolscap reprint CAR WTT 30th March 1958

The road service through the Pichi Richi Pass has been halved by this date. The once weekly bus runs on Thursday to an unchanged timetable so it is still apparently based in Quorn. The Quorn – Stirling North run on Tuesday has been cancelled. The Monday and Thursday goods truck has been replaced by one on Tuesday which runs to an altered and accelerated schedule. It still operates from the Port Augusta end. The Hawker mixeds are totally unchanged, still operating on Monday and Thursday. There are no changes to the connecting trains from and to Adelaide via either route.

The last CR diesel working from Quorn to Hawker, hauled by NSU 60 (right), was on 16th January 1961. The NSU was then transferred away from Quorn. Subsequent trains were hauled by the SAR T class steam loco that had worked from Peterborough on the regular Quorn goods train. The T class was then hired by CR from SAR and manned by a CR crew north of Quorn. However, CR diesel shunter NB 30 remained at Quorn and worked to Willochra on occasions after this date.

Foolscap reprint CAR WTT 24th April 1961

Th Quorn – Port Augusta – Quorn bus now runs on Monday and 30 minutes earlier than in 1958. The Port Augusta – Quorn – Port Augusta road truck continues to run on Tuesday and to the 1958 times.

The Hawker Mixed has been downgraded to a Shunt Goods (carriage attached) running 2½ hours earlier northbound and 2¼ hours earlier southbound than previously. The Friday train no longer runs. The running times are the same as previously. Although technically this

30-Mar-1958

HAWKER - QUORN.

		828 Mon. Mixed.				864 Fri. Mixed
Hawker	dep.	10.00 pm.				6.15 am.
Wilson	dep.	10.26				6.41
Gordon	dep.	10.50				7.05
Willochra	dep.	11.13				7.28
Quorn	arr.	11.45 pm.				8.00 am.
Quorn (Via Terowie)	dep.	-				8.35 am.
Adelaide	arr.	-				6.03 pm.

QUORN - PORT AUGUSTA.

		Tues. Goods.		Thurs. Passgr.	
CO-ORDINATED SERVICE.					
Quorn	dep.	ROAD 3.00 pm.		ROAD 2.00 pm.	
Port Augusta	arr.	4.00 pm.		3.00 pm.	

PORT AUGUSTA - QUORN.

		Mon.	Tues.		Thurs.	Fri.
Adelaide	dep.				8.30 a.m.	
Port Augusta	arr.				3.12 p.m.	

CO-ORDINATED SERVICE.

			Goods		Passgr.	
Port Augusta	dep.		ROAD 10.00 am		ROAD 3.30 pm	
Quorn	arr.		11.00 am		4.30 pm	

QUORN - HAWKER.

		825 Mon. Mixed			861 Fri. Mixed
Adelaide (Via Terowie)	dep.	7.45 am			-
Quorn	arr.	5.01 pm			-
Quorn	dep.	5.30 pm.			1.45 am.
Willochra	dep.	5.57			2.12
Gordon	dep.	6.24			2.39
Wilson	dep.	6.54			3.09
Hawker	arr.	7.19 pm.			3.34 am.

PORT AUGUSTA - QUORN - HAWKER.

24-Apr-1961

DOWN SERVICES.

RAIL			Passengers Monday	
Adelaide	dep.	-	1.00am	-
Pt.Pirie Junc.	arr.	-	12.16pm.	-
	dep.	-	1.00pm. *	-
PortAugusta	arr.	-	2.19pm	-

L.G.D.			Passengers Monday	Goods Tuesday
			pm.	am.
PORT AUGUSTA	dep.	-	3.00	10.00
QUORN	arr.	-	4.00	11.00

RAIL		825 Shunt Goods (carr.attd.) Monday		
		pm.		
QUORN	dep.	3.00	-	-
Willochra	dep.	3.27	-	-
Gordon	dep.	3.54	-	-
Wilson	dep.	4.29	-	-
HAWKER	arr.	4.49	-	-
		pm.		

UP SERVICES.

RAIL.			826 Shunt Goods (carr.attd.) Monday	
			pm.	
HAWKER	dep.	-	7.45	-
Wilson	dep.	-	8.11	-
Gordon	dep.	-	8.36	-
Willochra	dep.	-	8.50	-
QUORN	arr.	-	9.30	-
			pm.	

ROAD.		Passengers Monday		Goods Tuesday.
		Pm.		pm.
QUORN	dep.	1.30	-	3.00
PORT AUGUSTA	arr.	2.30	-	4.00

RAIL.				
Port Augusta	dep.	3.0 pm.	-	-
Pt.Pirie Jn.	arr.	4.1 pm.	-	-
	dep.	5.4 pm.	-	-
Adelaide	arr.	9.4 pm.	-	-

* Advertised departure from Port Pirie Junction : 12.45pm.

is a downgrading from a mixed, I expect that the passenger accommodation was still the composite car van NYAB 15 with its pair of passenger compartments, one first class and one second class. (That's N narrow gauge, Y guards van, A first, B second.) It trailed Hawker trains for many years and is now part of the Pichi Richi Railway collection.

The railcar from Terowie arrives at Quorn a mere 30 minutes after the departure of the Hawker train so that's not an option unless one spends the weekend in Quorn, having arrived at 3.30 p.m. on Friday. Travelling to Adelaide is similarly not good: 9.30 p.m. Monday to 8.00 a.m. Wednesday in Quorn. Adelaide via Port Augusta just isn't an option as it's even worse.

The only differences between the table of this date and that shown in the SAR 31st August 1961 PTT are-

- the departure from Port Pirie Junction at 12.45 p.m. of the connecting SG train to Port Augusta is that mentioned in the April footnote
- the connecting train from Port Pirie Junction to Adelaide is 2 minutes faster – Port Pirie Junction depart 5.45 p.m., Adelaide arrive 9.50 p.m.
- unsurprisingly, there's no reference to the goods road service between Port Augusta and Quorn

The Hawker Shunt Goods (car. attd.) became just a shunt goods when the nominal rail passenger service was

withdrawn in late 1961/early 1962 but NYAB 15 remained in use until closure. Rail enthusiasts continued to swell CR's (and Kodak's) coffers until the demise of the line in 1970.

CAR WTT Book No. CWT. 62 17th September 1962

The times and days between Port Augusta and Hawker in this WTT are the same as those in the 1961 foolscap reprint. However, there is a schedule for a conditional Shunting Goods from Quorn to Hawker on Monday. The conditional goods has the same running times as does the regular train. Being a complete reprint of the WTT book, all the information about station facilities, loads, speeds and locomotive classes and more is included.

