

NORTH FREMANTLE RAILWAY BRIDGE COLLAPSE 1926 An accident waiting to happen?

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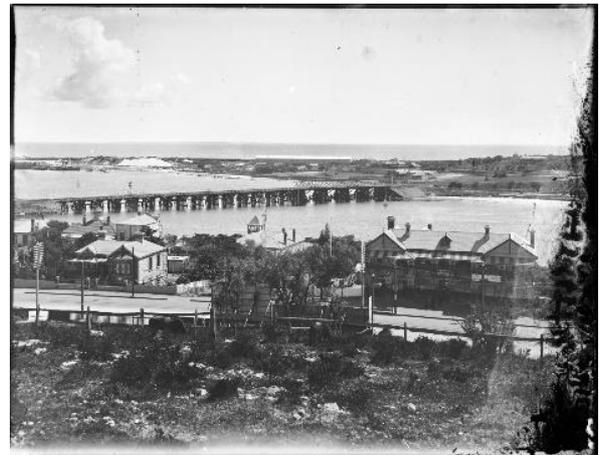
In July 1926 very heavy rains in the South West of Western Australia caused 'extensive washaways' in the railway system¹ and were thought to be responsible for the collapse of the Fremantle Railway Bridge on 22 July of that year. This was the second railway bridge across the Swan River and had been opened in November 1895. The first bridge, completed in August 1880, was for construction traffic for the Fremantle – Perth – Guildford railway line. This second bridge, was more substantial than the first and capable of taking heavier locomotives.²

The condition of the bridge caused comment almost from its opening. In December 1897 concern was expressed about its stability due to dredging of the harbour, the strength of the tide and the potential for cargo boats and steamers to collide with it³. Again, in October 1903, 'some alarm' was expressed but the foundations were found to be safe and secure⁴. None the less, in August 1905 questions were again being asked about the 'dangerous nature of the substructure' of the bridge.⁵



Location of the 2nd railway bridge, c 1890s?
(SLWA MAPR0000346)

Fremantle Railway Bridge and houses on
Riverside Road, Fremantle, 1907
(SLWA 009669PD)



Its condition remained a concern and in 1911:

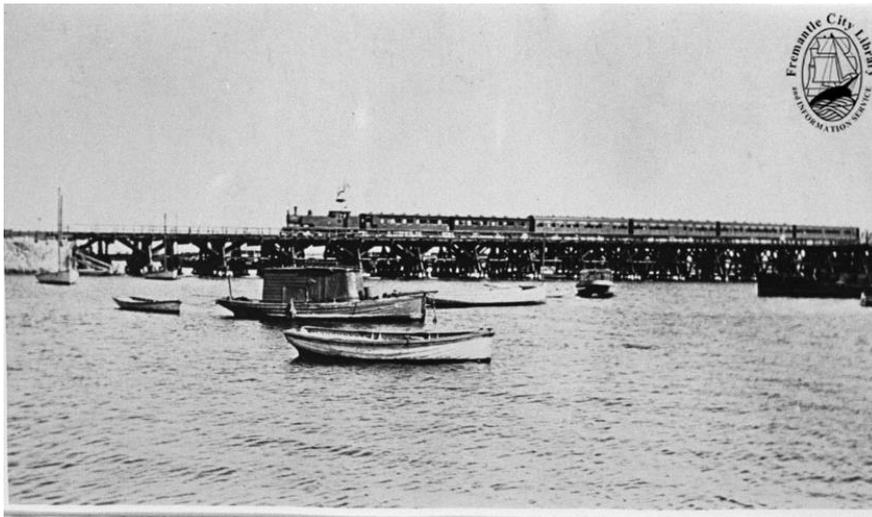
'... a couple of engine-drivers got a sudden shock the other day when crossing it. They swore that they distinctly felt the bridge rocking beneath the train, and heard ominous noises. The matter was reported at once, and the station masters from Fremantle and North Fremantle procured an engine and investigated things. They went slowly across and failed to detect anything and so came to the conclusion that everything was O.K., ... Perhaps the engine hands were mistaken, but it must be remembered that it is a vastly different thing crossing a doubtful bridge on an unattached engine to crossing it on a heavy-laden train. This bridge has been looked upon, with suspicion for many a long day. ... One of these days a couple of train loads of people will drop into the Swan with a wrecked bridge on top of them ... and the Minister for Railways will find himself working overtime signing compensation cheques.'⁶

