The First Steam Powered Railway in Australia

Historical context

1825 The first public railway to use steam traction for passenger and freight opened between Stockton and Darlington in the UK.

1835 The City of Melbourne was founded by a few settlers from Van Diemen's Land (modern Tasmania).

1851 Gold discovery at Ballarat sparked Victoria's famous gold rush.

1852 In April, eight tonnes of Victorian gold arrived at the London docks.

1854 The first steam powered railway in Australia opens connecting Melbourne city to its port at Sandridge.

Between 1835 and 1839, Melbourne became a thriving commercial centre and chief port to the rich pastoral districts that surrounded it. Its population growing from 177 people in 1835 to some 3000 in September 1839. The town was proclaimed an ecclesiastical city (with a bishop of the Anglican Church) in 1848 and, in 1850, Victoria was proclaimed as a new colony, separate from New South Wales. The speed of official recognition was matched by the rapid growth of Melbourne's population.

By the 1851 census, depending on the boundaries used, Melbourne's population had risen to between 23,000 and 29,000 people. By 1861 the population had increased to 140,000 and kept doubling every 20 years for the rest of the century.

The driving force was gold. During the peak of the gold rush, an estimated 6000 diggers (miners) arrived each week seeking their fortune. Ballarat was considered the world's richest alluvial goldfield during its short-lived peak between 1852 and 1853.

The need for a railway

In 1835, the Melbourne topography was very different to today. The main settlement was on the north side of the Yarra River around a freshwater stream – generally in the area of the red rectangle. But the safe anchorage for shipping was in Hobson's Bay – generally in the area marked with the red oval. Transporting people and goods between the city and the bay involved trekking across swamy land interspersed with sand hills and ridges[1]. The unformed roads typical of the 19th century were barely usable prior to the gold

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[1]   The full *Once As It Was* map showing the lands of the Boon Wurrung people can be obtained from:
    https://www.ecocentre.com/programs/community-programs/indigenous/

rush starting and totally inadequate once the rush started. Sand and rock bars made the Yarra River less than ideal Major civil engineering works would be needed to open-up the Yarra River for trade and create the Melbourne docks, these were not undertaken until many years later.

In the meantime, the shipping problem was becoming serious:

A picture of Hobsons Bay painted in the late 1800s from across the bay at Williamstown

This picture of Hobsons Bay shows some of the 1000s of ships per year arriving into the port during the gold rush. As well as unloading passengers and cargo, each ship also needed to provision with stores and freshwater for the return trip to Europe or the USA. This logistical problem was compounded by many crews jumping ship to join the gold rush. The initial solution to the logistical challenge was to build a railway, later developments involved building the Port of Melbourne[2].

Building the railway!

The construction of Australia's first steam rail line was kicked off at a public meeting convened by Melbourne's mayor in early 1853 to sell shares in the Melbourne and Hobson's Bay Railway Company. The company had been formed in August 1852 to build a rail line between Flinders Street Station and Sandridge to ease the problem of moving people and goods between the port and the city.
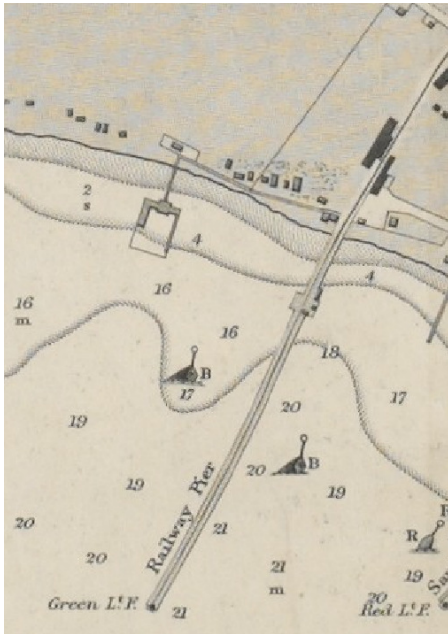
The company was initially capitalised at £100,000; issuing 2000 shares £50 each. This is the equivalent in purchasing power to about £8,127.82 today, or $15,000. To construct a 2½ mile line across reasonably level terrain this was a relatively generous capitalisation, but to complete the line the company had to double its issued capital.
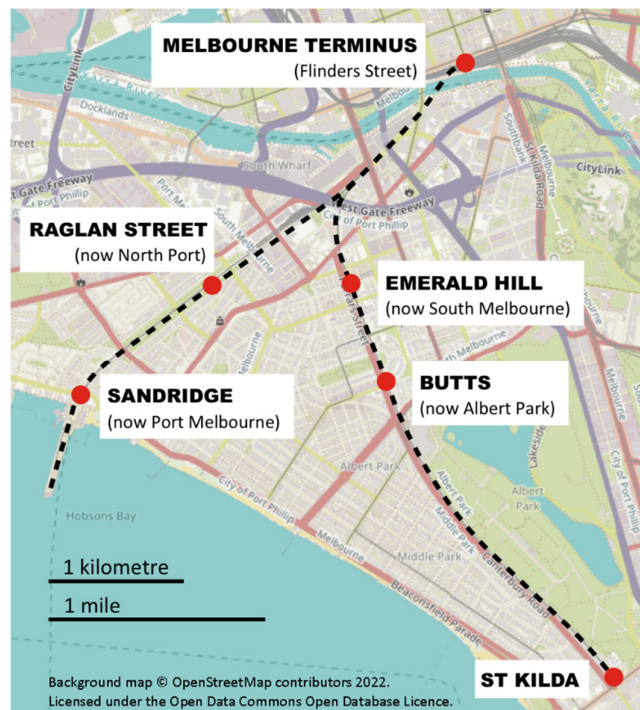
Construction of the line began almost immediately. Work progressed rapidly on both the stations and the track, with the official opening held on the 12th September 1854. The track used a broad-gauge of 1600 mm (5 ft 3 in), and crossed the Yarra River via the original Sandridge bridge. The second line to St Kilda shown on the map was opened in 1857[3].