A couple of comments:-

- engine loads are given for NM (CR steam), T (SAR steam) and NSU (CR diesel) locomotives but not for the NB (CR diesel shunter). The SAR T class has a meritorious history (and to Hawker until 1970, too) of running on the Great Northern Railway/Central Australia Railway right through to Alice Springs;
- the distances between stations after Stirling North are very uniform and ranging between 16 km and 17 km, slightly varying only due to the topography of the local area. 5 miles from the nearest station wouldn't have taxed the horses too much although it would been tough in summer;
- the existence of the refreshment room at Port Augusta is not noted on the Hawker line facilities page, although it is listed in the standard gauge station table – I can't imagine how the presence or absence of a refreshment room could be determined by the gauge of the trains.
- There is no reference in the WTT to bus/truck road speeds and loads.

Mileages, Station Facilities, Engine Loads and Sectional Running Times

PORT AUGUSTA — STIRLING NORTH — QUORN — HAWKER (Down)
(Narrow gauge)

17-Sep-1962

MILEAGES				STATIONS AND FACILITIES		Length of crossing loop (feet)	ENGINE LOADS Class NM, T or NSU		SECTIONAL RUNNING TIMES (Minutes)	
Mileposts	From Pt. Augusta	From Quorn	Sectional				** Vehs	Tons	Thro	Stopg.
56¼‡‡	—		—	PT. AUGUSTA	ST*eO	—	50	400	—	0
52‡‡										
255	4¼		4¼	STIRLING N.	SXT*J	650	50	202	0	15
244½	14¾		10½	Woolshed Flat	UXT	990			45	47
234½	24¾	—	10	QUORN	XT*JLOW(w)	2381	50	600	40	43
245¼	35½	10¾	10¾	Willochra	UXT	1047			0	25
255¼	45½	20¾	10	Gordon	UXT	1064	50	370	29	32
265½	55¾	31	10¼	Wilson	UXT	1108	50	430	31	34
275½	65¾	41	10	HAWKER	XT*WY	1125			26	28

HAWKER — QUORN — STIRLING NORTH — PORT AUGUSTA (Up)
(Narrow gauge)

MILEAGES				STATIONS AND FACILITIES		Length of crossing loop (feet)	ENGINE LOADS Class NM, T or NSU		SECTIONAL RUNNING TIMES (Minutes)	
Mileposts	From Hawker	From Quorn	Sectional				** Vehs	Tons	Thro	Stopg.
275½	—		—	HAWKER	XT*WY	1125	50	370	—	0
265½	10		10	Wilson	UXT	1108	50	550	0	32
255¼	20¼		10¼	Gordon	UXT	1064			22	23
245¼	30¼		10	Willochra	UXT	1047	50	405	23	24
234½	41	—	10¾	QUORN	XT*JLOW(w)	2381	50	270	29	32
244½	51	10	10	Woolshed Flat	UXT	990	50	500	0	41
255	61½	20½	10½	STIRLING N.	SXT*J	650			29	30
52‡‡										
56¼‡‡	65¾	24¾	4¼	PT. AUGUSTA	ST*eO	—			11	12

** Four-wheeled vehicles (Each bogie vehicle is equivalent to two four-wheeled vehicles).

On the line, distances are marked as follows :—

Between Port Augusta and Stirling North, by mile-posts, and pegs at the intervening half-miles, all reading from Port Pirie Junction and indicated ‡‡ above.

Between Stirling North and Hawker, by pegs at quarter-mile intervals, reading as from Adelaide by the old route via Terowie and Quorn.

The specified load indicates the maximum gross tonnage permitted on departure from the station against which it is shown, and continues in force through all sections until a fresh figure appears in the same column.

Each section time is for the section terminating at the location against which it appears, after a run through or a stop (according to the heading of the column) at the previous location where a figure appears in the same column.

The sectional running times include provision for the **permanent** speed restrictions on account of curves, etc.

17-Sep-1962

(II) MILEAGES, STATION FACILITIES,

ENGINE LOADS AND SECTIONAL RUNNING TIMES

The following signs, used in this section, are to be interpreted as under:—

C	Crossing loop fitted with choke-blocks.	T*	Train Control telephone (selector ringer type) in office or cabin.
E	Depot where locomotives are stabled.	(T*)	Train Control telephone (selector ringer type) in residence of the Stationmaster, Ganger, and/or other person in charge.
e	Shed accommodation for locomotives.	T	Train Control telephone (speak-in type) in office or cabin.
F	Diesel fuel supply for all purposes.	(T)	Train Control telephone (speak-in type) in residence of Ganger.
f	Diesel fuel supply for Budd railcars only.	T‡	Train Control telephone (speak-in type) in goods hut, inside padlocked box.
J	Junction station.	T‡	Train Control telephone (speak-in type) in hut or box at each end of station.
L	Oil fuel supply for steam locomotives.	U	Unattended siding.
O	Turntable.	W	Locomotive watering station
R	Refreshment room	(w)	Carriage watering station.
r	Refreshment room.	X	Trains can cross here.
S	Electric train staff station	Y	Reversing triangle or balloon loop.

SAR WN 31/63 of 5th August 1963

"Commencing forthwith, no recognised passenger service will operate between Port Augusta and Quorn."

1966 to 1972

The shunt goods continued to operate weekly, the main traffic being the mineral barytes from Hawker to Quorn where the processing plant was located. Ordinary loading fell away with time as the roads and road vehicles improved.

The (narrow gauge) third rail between Port Augusta and Stirling North was

PORT AUGUSTA — QUORN — HAWKER 17-Sep-1962

Train order system under Train Control, Port Augusta

Down Services

Rail connection			Passengers Monday		
Adelaide	d.	—	8.00 a.m.	—	
Pt. Pirie Junc.	d.	—	1.00 p.m.*	—	
Pt. Augusta	a.	—	2.19 p.m.	—	
Road			Passengers Monday	Goods Tuesday	
PORT AUGUSTA	d.	—	3.00 p.m.	10.00 a.m.	
QUORN	a.	—	4.00 p.m.	11.00 a.m.	
Rail (Narrow gauge)		257 Shunting Goods Monday			545 Shunting Goods Conditional Thursday
		p.m.			noon
QUORN	d.	3.00	—	—	12.00
Willochra	d.	3.27	—	—	12.27
Gordon	d.	3.54	—	—	12.54
Wilson	d.	4.29	—	—	1.29
HAWKER	a.	4.49	—	—	1.49
		p.m.			p.m.

Up Services

Rail (Narrow gauge)			280 Shunting Goods Monday		562 Shunting Goods Conditional Thursday
			p.m.		p.m.
HAWKER	d.	—	7.45	—	4.45
Wilson	d.	—	8.11	—	5.11
Gordon	d.	—	8.35	—	5.35
Willochra	d.	—	8.58	—	5.58
QUORN	a.	—	9.30	—	6.30
			p.m.		p.m.
Road		Passengers Monday		Goods Tuesday	
QUORN	d.	1.30 p.m.	—	3.00 p.m.	—
PORT AUGUSTA	a.	2.30 p.m.	—	4.00 p.m.	—
Rail connection		Passengers Monday			
Port Augusta	d.	3.00 p.m.	—	—	—
Pt. Pirie Junc.	a.	4.18 p.m.	—	—	—
Adelaide	a.	9.50 p.m.	—	—	—

* Advertised departure from Port Pirie Junction platform : 12.45 p.m.

removed during 1966. Subsequent narrow gauge movements between Stirling North and Port Augusta involved the narrow gauge rolling stock being transferred on standard gauge flat trucks fitted with narrow gauge rails.