The Western Australian Government Railway Weekly notice 51 of 1922⁷ recorded 'repeated outbreaks of fire' on the Railway Bridge and noted the provision of water taps and a hose 'for the purpose of extinguishing an outbreak':

Railway Bridge over River at North Fremantle.—Owing to repeated outbreaks of fire on the Railway bridge over river at North Fremantle, water taps have been provided at each escape, also a hose at the centre escape, on the bridge, for the purpose of extinguishing any outbreak. All concerned to please note.—W. & W. 1389/21.

Despite 'the heavy expenditure' incurred in maintaining the bridge⁸, by June 1923 passengers were becoming nervous:

'It's an old growl, we know, but there goes again. Every time we are forced to cross the Fremantle railway bridge we are obsessed by the theme of the well-known hymn, "Nearer, my God, to Thee." Certain it is that the bridge, despite all the wordy protestations to the contrary, is getting weakened and infinitely more dangerous every day. This state of affairs cannot go on for ever, and either the bridge must undergo extensive repairs or a train load will be spilled into the dangerous water at the foot. A distinct tremor is felt when a train rattles across the structure, and if, as the Fremantle business men hope, the service is augmented and the speed accelerated, then the danger assumes greater proportions. Must a catastrophe occur before anybody definitely wakes up?'⁹



A train crossing the Swan River from North Fremantle on the Railway Bridge, undated. (Fremantle City Library 3049)

In 1924 the bridge was said to be in 'a rotten condition'. It had inroads of teredo worm eating through the submerged wood¹⁰, and a permanent repair crew was kept, maintaining it.¹¹

Through 1925 issues regarding the safety of the bridge were raised in the Legislative Assembly¹² and newspaper reports 'freely alleged that the former railway passengers are being induced to travel to Perth and back by charabanc because there is fresh doubt about the safety of the bridge over the river';¹³ a concern that carried through into 1926¹⁴.

As late as June 1926, 'in many reports, officials stated that the bridge was an endless source of concern to them'.¹⁵ It was fortunate therefore that when disaster finally struck on 22 July 1926, it did not follow the predicted 'couple of train loads of

people' dropping in the Swan when part of the bridge collapsed. As a detailed article in the *West Australian* two days later noted:

...Tragedy was narrowly averted

The North Fremantle railway bridge was sagging yesterday as a train passed over it. Shortly afterwards, when it was only by a miraculous piece of good fortune that there was no passenger train on it, the structure began to collapse, and the effect of the swirling flood waters soon put it hopelessly out of commission...

... Heralded by the rumble of loose sand and rocks falling into swirling water and the creaking and groaning of strained timbers, a considerable portion of the northern end of the railway bridge which spans the Swan River at Fremantle collapsed yesterday afternoon and was washed at a tremendous speed down the harbour and into the ocean by the flood waters of the river. That the disaster occurred without loss of life can be regarded as miraculous for, a few short minutes before the general collapse of the bridge took place a passenger train from Fremantle, bearing a human freight which included several children thundered over the weakened structure. After the train had passed, the condition of the abutments of the bridge was noticed and the alarm raised. Instantly railway officials at North Fremantle and Fremantle acted and all traffic between North Fremantle and the central station was suspended. This was done only just in time for a train from Perth was stopped as it entered the North Fremantle station a few minutes after the disruption of the bridge had commenced and a goods train out of Fremantle was signalled to stop at the junction leading on to the bridge on the south side. ... That the occurrence would prove a severe blow to the Port was generally recognised. It would mean, it was stated, that the southern side of the harbour was practically isolated as far as cargoes coming from Perth were concerned ... Although, yesterday, no announcement was made, it would appear that the majority of the vessels using the harbour in the near future will be berthed at the North Fremantle quay, the railway facilities of which have not been affected by the breakage of the bridge...



