



The Wooden Streets of Fremantle

by John Dowson 2020

A tourist attraction beneath our feet - how to get an authentic historical attraction for a small investment of around \$20,000 (see p6)

The 1890s gold boom helped rebuild Fremantle, and by 1897 Fremantle Council, deciding they could get no help from the State Government paving their roads the way they wanted them, took out a loan themselves to buy 300,000 wooden blocks to pave High Street from the Town Hall to Cliff Street. The remarkable 3D stereograph above shows the beginning of the project in 1898 near the Town Hall, and below, the similar location in 1905 laying the new tram tracks amongst the blocks.



The Urgency

During the Gold Rush of the 1890s the streets of Fremantle may not have been paved with gold, but some were paved with valuable timbers like jarrah and karri.

A substantial section of Western Australian wooden paving blocks has been unearthed in Mouat Street, Fremantle during the 2020 Water Corporation Pipes for Fremantle renewal project.

But they have been covered up again, ready to be forgotten by Fremantle Council, like earlier Fremantle archaeological projects in Pioneer Park, King's Square, and Arthur Head. *Yet, showing the exciting wooden street in Mouat Street to passersby is a project not expensive or difficult.*

The Pipes for Fremantle project is itself worthy of archaeological interpretation. The Water Corporation Pipes project is replacing cast iron pipes dating back to 1890, though leaving them in the ground alongside their new plastic cousins. Those cast iron pipes have lasted longer than the wooden blocks which covered the streets above them. High Street wooden blocks were laid in 1898, Mouat and half of Cliff Streets in 1903.

Many streets around the world were paved with valuable WA timber. An astonishing amount of jarrah and karri was used. Very little of the streets of wood remain, in Australia or overseas, but talk of wooden streets in Australia goes back before Western Australia was even settled.



Mouat Street looking north from High Street, showing one of the sections of wooden street found during the pipes replacement program (photo: courtesy Archae-Aus), and since covered up again. If blocks exist for example under car bays, several bays could be given up for a permanent public archaeological display, excavated to reveal the wooden blocks, treated, and covered with glass.

The Back Story - Wooden Streets from 1826

The 1500BC Amber routes of Europe used wooden logs in parts, but when were wooden roads first discussed in Australia? The very day, 2 December 1826, that the *Hobart Town Gazette* reported Major Lockyer visiting for a supply of water on his way to form a settlement in Albany, the newspaper discussed the use of timber on roads in Europe: "We should remark here the practice in Vienna, and other cities of the Continent of Europe, where open courts and blind alleys are usually paved with blocks of hard wood."

On 9 February 1839, Sydney's *The Colonist* recommended wooden streets for Sydney, reporting that merchants in the world's most famous shopping street, Oxford Street in London, were so keen to have wood paving, they offered to pay for a section themselves. They turned up at a council meeting with a New Yorker who attested to the success of wood paving on Broadway, "the greatest thoroughfare in America." But six years later, articles attributed to Edgar Allan Poe were published in New York's *Evening Mirror* decrying America's lack of progress with wooden streets and quoting the New York Mayor's call for Broadway to "be repaired with granite upon a bed of concrete." Poe noted that "during the last two thousand years, the world has been able to make no essential improvements in road-making." Poe was all for wooden blocks, but only when laid to avoid "the two evils of *swagging*, or (blocks) floating in wet weather, and of decay." For Poe: "They occasion little *noise*, they save a great deal of horsepower, pleasant to the hoof, and thus save the health of the horse - as well as some twenty or thirty per cent in the wear and tear of vehicles - and as much more, in time, to all travelers through the increased rapidity of passage to and fro".

The satirical *Punch* magazine thought London's streets in 1846 were such a mess they were fit for a steeplechase: "The grand fun of a steeplechase seems to consist in the risk people run, and the difficulty they encounter in urging their horses across yawning chasms, and other kinds of obstacles." Drivers: "if their horses will gallop fast enough, would induce them to plunge without hesitation into the midst of sewers and gas pipes, or to go bounding over lumps of granite, blocks of wood, and every other obstacle which the paving, lighting, and watering authorities are constantly offering to the traffic of the metropolis."

Even Charles Dickens entered the debate in 1856, noting the problems: "that the knavish contractors supply blocks so rotten as to be worthless a few days after they are put down, and that the horses are continually slipping and frequently falling on the perilous highway. It is unpleasant, also, to be semi-asphyxiated each time you take your walks abroad, by the fumes of the infernal pitch-cauldrons, round which the moujik workmen gather, like witches" (*A Journey Due North*, 1856).