The final passenger movement through the Pichi Richi Pass occurred on the 7th/8th October 1967 involving T 199 westbound and NM 34 with T 199

(VII) SPEEDS OF TRAINS

(a) THE MAXIMUM SPEED AT WHICH A TRAIN MAY TRAVEL OVER ANY PARTICULAR PORTION OF THE LINE IS THE LOWEST OF ANY OF THE FOLLOWING SPEEDS WHICH APPLIES:—

(i) Any maximum speed prescribed for the whole of the line concerned.
(ii) The maximum permitted speed for the locomotive, railcar or other motive unit concerned.
(iii) The maximum permitted speed for the rolling-stock attached to the train.
(iv) The special rates of speed prescribed for particular kinds of locations or movements, wherever they occur.
(v) Permanent local speed restrictions on account of curves, etc.
(vi) Any temporary local speed restriction.
(Budd railcars, including those hauling Brill cars, may exceed by 5 m.p.h. any **temporary** speed restriction, of 20 m.p.h. or over, which has been imposed on **account of track conditions.**

(b) Details of each of these types of restrictions are set out separately below.

(i) MAXIMUM SPEED PRESCRIBED FOR THE WHOLE OF THE LINE CONCERNED

	Miles per hour
Port Augusta—Stirling North—Marree (Standard gauge)	60*
Marree — Oodnadatta — Alice Springs (Narrow gauge):	
Marree — 496 miles	35
496 miles — 674 miles	30
674 miles—Alice Springs	35
Port Augusta — Stirling North (Narrow gauge)	35
Stirling North — Quorn — Hawker (Narrow gauge)	30

* Up to 70 m.p.h. for Budd railcars.

17-Sep-1962

Station and Tassie Street (Shunting movements over shunting neck or main line)	10
In vicinity of Flash Butt Welding Depot, between caution boards defining the area	5

(c) CENTRAL AUSTRALIA LINE (Standard gauge):

STIRLING NORTH — MARREE
No permanent speed restrictions

17-Sep-1962

(e) STIRLING NORTH — QUORN — HAWKER (Narrow gauge):

		MILES PER HOUR
Stirling North	Over curves between 250 m. and Woolshed Flat	**20**
Woolshed Flat	Trains entering Quorn end of yard	**8**
	Over curves between Woolshed Flat and 238 m.	**20**
Quorn	Over Loco shunting neck	**10**

eastbound. A few passenger trains operated to Summit after this date.

The rail-over-road bridge just east of Saltia was struck and damaged by a semitrailer's over height load late in 1968, thereby rendering the section from Woolshed Flat to Stirling North unusable. The last regular goods train to Hawker ran on 8th January 1970 (not 6th or 9th as are sometimes seen). The last goods train to Hawker operated on 9th April 1970 – it was hauled by 858, this being the only time that an SAR diesel ran to Hawker.

The last ever train to Hawker ran on the evening of 16th May 1970. It was a passenger train hauled by T 199 and run under auspices of the ARHS (SA Division). The last trains (just) into the Pichi Richi Pass ran to Summit, also on this day.

The closure of the section from Quorn to Hawker was approved on 6th April 1972 and the official closure took place on 1st June 1972. That's just 4 weeks under 92 years since it opened.

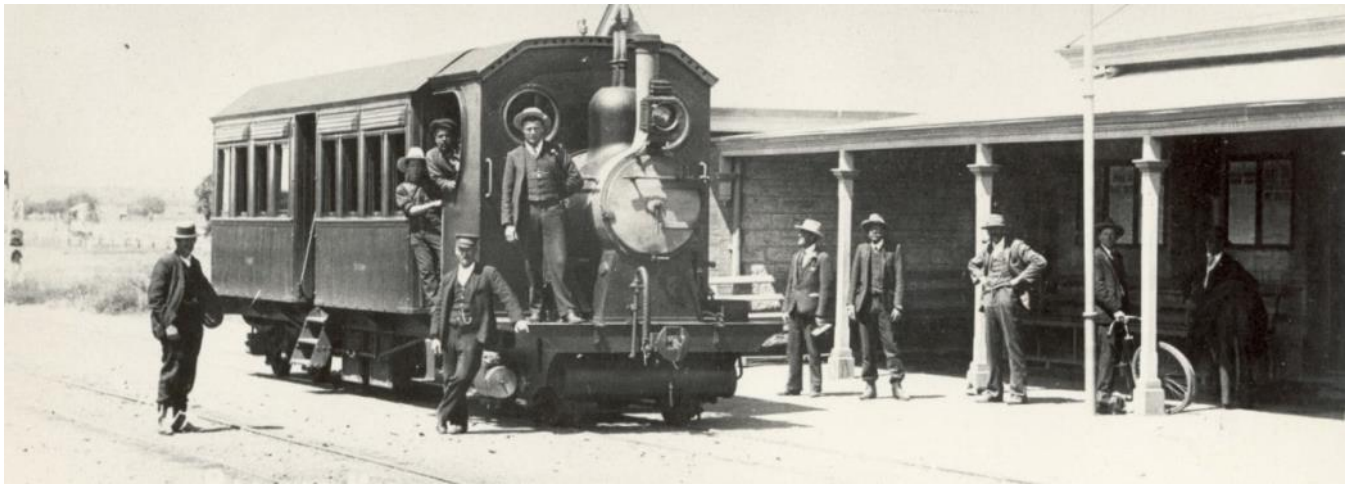
Footnote:-

A train order dated 6th October 1956 for a train from Hawker to Hookina is illustrated in Evans, J. (2008), Proceed to Hawker, Railmac Publications, Elizabeth, page 14.

tail disc (yes, CR used tail discs as CR was modelled very much on VR)