The collapsed Railway Bridge, 22 July 1926,
(Fremantle City Library Reference 3375)



The collapse of Fremantle Railway Bridge, 1926
(Fremantle City Library Reference 3631)

...Protecting Sightseers

Photographers who, lured by the attraction of a fine view of swirling waters as the flooded river met the currents from the ocean near the railway bridge shortly before 1 o'clock yesterday afternoon, stood with their cameras on the first span of the bridge, could not have realised the danger of their position. Forty minutes later the timbers on which they had been standing were being whirled far down the harbour, only to be

brought back as the river, meeting the sea, formed a whirlpool of muddy water and white foam. When it became known that the bridge had given way, there was a rush to the scene of the happening. Motorcars, lorries and tram cars all carried loads of sightseers to the river bank and the rails of the North Fremantle traffic bridge were lined with people watching events on the other structure, a few hundred yards away. The sight was an awe-inspiring one. Between the two bridges at Fremantle the river opens out into a broad expanse of water but, before reaching the railway bridge, closes again into a fairly narrow channel. Through the bottle-neck so formed all the fury of the river, rendered doubly dangerous by the flood waters pouring into it at its upper reaches, raced in its dash to the ocean. Once through the bridge the currents of sea swirled up the harbour by the heavy swell "outside" were met with and the result of the meeting was that the combination of currents concentrated on the bridge. There were those who viewed the scene at the bridge yesterday who shuddered when they looked at the turbulent river and realised the tragedy which undoubtedly would have happened had not the railway officials been warned in time. The wrath of the river, which for the past week has been concentrated on the rock and earth foundations of the embankment which formed the first support of the bridge, increased yesterday.

The first sign that anything untoward was happening was a crack which appeared in the embankment. When this was noticed the damage had been done, for, as each wave lapped the stones the embankment was weakened more. Within a few minutes the bridge was damaged to such an extent that repair appeared impossible. A heavy mass of masonry gave way, and taking with it protecting timber, crashed into the water and was closely followed by beams from the bridge, which were left without support at one end. Through the gap thus created the torrent raged and it was only a matter of time before a gap of nearly 100ft. yawned between the bank and shattered end of the bridge. Throughout the afternoon pieces of timber cracked and fell, and in falling, weakened other timbers, which, in turn soon became the playthings of the river. Not only were the timbers of the bridge continually falling but the embankment, too, was eaten away. ...



Fremantle Railway Bridge, collapsed
22 July 1926
(SLWA 217691PD)

...First Warning of the Disaster.

... The first person to notice that anything was seriously amiss was Mr. George Henderson, master of the harbour tender Reliance [who] had noticed a slight crack in

the northern abutment on the previous day. At the time he did not regard the matter as serious, but when he inspected the spot again early yesterday afternoon he was perturbed to find that the crack had opened slightly. Whilst he was inspecting the fissure the 1.12 p.m. train passed over the bridge, and a few moments later he was horrified to see the gap open to a width of five or six inches. Conscious of the exceptional pressure of flood waters that were swirling against the embankment and the bridge supports, he realised that it would be only a matter of minutes before the aperture would be considerably widened, and a large portion of the abutment swept away. Instantly he clambered up the railway embankment and conveyed his startling tidings to a party of fitters who were working on the permanent way. Ganger Hogan, who was in charge of the party, acted without loss of time. He instructed a flagman to carry the news to the officials at the Fremantle station, and then set off to warn the stationmaster at North Fremantle. Prompt as was the action of Henderson, Hogan, and the workmen, their warning was not given a moment too soon. A goods train had actually left the Fremantle yards, and was approaching the bridge when a flagman arrived with the tidings that held it up and saved it from almost certain disaster. At North Fremantle the 1.5 [sic] p.m. passenger train from Perth arrived about 15 to 20 minutes after the alarm had been given...¹⁶