Western Australian hardwoods arrived in the late 1880s to solve these street paving problems.

1862: Governor Hampton Arrives in WA

It took John Hampton, Governor of WA 1862-1868, to get wooden roads in WA. He had seen them in Canada, and ordered three miles of Stirling Highway to be paved as a test. Convicts cut down 300 year old jarrah trees and made 30cm thick discs, later to be known as "Hampton's Cheeses." These probably continued after his 1868 departure, as a Main Roads worker in 1948 found a London Mint 1870 British sovereign under one "Cheese" near Belmont.

Hampton paved parts of the road to Guildford, which followed a well-worn Aboriginal track, and the Albany Road, with wood. A half-mile section of the Guildford Road (now Great Eastern Highway) timbers in Redcliffe, near Belmont, was dug up in 1933 by Main Roads. The blocks, up to a metre in diameter, were probably cut from the jarrah forests formerly found close to the Swan River near Guildford. Clay had been used as a filling between the logs. Most were in excellent condition, and so heavy they required three men to load one onto a vehicle. Hundreds of truckloads were taken to South Guildford where, ironically, the wooden Helena River Bridge was being built, and used as fuel for the steam rollers there. More were discovered in 2012. The Belmont mayor proudly announced that his council was "committed to preserving its history", so just six of Hampton's Cheeses have been moved, and will one day be displayed (but heritage should be revealed and interpreted where it is, and not moved, if possible).

Worldwide Use of Jarrah and Karri

After Hampton's departure, it took a while for smaller wood blocks to be trialled. In 1883, *The Inquirer* (28 March) wrote: "The use of siltage from the river, applied in the way it is now, is very undesirable for more reasons than one, while the sandstone rapidly crumbles into dust, and is either blown away or carried to the river in gutters. We have more than once recommended the use of wooden blocks for paving the streets." In 1891 (15 July) they wrote: "it seems passing strange that the Perth City Council, who appear to adopt the cheap and nasty, should prefer rotten mud and unsightly shells from the river to the equally cheap, clean, slightly (and withal eminently sanitary) material to be found in the stately jarrah forests at our very doors." Two years earlier, karri blocks were laid in Flinders Street, Melbourne, but the first street in Australia to have wooden blocks (redgum) was probably Pakenham, not in Fremantle, but Echuca on the Victorian border with NSW, in 1867 (along with Hare Street). Sydney's King Street was next in 1881, when building contractor, and 33rd Mayor of Sydney, John Young, introduced 9" x 3" x 6" wooden blocks.

In 1888 Chelsea in London trialled jarrah blocks, though shopkeepers complained the hardwood gave a metallic ring under traffic (Chelsea was still using wood blocks in 1937 -

on their new bridge). But, the use of Western Australia's precious "Swan River Mahogany" for mundane purposes like wooden block streets, exploded, and 90% of our great forests went to the ends of the earth. By 1893, five years before paving of High Street Fremantle, two million jarrah blocks, and 250,000 karri, had been laid in St Pancras, London, building on the 53 miles of softwood block streets that existed in London by 1884. Mind you, London had 2,000 miles of streets, mostly of flint, gravel, or macadam.

Camberwell in London laid over 12 miles of blocks. After 10 years they were taken up, and 65% were able to be recut, and reinstalled on their eight inch thick concrete base. Similarly, just in the UK: Hampstead, Ramsgate, Edinburgh, Newbury, Bolton, Batley,



Regent Street London: paved with Western Australian karri (photo MC Davies' Karri & Jarrah Co Ltd- see handbook pro)



Bartholomew's Road Surface Map of London, 1922. Yellow stands for a wooden road surface; green is for sheet asphalt; blue is for setts; pink is for macadam, i.e. tightly-bound crushed small stones.

Cheltenham, Southampton, Bermondsey, Bristol, Southwark, Wimbledon, Harrogate, Cambridge, Plymouth, and Newcastle Upon Tyne used shiploads of WA timber after 1895. German cities included Hamburg, Strassburg, Leipzig, Elberfeld, and Guben.

Patten Barber, engineer of Islington, London (a section of remnant blocks still exists in Chequer street today), stated in 1903: "Granite setts are condemned on account of the noise made by the traffic passing over them, and asphalt because of its slipperiness and the bad foothold it affords to horses, especially in starting with heavy loads. Wood is undoubtedly the material most approved of by the public, whose demand for a noiseless pavement is not likely to be relaxed. Business is impossible and residence distressing in a busy street paved with material on which the traffic produces a continuous clatter... jarrah from Australia led to the softer wood being to a great extent abandoned. Jarrah is now in almost universal use."