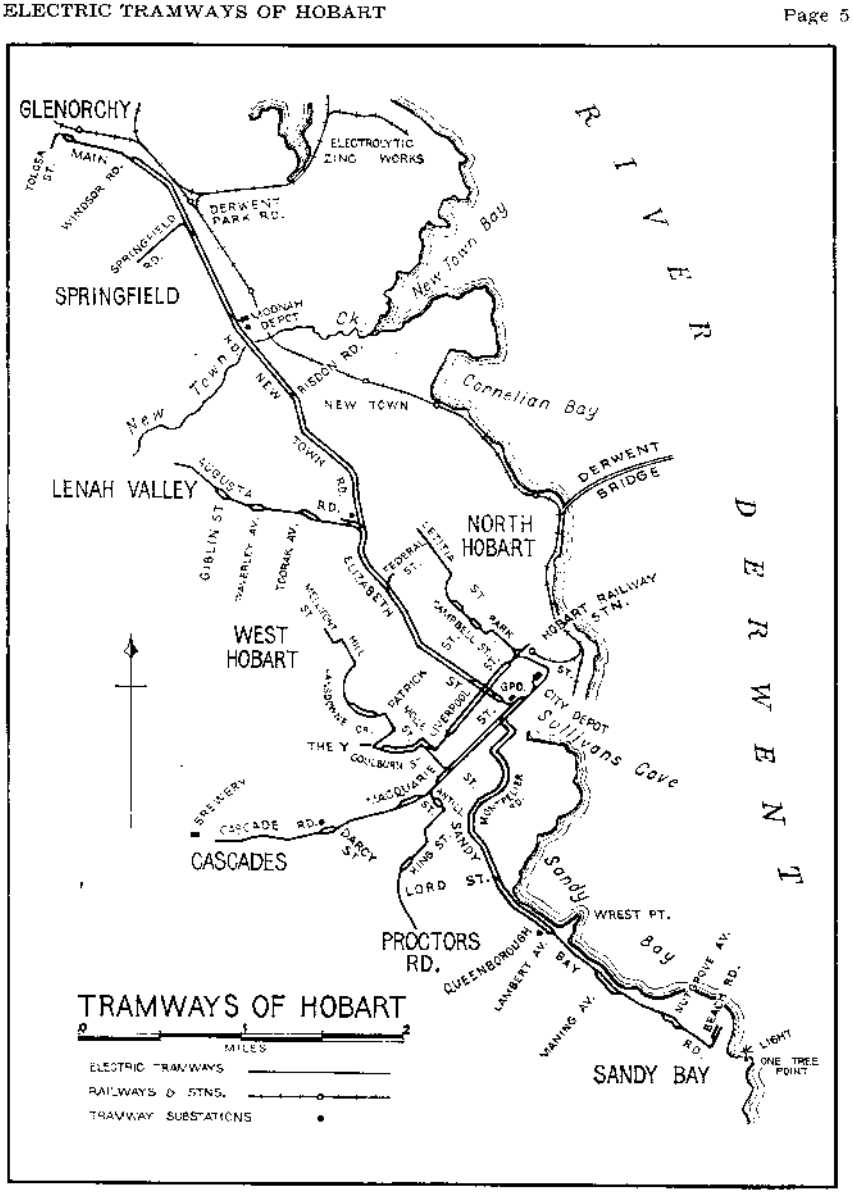
Comment on this article – Letter to the Editor

Return to Contents Page



Looking at Moore's Guide, Hobart, 1949

HILAIRE FRASER



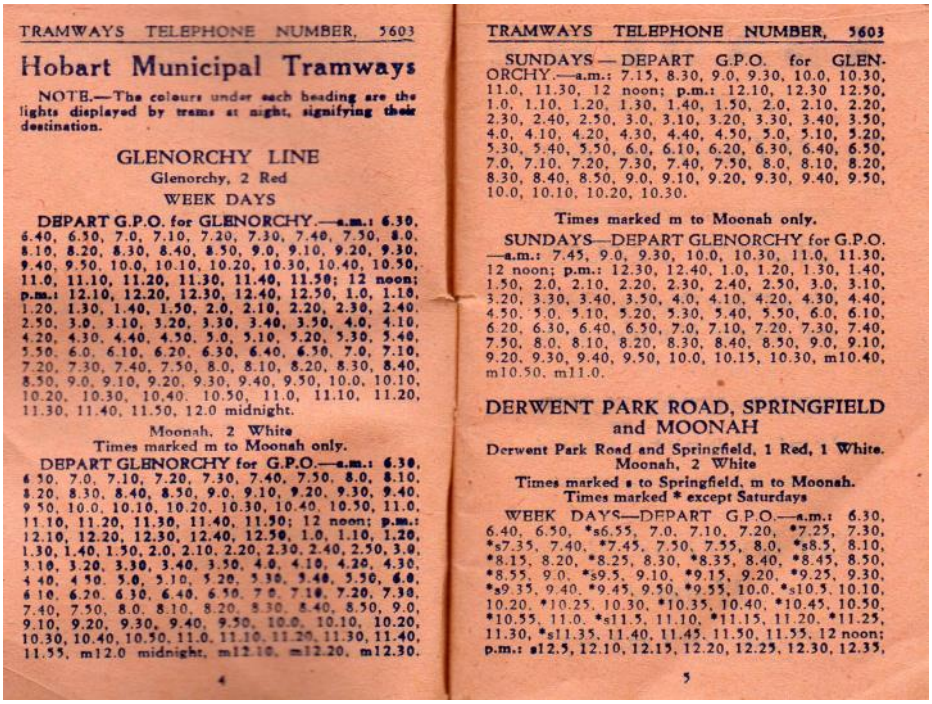
INTRODUCTION

Until the mid-1980s, Hobart tram and bus timetables, as well as Tasmanian rail timetables were published in Moore's Monthly Guide — and then Moore's Guide (published occasionally). These booklets were 108mm by 71 mm. From the mid-1970s the Metropolitan Transit Trust and its successor Metro Tasmania introduced their own timetables, firstly as a single booklet then as individual leaflets for a single route, or several routes in a certain area. Accompanying this article are scans of the cover page from Moore's Monthly Guide, March 1949 and pages four to nine covering tram services on the Glenorchy Line and to Derwent Park Road, Springfield, and Moonah. Page eight has Ansett Airlines services to Melbourne, Sydney, and Brisbane. Also provided is a map of Hobart's tram network reproduced from "The Electric Tramways of Hobart" by J Chesworth, I Cooper, P James, and J Stokes, published by Australian Electric Traction Association, Sydney, March 1960 [right]. The contents of Moore's Guide are of interest and detail a vast amount of information. This article will focus on Hobart's tram services and bus services, and will detail the tram services along the Elizabeth Street corridor.

Hobart Tram Services 1949

In Hobart, trams and buses were operated by Hobart Municipal Tramways. The Hobart GPO was the terminus for all tram services except the West Hobart to North Hobart service. Tram timetables were split into weekdays (including Saturday) and Sundays. The timetables listed times across the page only at the origin or some significant point along the route.

The Elizabeth St corridor, proceeding north, was Hobart's busiest tram route with regular tram services to Glenorchy and Derwent Park Road. This corridor serves major shopping areas in the Hobart CBD, North Hobart, and Moonah. The Glenorchy timetable had a ten-minute service seven days a week, except on Sunday mornings when only a thirty-minute service was provided. Evidently, it was the expectation that folk attended church on a Sunday morning and went out in the afternoon. Glenorchy trams were supplemented by trams to Derwent Park Road, which ran throughout the week except for Saturday and Sunday mornings and Sunday evenings. A ten-minute service was provided with every third trip Mondays to Fridays daytime extending to Springfield. Springfield also had a single trip Monday to Saturday evenings and two trips Sunday afternoons. Derwent Park Road trams terminated in Springfield Avenue, just off Main Road. This meant



TRAMWAYS TELEPHONE NUMBER, 5603

Hobart Municipal Tramways

NOTE.—The colours under each heading are the lights displayed by trams at night, signifying their destination.

