SteamRanger's Heritage
- an insight into our past

BACKGROUND

This text is an extract from a more lengthy article on the Goolwa to Victor Harbor railway, covering the horsetram era, the inroduction of steam and the eventual conversion of the branch line to a tourism oriented heritage railway by the ARHS SA Division (SteamRanger)

The extract covers the original construction of Goolwa to Pt Elliot section, which is claimed to be the first government operated public railway in Australia
It draws on and expands on the 1954 ARHS Bulletin article by Alan Strempel also available on this website

Some minor editing of the printed text has been made to to improve on-line readability.

Two other extracts from Mr Callaghan's article are available elsewhere on this website.

The Goolwa to Port Elliot Railway

- Australia's First Public Railway

W. H. Callaghan

Extracts from an article in Australian Railway History, the Bulletin of ARHS
May 2004, pages 163-166

Sir Henry Fox Young, Governor of South Australia from August 1848 to June 1855, took a keen interest in developing the River Murray as an artery of transportation for potential exports. In so doing, 'the whole of the traffic of the interior would be diverted to South Australia.' A seaport was needed from which these exports could be sent overseas or to the colonial capitals. The problem was, and still is, the mouth of the Murray, whose waters flowed through a gap in the sand dunes into the sea so that the river mouth was liable to shift as storms dictated. Furthermore, the flat bottomed riverboats were not suitable for sailing the high seas. By having two ports, one on the River, the other at a suitable anchorage on the coast and linking the two with a railway, the problem was solved.

Despite objections, the Governor had the support of Earl Grey, the Colonial Secretary in London, besides which he controlled the Public Works purse. The necessary Bill was passed by the Legislative Council and on receiving the Royal Assent the sum of £20,000 was allocated for the scheme. Young's vision or tne twin ports becoming tne New Orleans of Australia could now become a reality.

John Cartwright Hill, as Surveyor to the Harbour Commissioners, in consultation with Captain Douglas, Harbourmaster, surveyed and prepared the plans for the harbour at Port Elliot otherwise known as Horseshoe Bay and the 6 3/4 miles of railway to The Elbow, known in the local language as Goolwa, on the River Murray. Hill submitted his plans to William Bennet Hays, the Colonial Architect and Engineer, who duly approved them. Hays had been employed by the Leeds and Selby Railway, the Hull and Selby Railway and the Eastern Counties Railway. J C Hill came to South Australia in 1851 as Engineer of the Adelaide, City and Port Railway, a private company intending to run it as a business.

When that company folded he was employed in 1852 in the Public Works Department initially in the same position but was also employed on other projects. The Public Works Department commenced construction work on the Goolwa-Port Elliot railway in 1852 at Horseshoe Cove under the superintendence of William Rogers. The towns of Goolwa and Port Elliot were surveyed and proclaimed in 1853.

The original horsetram route from Goolwa to Port Elliot

The harbour at Horseshoe Bay, Port Elliot, and its 60 foot jetty were protected by a stone breakwater. From the jetty and its warehouse the single track ran round the edge of the cove then ascended an incline of 1 in 100 through a cutting 370 feet long with a maximum depth of 23 feet. Though started first, this was the last section of the line to be completed.

Following the rejection of steam in favour of horse power, the grade in the cutting was increased from 1 in 100 to 1 in 60, the reason being that 1 in 60 was suitable for horses. Economy was the real reason in both cases. The line continued directly towards the Middleton Mill on the natural surface though a slight detour would have kept the line on the same contour.

After crossing the stream or scour behind the mill the line entered Middleton station where there was a crossing loop. From Middleton the line continued across the coastal plain, a second crossing loop being provided halfway to Goolwa. After crossing Goolwa Terrace and passing the town's Post Office the line descended through a cutting 170 feet long and 15 feet maximum depth to the wharf area. The planned 60 feet long jetty at right angles to the river bank was built as a wharf. Initially all wagons passing between the main line and the wharf had to be rotated 90 degrees on a small turntable, a common practice when all wagons and trucks were four wheeled. In time a sharp curve linked the main line with the goods shed on the wharf.