But karri was often preferred. The Chief Engineer of Paris wrote: "Karri up to now seems to me to give very good results, much better than those of jarrah". Fulham Vestry London agreed, adding "Jarrah and karri are shewn to be both cheaper in the end than creosoted deal, and karri the cheaper of the two." Hardwoods also lasted five times longer than deal. Even when the tramways arrived, with problems of inserting rails into streets, hardwoods were extolled. In 1909 UK's Biggs & Sons Municipal Engineering stated: "Macadam is out of the question; granite is noisy; asphalt is forbidden as a tramway edging; soft wood is unsanitary and short-lived; there is nothing left, therefore, but the hardwood block for such a position."

Western Australian hardwoods were king, heavily used in streets until the 1930s around the world, and often not replaced until the 1950s. Huge amounts were also utilised for railway sleepers, docks, bridge construction, mining, and general building purposes.

A \$20,000 Project?

For a modest sum of around \$20,000, a worthy archaeological project could be completed.

- a) Test for location of wooden blocks in two Mouat Street car bays and remove bitumen (Water Corp - FREE)
- b) Loss of 2 car bays (Council-FREE)
- c) Assessment and direction for block preservation (Fremantle Maritime Museum - FREE)
- d) Archaeological supervision / preparation (20 hours @ \$120 hour = \$2400)
- e) Glass screen/installation \$16,000
- d) Fremantle Society research (FREE)
- e) Interpretation signage \$2,000.

TOTAL \$20,400



Danger! Extraordinarily, just 2 weeks after the discovery of wooden blocks in Mouat Street, Water Corporation were back digging in Mouat Street, with council permission, just 20 metres from the discovery, damaging wooden blocks in the process. But they had a workwoman, here pictured eating noodles, guarding the operation.



High and Market Street 1905 tram track construction and wooden blocks. From John Dowson's *Old Fremantle*.

Fremantle's Wooden Streets

WA hardwoods built much of Fremantle - the wharves, jetties, bridges, buildings and some streets. When eight companies combined to form Millars' Karri & Jarrah Company (1902) Limited, with 350 miles of railway, 40 locomotives, 1000 horses, and 3,500 men, (largest hardwood company in the world), the great forests of WA did not stand a chance.



Pioneer Park Fremantle. Cleaning jarrah street blocks for re-use in September 1905, just months after tramlines began to be laid throughout Fremantle. From John Dowson's *Old Fremantle*.

Fremantle's Wooden Streets

In 1897 Fremantle council took out a loan to pay for their wood blocking, the *Daily News* (5 Feb 1898) noting that “The Fremantle Municipal Council has been the first body in the colony to use wood-paving in public thoroughfares to any extent... jarrah has very strong claims from both hygienic and economical points of view.”

The wood paving for High Street was swiftly completed in 1898, gangs of men working 24 hours a day on three shifts. The wooden water channels flanking the street were replaced with jarrah kerbing. But wooden streets caused their own problems. While laying the High Street blocks, a fire broke out in Parry Street where council workers were preparing the blocks by dipping them in boiling tar. The tar leaked into the fire and “huge volumes of black smoke rolled up from the fire... it appeared as if half the town was burning” (*Inquirer* 29 April, 1898). The Fire Brigade were no use and the town supervisor E.H. Gliddon arrived to direct sand being thrown on the fire. “The block drying shed close by was on fire and a pile of 30,000 tarred paving blocks... were also ignited.”

In Fremantle, it seems only High (1898), Mouat, and half of Cliff Streets (1903) were paved with wood, though the cab stand opposite the town hall was wood blocked in 1899 for £15, and the new train station in 1907 had wood paving for the cab rank and outside the parcels office. Messrs Davis, Hankinson and Co. of Perth, who helped lay a mile of blocks in Hay Street Perth, in 1899, did the job in Fremantle in 1903 for the council with around 250,000 blocks.

Also, there was extensive wood blocking inside the port, which had opened in 1897, itself built of Western Australian hardwoods. Over a dozen railway lines ran through the area and along the wooden wharves, causing up to 22 fires a day there. Solution: put wood on the wood. On 28 February 1903 the *Western Mail* reported: “It is also proposed to lay down, wood blocking between the sheds and the kerb of the wharf, on the same level as the top of the railway rails. This will facilitate the removal of goods to the sheds, and minimise the small fires which are frequently caused on the wharves by locomotives... At a meeting of the Board on Tuesday, the secretary was instructed to draw the attention of the Commissioner of Railways to the fact that the Fremantle Wharves were constantly being set on fire by live coals dropping from the locomotives while working on the wharves. The fires, it was stated, were almost of hourly occurrence, and one day last week no fewer than twenty-two outbreaks were reported. Scarcely a day passed without about a dozen small fires occurring from this source, and in consequence, the wharves were being considerably damaged.”