GLENORCHY LINE

Glenorchy, 2 Red

WEEK DAYS

DEPART G.P.O. for GLENORCHY.—a.m.: 6.30, 6.40, 6.50, 7.0, 7.10, 7.20, 7.30, 7.40, 7.50, 8.0, 8.10, 8.20, 8.30, 8.40, 8.50, 9.0, 9.10, 9.20, 9.30, 9.40, 9.50, 10.0, 10.10, 10.20, 10.30, 10.40, 10.50, 11.0, 11.10, 11.20, 11.30, 11.40, 11.50; 12 noon; p.m.: 12.10, 12.20, 12.30, 12.40, 12.50, 1.0, 1.10, 1.20, 1.30, 1.40, 1.50, 2.0, 2.10, 2.20, 2.30, 2.40, 2.50, 3.0, 3.10, 3.20, 3.30, 3.40, 3.50, 4.0, 4.10, 4.20, 4.30, 4.40, 4.50, 5.0, 5.10, 5.20, 5.30, 5.40, 5.50, 6.0, 6.10, 6.20, 6.30, 6.40, 6.50, 7.0, 7.10, 7.20, 7.30, 7.40, 7.50, 8.0, 8.10, 8.20, 8.30, 8.40, 8.50, 9.0, 9.10, 9.20, 9.30, 9.40, 9.50, 10.0, 10.10, 10.20, 10.30, 10.40, 10.50, 11.0, 11.10, 11.20, 11.30, 11.40, 11.50, 12.0 midnight.

Moonah, 2 White

Times marked m to Moonah only.

DEPART GLENORCHY for G.P.O.—a.m.: 6.30, 6.50, 7.0, 7.10, 7.20, 7.30, 7.40, 7.50, 8.0, 8.10, 8.20, 8.30, 8.40, 8.50, 9.0, 9.10, 9.20, 9.30, 9.40, 9.50, 10.0, 10.10, 10.20, 10.30, 10.40, 10.50, 11.0, 11.10, 11.20, 11.30, 11.40, 11.50; 12 noon; p.m.: 12.10, 12.20, 12.30, 12.40, 12.50, 1.0, 1.10, 1.20, 1.30, 1.40, 1.50, 2.0, 2.10, 2.20, 2.30, 2.40, 2.50, 3.0, 3.10, 3.20, 3.30, 3.40, 3.50, 4.0, 4.10, 4.20, 4.30, 4.40, 4.50, 5.0, 5.10, 5.20, 5.30, 5.40, 5.50, 6.0, 6.10, 6.20, 6.30, 6.40, 6.50, 7.0, 7.10, 7.20, 7.30, 7.40, 7.50, 8.0, 8.10, 8.20, 8.30, 8.40, 8.50, 9.0, 9.10, 9.20, 9.30, 9.40, 9.50, 10.0, 10.10, 10.20, 10.30, 10.40, 10.50, 11.0, 11.10, 11.20, 11.30, 11.40, 11.55, m12.0 midnight, m12.10, m12.20, m12.30.

4

TRAMWAYS TELEPHONE NUMBER, 5603

SUNDAYS — DEPART G.P.O. for GLENORCHY.—a.m.: 7.15, 8.30, 9.0, 9.30, 10.0, 10.30, 11.0, 11.30, 12 noon; p.m.: 12.10, 12.30 12.50, 1.0, 1.10, 1.20, 1.30, 1.40, 1.50, 2.0, 2.10, 2.20, 2.30, 2.40, 2.50, 3.0, 3.10, 3.20, 3.30, 3.40, 3.50, 4.0, 4.10, 4.20, 4.30, 4.40, 4.50, 5.0, 5.10, 5.20, 5.30, 5.40, 5.50, 6.0, 6.10, 6.20, 6.30, 6.40, 6.50, 7.0, 7.10, 7.20, 7.30, 7.40, 7.50, 8.0, 8.10, 8.20, 8.30, 8.40, 8.50, 9.0, 9.10, 9.20, 9.30, 9.40, 9.50, 10.0, 10.10, 10.20, 10.30.

Times marked m to Moonah only.

SUNDAYS—DEPART GLENORCHY for G.P.O.—a.m.: 7.45, 9.0, 9.30, 10.0, 10.30, 11.0, 11.30, 12 noon; p.m.: 12.30, 12.40, 1.0, 1.20, 1.30, 1.40, 1.50, 2.0, 2.10, 2.20, 2.30, 2.40, 2.50, 3.0, 3.10, 3.20, 3.30, 3.40, 3.50, 4.0, 4.10, 4.20, 4.30, 4.40, 4.50, 5.0, 5.10, 5.20, 5.30, 5.40, 5.50, 6.0, 6.10, 6.20, 6.30, 6.40, 6.50, 7.0, 7.10, 7.20, 7.30, 7.40, 7.50, 8.0, 8.10, 8.20, 8.30, 8.40, 8.50, 9.0, 9.10, 9.20, 9.30, 9.40, 9.50, 10.0, 10.15, 10.30, m10.40, m10.50, m11.0.

DERWENT PARK ROAD, SPRINGFIELD and MOONAH

Derwent Park Road and Springfield, 1 Red, 1 White. Moonah, 2 White

Times marked s to Springfield, m to Moonah. Times marked * except Saturdays

WEEK DAYS—DEPART G.P.O.—a.m.: 6.30, 6.40, 6.50, *s6.55, 7.0, 7.10, 7.20, *7.25, 7.30, *s7.35, 7.40, *7.45, 7.50, 7.55, 8.0, *s8.5, 8.10, *8.15, 8.20, *8.25, 8.30, *8.35, 8.40, *8.45, 8.50, *8.55, 9.0, *s9.5, 9.10, *9.15, 9.20, *9.25, 9.30, *s9.35, 9.40, *9.45, 9.50, *9.55, 10.0, *s10.5, 10.10, 10.20, *10.25, 10.30, *10.35, 10.40, *10.45, 10.50, *10.55, 11.0, *s11.5, 11.10, *11.15, 11.20, *11.25, 11.30, *s11.35, 11.40, 11.45, 11.50, 11.55, 12 noon; p.m.: s12.5, 12.10, 12.15, 12.20, 12.25, 12.30, 12.35,

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trams proceeding to the city would run against the traffic until a crossover was met. Thus, Derwent Park Road trams would miss stop 29 inbound. Glenorchy and Derwent Park Road services would combine to provide a five-minute service most of the week. The Derwent Park Road timetable included trips to and from Glenorchy. From the timetable, the GPO to Glenorchy and return trip would take sixty-minutes, requiring six trams; and the GPO to Derwent Park Road or Springfield return trip would take fifty minutes, requiring five trams. In the evening, different coloured lights above the destination box would indicate the route. Two red lights indicated Glenorchy. One red and one white light indicated Derwent Park Road and Springfield. Trams proceeding to Moonah Depot would display two white lights.