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[2] For more on the challenges of **building the Port of Melbourne** see:
https://mosaicprojects.wordpress.com/2024/01/17/the-port-of-melbourne-is-not-what-it-seems/

[3] For more on the **development of South Melbourne** see:
https://mosaicprojects.wordpress.com/2022/06/15/the-evolution-of-south-melbourne/

Seven steam engines were ordered from English manufacturers Robert Stephenson and Company. However, work on the line had progressed so quickly that the trains were not going to arrive in Australia in time for the opening. Instead, two engines were ordered locally, the first steam engine produced in the Southern Hemisphere.

One, a ballast wagon powered by pile driver components was built by Robertson, Martin & Smith of Melbourne and used for the construction of the railway. The second, "Dusty Bob" was built by Langlands Port Phillip Foundry for the opening. Both were rapidly manufactured in ten weeks for about £2700. The English engines (four of which were named: Melbourne, Sandridge, Yarra and Victoria) arrived later, and were all in use by 1855.

The railway was an instant financial success, as its fares were high and the route popular. The journey took about 10 minutes with two trains running every half hour.

The Railway Pier at Sandridge (now Port Melbourne).
Railway safety protocols appear to be very different in the 1860s.

Other early railways

Australia's first railway opened 10th December 1831. Built by the Australian Agricultural Company (founded 1824) to service the *A Pit* coal mine in Newcastle, NSW. The company had agreed to take over coal mining at the settlement from the convict miners that had commenced Australia's first mines in 1804.

The *A Pit* was located on *the hill*. To move coal from the pit, to ships on the river, a railway was built using cast iron fishbelly rails from England. Gravity was used to power the railway, loaded wagons at the pit were connected to empty wagons at the wharf by a long rope. As the heavy wagons rolled down the hill, the empties were pulled up[4].

Another early line was the Goolwa to Pt. Elliot railway in South Australia. This was the first passenger line in the country when it opened on 1 May 1854, however this was a horse-drawn service.

In the decade immediately after the Flinders Street to Sandridge line opened, many other rail companies emerged that built lines in Melbourne and surrounds, running services around the city and into the booming goldfields[5]. However, unlike the Melbourne and Hobson's Bay Railway Company, many of these were financial disasters. Eventually, the Victorian Government acquired most of the privately owned rail lines, creating Victorian Railways and operating an ever-expanding service network across the state. Then in 1878 the Victorian Government acquired the Melbourne and Hobson's Bay United Railway Co., giving it an almost complete monopoly on Victorian railways. The lines were in use until 1987 when they were modified to become light rail sections of the Melbourne tram network, and are still in use today as the 109 tram to Port Melbourne, and the 96 to St Kilda.

The Melbourne tram network was a much later development; it did not begin until 1884 with the construction of the Fairfield Horse Tramway. This was followed by the construction of the Richmond cable tram line by the Melbourne Tramway & Omnibus Company in 1885. Over the next few years, 16 more cable tram lines were constructed, as well as numerous other horse tramways.

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First Published 11th June 2023 – Augmented and Updated

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[4]   For more on similar early wagonways in the UK see **The First Railway Projects**:
https://mosaicprojects.com.au/PDF_Papers/P207_The_first_railway_projects.pdf

[5]   See a detailed map of Melbourne's railways in 1864: https://mosaicprojects.com.au/PDF-Gen/Melbourne_1864.jpg