Fremantle's hard working three time mayor Elias Solomon, in 1908, the year before he died, advocated wood blocking of all the principal streets of Fremantle. The 5 December *Truth* agreed: “This is an idea our councillors should catch on to instead of inflicting their white-crowned blinding thoroughfares on the populace.”



Top: Soon after being laid, wooden blocks are pulled up for the laying of tram tracks in 1905, here corner of High and Cliff Streets. *Bottom:* The extensive use of wooden blocks, put down here in 1911, can be seen on the left under the bitumen in this 1934 image of Cliff Street looking south to the entrance of the town at Phillimore Street. The 1907 Customs House on the left, brick and stone built using WA hardwoods, replaced Fremantle's first railway station. On the right is the brand new Richmond Brewing Depot, corner of Fleet Street, with capacity for 2,500 18 gallon casks, or 45,000 gallons of refrigerated beer, all shipped from Melbourne.



Jarrahs heads overseas from the Mailboat Jetty at North Wharf Fremantle c1905



ROMFORD ROAD, EAST HAM, IN COURSE OF CONSTRUCTION WITH SECTIONAL HARD WOOD BLOCKS.

Millars' may have been the biggest hardwood company in the world when they amalgamated eight companies in 1902, but they ran into stiff competition from eastern states mills, and from countries like America selling creosoted fir blocks. Here, in front of a large Millars' sign, the latest design three piece blocks bound with steel bars are being laid in London.

The intersection of Mouat and High was regarded as the busiest in Fremantle, and indeed one of the State's busiest. That is why in 1910 Millars' Karri and Jarrah Company (1902) Limited asked council for specimens of the 9" x 6" x 3" wood blocks laid there in 1898, in connection with tenders the company was lodging for orders outside the State. The wooden blocks were found to be "practically as good as new." Millars took samples to the eastern states, lobbying councils there to use their WA timber.

In 1912 wood blocking was extended from Cliff Street across Phillimore to the Harbour Trust boundary. The previous year the *Western Mail* reported on 22 July: "Not the least important improvement effected this year (at the port) has been the wood-blocking of the road from Cliff-street down the delivery side of the harbour sheds. This item meant the expense of roughly £9,000" - the same amount spent putting 486,000 blocks along one mile of Hay St.

Market Street from the 1907 railway station to the South Terrace corner was going to be wood blocked, but the *Truth* (7 Jan, 1911) reported: "The Municipal Mugwumps are at it again...a battalion of horny-handed sons of toil are tearing up the street with great enthusiasm, preparatory to slagging it... it looks as if the Council is making a reckless attempt to excuse its humorous purchase of twenty thousand tons of slag from the Fremantle Trading Company at a price of several thousand sovereigns belonging to the ratepayers, by dumping it down in Market Street."

In 1920, Council, still interested, intended laying one million blocks along "the principal arteries leading from the town" (*Fremantle Times*, 2 February), but that idea seemed to disappear into thin air. And thus the Mugwumps denied Fremantle any more wooden streets.

The rediscovery of a substantial number of wooden blocks in Mouat Street is a highly significant scientific find in a world-class heritage town. It vividly tells the story of what has gone before. Fremantle Council needs to act NOW to get these blocks conserved and presented to the public where they are, through a covering of appropriate glass and with detailed interpretation. Given the grief caused to local businesses for many months by the necessary but intrusive Pipes project, an archaeological discovery like this made visible to the public would be a great, and a positive outcome after so much disruption. The project should begin now, not in the future, when people have forgotten where the blocks are.

"The only good example of roadmaking in the Fremantle district is where wood-paving has been laid down" *The Weekly Herald*, Fremantle, 22 June, 1923.

Sources:

The Davies' and Millars' handbooks featured on the rear cover (Dowson collection) provide many of the accolades for WA timber quoted. Millars' (that's them on the left) handbook is available online to view through the WA State Library. Other quotations come from Trove and web pages like roadswerenotbuiltforcars.com and ianVisits.p9 (top) courtesy Stewart Alger, Fremantle Local History LH001888
Pp9 and 10 port photographs courtesy Alan Pearce, Fremantle Ports.



Exporting the forests of Western Australia: Davies, Millars & 6 others formed Millars' Karri & Jarrah Company (1902)
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