The Lenah Valley tram service also operated along Elizabeth Street, then proceeded along August Road in a north-westerly direction. This was a single track "uphill and down dale" line with three passing loops. All loops and the terminus were on the crest of a hill. Night services displayed two green lights for Lenah Valley and a red and green light for Giblin Street.

The Sandy Bay route proceeded in a south-easterly direction, through Sandy Bay shopping centre, before travelling above the waters of Sandy Bay. With views over the Derwent River, this route, now covered by buses, is one of the most scenic in the country. Night services displayed two red lights for Sandy Bay, a red and white light for Lambert Avenue and two white lights for Lord Street.

The last tram route detailed in the1949 timetable was from North Hobart to West Hobart via Liverpool Street City, with a city timing point at the intersection of Elizabeth and Liverpool Streets for trams proceeding either way. The North Hobart route operated through a residential area, a few blocks east of the Elizabeth Street services. The West Hobart route operated through an elevated residential area west of the CBD. Prior to 1931 trams would enter the "Y" at the corner of Goulburn and Cavell Streets and the driver would change ends before proceeding towards West Hobart or the City. In 1931 the "Y" was replaced by a continuous curve.

Sunday morning and late evening services operated between West Hobart and Hobart Railway Station, terminating at the corner of Brisbane and Campbell Streets, three blocks away from the Railway. The North Hobart tram route was duplicated by the new Town Station trolleybus route. Night services displayed two red lights for West Hobart or North Hobart and two white lights for Patrick Street or Railway.

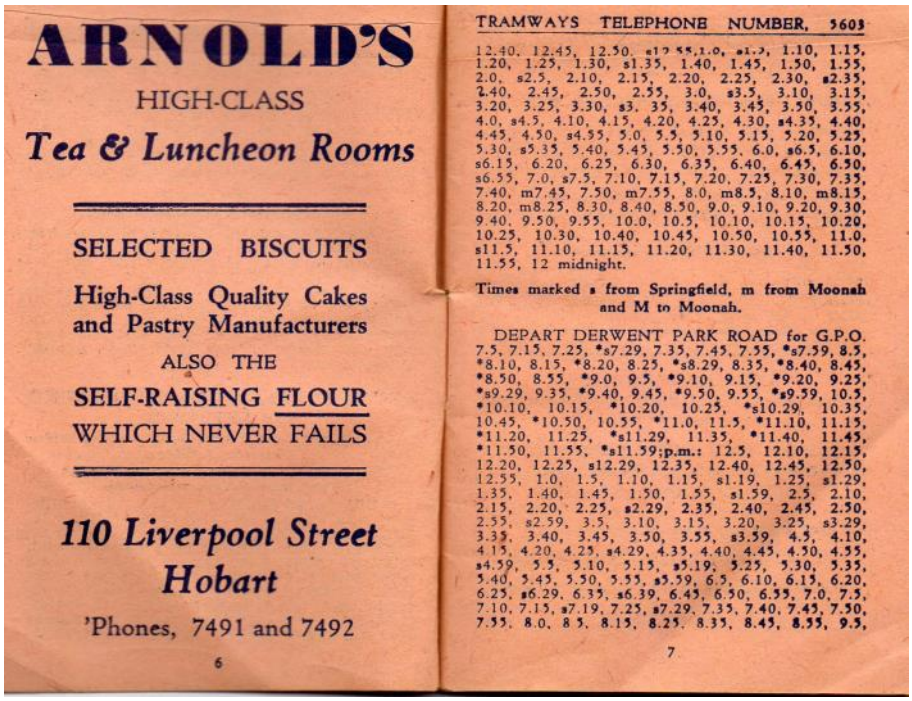
The Lenah Valley, Sandy Bay and North Hobart to West Hobart routes operated on a ten-minute frequency at most times, with a reduced service on Sunday mornings.

Hobart Bus Services 1949

The Cascades trolleybus route south-east of the CBD terminated at the Cascades Brewery and replaced the Cascades tram route in 1942. In 1948, the Cascades service was to Strickland Avenue. Weekday services operated at twenty-minute intervals to Cascades, with an hourly extension to Strickland Avenue. For evening services, trolleybuses were equipped with three vertically mounted lights on their roofs. These were like a miniature four-sided traffic light. Cascades and Strickland Avenue displayed red and yellow lights.

The Dynnyrne trolleybus route south of the CBD replaced the Proctors Road tram route in 1945.Weekday services operated at fifteen-minute intervals. At night red and green lights were displayed.

The third South Hobart trolleybus route was the Huon Road route, opened in 1935 as Hobart's first trolleybus route. This route branched off the Cascades route at Darcy St and travelled in a southerly direction, climbing the foothills of Mt Wellington. It replaced a petrol bus service.



ARNOLD'S

HIGH-CLASS

Tea & Luncheon Rooms

SELECTED BISCUITS

High-Class Quality Cakes and Pastry Manufacturers

ALSO THE

SELF-RAISING FLOUR

WHICH NEVER FAILS

110 Liverpool Street Hobart

'Phones, 7491 and 7492

6

TRAMWAYS TELEPHONE NUMBER, 5603

12.40, 12.45, 12.50, s12.55, 1.0, s1.5, 1.10, 1.15, 1.20, 1.25, 1.30, s1.35, 1.40, 1.45, 1.50, 1.55, 2.0, s2.5, 2.10, 2.15, 2.20, 2.25, 2.30, s2.35, 2.40, 2.45, 2.50, 2.55, 3.0, s3.5, 3.10, 3.15, 3.20, 3.25, 3.30, s3. 35, 3.40, 3.45, 3.50, 3.55, 4.0, s4.5, 4.10, 4.15, 4.20, 4.25, 4.30, s4.35, 4.40, 4.45, 4.50, s4.55, 5.0, 5.5, 5.10, 5.15, 5.20, 5.25, 5.30, s5.35, 5.40, 5.45, 5.50, 5.55, 6.0, s6.5, 6.10, s6.15, 6.20, 6.25, 6.30, 6.35, 6.40, 6.45, 6.50, s6.55, 7.0, s7.5, 7.10, 7.15, 7.20, 7.25, 7.30, 7.35, 7.40, m7.45, 7.50, m7.55, 8.0, m8.5, 8.10, m8.15, 8.20, m8.25, 8.30, 8.40, 8.50, 9.0, 9.10, 9.20, 9.30, 9.40, 9.50, 9.55, 10.0, 10.5, 10.10, 10.15, 10.20, 10.25, 10.30, 10.40, 10.45, 10.50, 10.55, 11.0, s11.5, 11.10, 11.15, 11.20, 11.30, 11.40, 11.50, 11.55, 12 midnight.

Times marked s from Springfield, m from Moonah and M to Moonah.

DEPART DERWENT PARK ROAD for G.P.O.