The 401b per yard wrought iron rails were laid on transverse native eucalypt sleepers, six inches square if rounded or 10 inches by five inches if hewn, placed with their centres 2 feet apart and secured with half inch screws 4 1/2 inches long. As fishplates were a still a novelty, having been invented in 1847, they were not used and the rail ends were placed together and screwed onto the same sleeper. Stub points, otherwise known as movable rail switches, being cheaper and easier to maintain, were used rather than blade switches. Stub points survived on the Wandilo-Glencoe branch in the south east of South Australia until 1957.

Thomas Jones succeeded Rogers early in 1852. So far the work had been concentrated only around Port Elliot. It was Jones who had the grade in the cutting increased to 1 in 60. He made a few other minor amendments which were duly accepted by Hays. Work now proceeded apace so that by December 1853 the rails had been laid from Goolwa to the top of the Port Elliot cutting and were carrying traffic, including that sent down the Murray. Loads were transferred to bullock wagons to be taken to the wharf.

Longitudinal sleepers had been proposed, probably by B H Babbage who would use them on the Adelaide, City and Port Railway, then in the planning stage, and of which he was the Engineer. They were used on wharf decking. Their cost and the lack of experienced sawyers in the area told against them. Between the rails, the ballast, laid to a depth of between six and nine inches, covered the sleepers and was then blinded with sand to provide a smooth path for the horses. In time the horses would wear troughs in the ballast eventually exposing the sleepers which disconcerted the horses. Heavy trucks or a train of up to four trucks would be hauled by two horses side by side, a comfortable arrangement as the gauge was 5 feet 3 inches. This gauge had been proposed by William Shields, Engineer of the Sydney Railway Company and accepted as Australia's national gauge by Victoria and South Australia, the latter using it on contemporary Marine Board jetties such as that at Robe, Guichen Bay.

It was George E Hamilton, Inspector in Chief of Main Roads and Assistant Engineer of the Adelaide, City and Port Railway, who considered the Goolwa line to be a tramway. He had been a colleague of Robert Stephenson and had worked with him when building railways in Lancashire. Hamilton was commissioned to report on a railway from Adelaide to Gawler Town, preferring to call his first proposal dated 11 November 1853 a tramway as he was contemplating using horse power. He also contemplated laying the track beside the road to Gawler, a tramway in England being a railway laid along a public thoroughfare. This condition did not apply to the Goolwa line but the description was accepted and was used in government reports. 150 years later it might have been 'light rail'.

Rolling Stock

The rolling stock by May 1854 consisted of 12 four-wheel flat trucks which would be particularly useful for carrying bales of wool and sacks of wheat. These trucks had a tare weight of 1 ton 9cwt 2qr and could be loaded to a gross weight of five tons. They were fitted witn loose link couplers and dumb buffers, extensions of the longitudinal beams of the underframe. Each truck was fitted with a hand brake, a brakesman travelling on the truck to operate the brake to steady the truck when descending grades. Trains of up to four trucks so staffed trundled along at an average speed of three to four miles per hour. Such trains would be hauled by two or even three horses.

One truck was adapted to carry passengers and mails by fitting it with transverse benches whose occupants sheltered from sun and rain beneath a canvas sheet supported by four stanchions. This car made two return trips each weekday, leaving Goolwa at 9.00am and 2.00pm, returning from Port Elliot at 11.00am and 4.00pm. Running times were 30 minutes for the 4 1/2 miles between Goolwa and Middleton and 15 minutes for the 2 1/4 miles, Middleton-Port Elliot, an average speed of nine miles per hour.

With traffic being carried, B T Laurie was appointed Superintendent of the line from 1st January 1854 but in May that year he was succeeded by Thomas Jones who held the post until 1870. With his arrival formal accounts were kept from 18 May 1854, now considered the day business commenced.

A truck was built specifically for passengers at the Bowden carriage repair shops in 1859 and was first used on the Queen's Birthday when it was used for a free promotional trip from Goolwa to Port Elliot and back. It was described as “cozy and comfortable, resting on springs and free fromthe jolting of other trucks”.

Two solid partitions supported the radius roof sheltering the occupants of this centre compartment which otherwise was open to the elements. Leather blinds could be lowered to protect the passengers when the weather was bad. The truck's design appears to have been that used for the replica passenger truck built for the centenary celebrations in 1954. It would appear that this compartment was enclosed with panelling, the window in the door remaining unglazed. Two similar cars were built in 1866, all being known as 'green trucks', dark green being the passenger rolling stock livery of the Port Adelaide and Kapunda steam powered railways, also part of the Public Works Department.