'The Minister for Railways visited the site and said that 'plant and material were already on their way for the repair of the bridge and that one line would be restored for traffic as soon as practicable...'¹⁷

By mid-October repair work was completed after several months of disruption to rail traffic¹⁸ and loss of trade for Fremantle businesses¹⁹. Tests made 'with light and heavy engines combined' were 'quite satisfactory' and 'direct railway traffic from Perth and Fremantle' was re-established.²⁰



'Light and heavy engines combined'
From *Sunday Times* 24 Oct 1926 p. 13

The structure of the bridge remained a concern as did its position limiting the expansion of the harbour to the east. Reports were written, including that of Tydeman in 1949 and eventually a new modern railway bridge was built upstream in 1964.



A train crosses the Fremantle Railway Bridge, 28 August 1984
(SLWA 325049PD)

You are certainly better off travelling across the current Fremantle Railway Bridge than the old one. You can sit and admire the view, secure in the knowledge that after the bridge was hit by a refuelling barge in 2011 and a container ship in 2014, barriers were put in place to prevent further impacts and an early warning system, to stop trains, was discussed.²¹.

.... or there's always your bicycle....

¹ 1926-7 WA Government Railways' Annual Report quoted in David Whiteford, 'The 1926 North Fremantle Railway Bridge Collapse – and 88 years on', published in *The times*, monthly magazine of Australian Timetable Collectors Association, November 2014.

² David Whiteford, 'The 1926 North Fremantle Railway Bridge Collapse – and 88 years on', in *The times*, monthly magazine of Australian Timetable Collectors Association, November 2014.

³ *West Australian*, 22 Dec 1897, p. 5 and *The Inquirer and Commercial News* 31 Dec 1897 p. 2.

⁴ *West Australian*, 3 October 1903, p. 6.

⁵ *West Australian*, 11 August 1905, p. 4.

⁶ *Truth*, 10 June 1911, p. 11.

⁷ WAGR Weekly notice 51 of 1922, p. 1357.

⁸ *West Australian*, 21 July 1922, p. 8.

⁹ *Call*, 1 June 1923, p. 1.

¹⁰ *West Australian*, 30 July 1924 p. 8. NB Teredo worm is actually a clam that tunnels through wood submerged in seawater. See: <https://poseidonsciences.com/teredo-worm.html>

¹¹ *Call*, 4 July 1924, p. 1.

¹² *West Australian*, 15 Oct 1925, p. 10; *Daily News*, 21 Nov 1925, p. 6.

¹³ *Sunday Times*, 29 Nov 1925 p 7.

¹⁴ *Sunday Times*, 7 Feb 1926, p 7.

¹⁵ *West Australian*, 3 June 1926, p. 8.

¹⁶ *West Australian*, 23 July 1926, p. 11.

¹⁷ *West Australian*, 24 July 1926, p. 11.

¹⁸ David Whiteford, 'The 1926 North Fremantle Railway Bridge Collapse – and 88 years on', in *The times*, monthly magazine of Australian Timetable Collectors Association, November 2014.

¹⁹ John K Ewers, *The Western Gateway: a history of Fremantle*, Fremantle City Council, UWA Press, 1971, p. 126.

²⁰ *Sunday Times*, 24 Oct 1926, p. 13

²¹ www.abc.net.au/news/2014-08-18/container-ship-breaks-mooring-as-storm-lashes-wa-south-west/5677500?nw=0]

www.pta.wa.gov.au/news/media-statements/early-warning-system-for-fremantles-rail-bridge