7.5, 7.15, 7.25, *s7.29, 7.35, 7.45, 7.55, *s7.59, 8.5, *8.10, 8.15, *8.20, 8.25, *s8.29, 8.35, *8.40, 8.45, *8.50, 8.55, *9.0, 9.5, *9.10, 9.15, *9.20, 9.25, *s9.29, 9.35, *9.40, 9.45, *9.50, 9.55, *s9.59, 10.5, *10.10, 10.15, *10.20, 10.25, *s10.29, 10.35, 10.45, *10.50, 10.55, *11.0, 11.5, *11.10, 11.15, *11.20, 11.25, *s11.29, 11.35, *11.40, 11.45, *11.50, 11.55, *s11.59;p.m.: 12.5, 12.10, 12.15, 12.20, 12.25, s12.29, 12.35, 12.40, 12.45, 12.50, 12.55, 1.0, 1.5, 1.10, 1.15, s1.19, 1.25, s1.29, 1.35, 1.40, 1.45, 1.50, 1.55, s1.59, 2.5, 2.10, 2.15, 2.20, 2.25, s2.29, 2.35, 2.40, 2.45, 2.50, 2.55, s2.59, 3.5, 3.10, 3.15, 3.20, 3.25, s3.29, 3.35, 3.40, 3.45, 3.50, 3.55, s3.59, 4.5, 4.10, 4.15, 4.20, 4.25, s4.29, 4.35, 4.40, 4.45, 4.50, 4.55, s4.59, 5.5, 5.10, 5.15, s5.19, 5.25, 5.30, 5.35, 5.40, 5.45, 5.50, 5.55, s5.59, 6.5, 6.10, 6.15, 6.20, 6.25, s6.29, 6.35, s6.39, 6.45, 6.50, 6.55, 7.0, 7.5, 7.10, 7.15, s7.19, 7.25, s7.29, 7.35, 7.40, 7.45, 7.50, 7.55, 8.0, 8.5, 8.15, 8.25, 8.35, 8.45, 8.55, 9.5,

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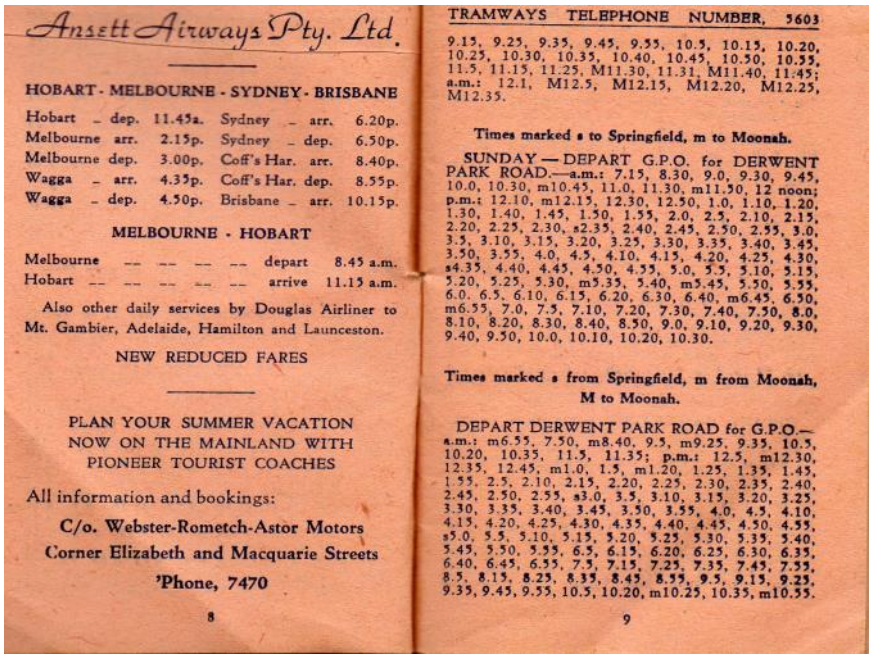

Ansett Airways Pty. Ltd.

HOBART - MELBOURNE - SYDNEY - BRISBANE

Hobart	dep.	11.45a.	Sydney	arr.	6.20p.
Melbourne	arr.	2.15p.	Sydney	dep.	6.50p.
Melbourne	dep.	3.00p.	Coff's Har.	arr.	8.40p.
Wagga	arr.	4.35p.	Coff's Har.	dep.	8.55p.
Wagga	dep.	4.50p.	Brisbane	arr.	10.15p.

MELBOURNE - HOBART

Melbourne	--	--	--	depart	8.45 a.m.
Hobart	--	--	--	arrive	11.15 a.m.

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TRAMWAYS TELEPHONE NUMBER, 5603

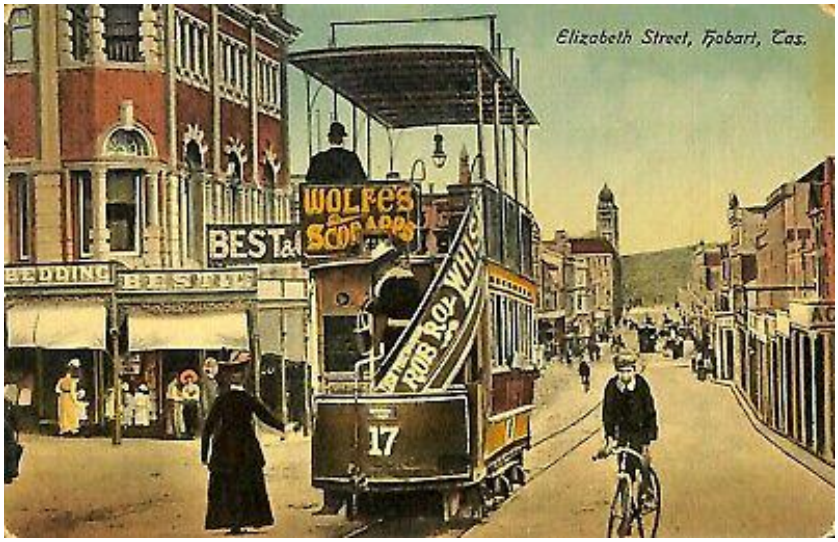
9.15, 9.25, 9.35, 9.45, 9.55, 10.5, 10.15, 10.20, 10.25, 10.30, 10.35, 10.40, 10.45, 10.50, 10.55, 11.5, 11.15, 11.25, M11.30, 11.31, M11.40, 11.45; a.m.: 12.1, M12.5, M12.15, M12.20, M12.25, M12.35.

Times marked s to Springfield, m to Moonah.

SUNDAY — DEPART G.P.O. for DERWENT PARK ROAD.—a.m.: 7.15, 8.30, 9.0, 9.30, 9.45, 10.0, 10.30, m10.45, 11.0, 11.30, m11.30, 12 noon; p.m.: 12.10, m12.15, 12.30, 12.50, 1.0, 1.10, 1.20, 1.30, 1.40, 1.45, 1.50, 1.55, 2.0, 2.5, 2.10, 2.15, 2.20, 2.25, 2.30, s2.35, 2.40, 2.45, 2.50, 2.55, 3.0, 3.5, 3.10, 3.15, 3.20, 3.25, 3.30, 3.35, 3.40, 3.45, 3.50, 3.55, 4.0, 4.5, 4.10, 4.15, 4.20, 4.25, 4.30, s4.35, 4.40, 4.45, 4.50, 4.55, 5.0, 5.5, 5.10, 5.15, 5.20, 5.25, 5.30, m5.35, 5.40, m5.45, 5.50, 5.55, 6.0, 6.5, 6.10, 6.15, 6.20, 6.30, 6.40, m6.45, 6.50, m6.55, 7.0, 7.5, 7.10, 7.20, 7.30, 7.40, 7.50, 8.0, 8.10, 8.20, 8.30, 8.40, 8.50, 9.0, 9.10, 9.20, 9.30, 9.40, 9.50, 10.0, 10.10, 10.20, 10.30.

Times marked s from Springfield, m from Moonah, M to Moonah.

DEPART DERWENT PARK ROAD for G.P.O.—a.m.: m6.55, 7.50, m8.40, 9.5, m9.25, 9.35, 10.5, 10.20, 10.35, 11.5, 11.35; p.m.: 12.5, m12.30, 12.35, 12.45, m1.0, 1.5, m1.20, 1.25, 1.35, 1.45, 1.55, 2.5, 2.10, 2.15, 2.20, 2.25, 2.30, 2.35, 2.40, 2.45, 2.50, 2.55, s3.0, 3.5, 3.10, 3.15, 3.20, 3.25, 3.30, 3.35, 3.40, 3.45, 3.50, 3.55, 4.0, 4.5, 4.10, 4.15, 4.20, 4.25, 4.30, 4.35, 4.40, 4.45, 4.50, 4.55, s5.0, 5.5, 5.10, 5.15, 5.20, 5.25, 5.30, 5.35, 5.40, 5.45, 5.50, 5.55, 6.5, 6.15, 6.20, 6.25, 6.30, 6.35, 6.40, 6.45, 6.55, 7.5, 7.15, 7.25, 7.35, 7.45, 7.55, 8.5, 8.15, 8.25, 8.35, 8.45, 8.55, 9.5, 9.15, 9.25, 9.35, 9.45, 9.55, 10.5, 10.20, m10.25, 10.35, m10.55.



Weekday services operated at fifteen-minute intervals. At night, yellow and green lights were displayed. All three South Hobart services commenced from Franklin Square in the CBD.

Trolleybuses replaced petrol bus services to Newtown Station and Cornelian Bay in 1937. Weekday services operated at twenty-minute intervals to Newtown Station, with an hourly extension to Cornelian Bay. In 1950, these services replaced the North Hobart tram service — which they duplicated. At night, New Town buses displayed red and green lights and Cornelian Bay buses displayed red and yellow lights. In 1952 and 1958, trolleybuses replaced Sandy Bay and West Hobart services respectively. In 1957, the Lenah Valley tram service was replaced with diesel buses. In 1960, Glenorchy and Springfield services were replaced by petrol buses.

In the March 1949 timetable, Hobart Municipal Tramways operated petrol bus services from Hobart City to Fern Tree, Taroona, Battery Point and Mt Stuart, as well as the Moonah-Lutana-Risdon Road-Sanatorium cross country service. Some of these services also extended from Lutana to the city. The Transport Department operated bus services from Hobart to Grove Road, east of Glenorchy and to Lindisfarne and Bellerive on the Eastern Shore.

References

Chesworth, J, Cooper, I, James, P, and Stokes, J. The Electric Tramways of Hobart Australian Electric Traction Association, Sydney, 1960.

Cooper, I. Hobart Tramways, Transit Australia Publishing, Sydney, 1993

Cooper, I. Tasmania's Trolley Buses, Transit Australia Publishing, Sydney, 2010

TANYA'S QUIZ #7

1. a/ What types of lands are known to exist on SAR's Pinnaroo line?
   b/ What noisy colourful member of the parrot family is a station on VR's Pinnaroo line?
2. What station served the town that is just across the Murray River from VR's Wahgunyah?
3. Over the years, there were 4 bascule bridges in the NSWGR system. On what lines were they located?
4. Nowadays, North Arm Road is just a street that crosses an east-west railway and North Arm is simply an electrified crossing loop on a north-south railway. On what lines would one have found the former passenger stations of North Arm Road and North Arm?
5. What is the non-railway modal difference between the suburban stations of Edens Landing and Williams Landing?

ANSWERS TO TANYA'S QUIZ #6

(no entries have been received)

1. a/ The initial letters of Australian Cotton & Textile Industries Limited give you Actil which was on the Woodville – Woodville North – Finsbury Stores – Finsbury North line in Adelaide.

   b/ Using the same reasoning, North Queensland Meat Exporting Company gives us NQME which is nonsensical so QR swapped the Q for an O to give Nome which was the junction of the branch to the abattoirs at the railway location of Oolbun (branch closed 1966). Nome is nowadays just a single set of points at the end of double track on the North Coast Line south of Townsville.

2. a/ St. Marys – Ropes Creek in Sydney

   b/ Penfield Junction (just beyond Salisbury) – Penfield No. 3 (plus balloon loop) in Adelaide [There were a trio of stations inside the works and were imaginatively known as Penfield No. 1, Penfield No. 2 and Penfield No. 3.]

   c/ Bonus question: What was unusual about the layout of the Penfield double track within the Salisbury Weapons Research Establishment munitions area? *Answer below*.

3. a/ Australia: Brisbane, Sydney, Launceston, Hobart, Adelaide and Perth

   b/ New Zealand: Auckland, New Plymouth, Wellington, Christchurch and Dunedin

4. humans – the original terminus was Sedan [Somewhat unexpectedly, given the railway's routeing, Sedan is about the same latitude as Gawler.]
5. South Brisbane Junction – Corinda, South Coast Junction – Yeerongpilly, Southport Junction – Ernest Junction
6. a/ Strzelecki – the line from Koo-Wee-Rup to Strezlecki was opened on 29th June 1922, Strezlecki was renamed Strzelecki on 21st October 1929 and the section from Triholm to Strzelecki closed on 22nd November 1930. The major explorer of this very interesting mountainous region of South Gippsland, now known as the Strzelecki Ranges, was Count von Strzelecki and the station was named in his honour – at least it was supposed to be but the station names people reversed the order of the E and Z. Government wheels turn slowly and it took over 7 years to correct the error. [The Strezlecki Siding in the Korumburra coalfield was always misspelt.]

   b/ The large timber pile bridge about 1 km before Strzelecki shook so violently under the weekly car goods that, on the return journey, the train stopped, the driver walked across the bridge, then the fireman set the train moving very slowly and climbed off before it traversed the bridge. Upon it safely reaching the other side the driver boarded the loco and stopped the train and only then did the fireman gingerly cross the bridge. As passengers are never mentioned in the story, it appears that there weren't any that day (which would not be surprising given the lack of population at Strzelecki). The decking and rails were removed from the bridge very soon after.

2c bonus question. The down and up lines within the WRE area remained at island platform width separation instead of coming together between the stations.

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