



CLOSING THE GAP

FOR more than 100 years Aucklanders have dreamed about a bridge to straddle the Waitemata Harbour. It was talked about by the pioneers long before the North Shore was settled, and at a time when Auckland was little more than a shanty town. Even today, after a century of agitation, Aucklanders are still talking about it—what it will cost, what changes it will bring, its capacity, design, aesthetic charm and so forth. But there are three men in Auckland who speak with more authority than most, and their words have been recorded for broadcasting by the NZBS. They are Richard Wilks, general manager of the Auckland Harbour Bridge Authority; Harry Whitehouse, resident engineer for the engineering consultants Freeman, Fox and Partners; and Wilfred Cardno, project engineer for the contractors, Cleveland Bridge and Dorman Long. Each is to give a talk in a series called *The Span of Bridges: The Designing and Construction of a Great Bridge*, which starts from 1YA on Sunday, May 12, at 9.30 p.m. (and from 3YA on May 9 at 4.0 p.m.).

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Talking about the Auckland Harbour Bridge has not lost any of its fascination in the last five years since the project became a reality. It is just that speculation has given way to the discussion of details. But speculation was the heart and soul of the first practical scheme advanced as long ago as 1860, when a company was proposed to build and run a bridge at a profit to its shareholders. The prospectus described a pontoon bridge which was to include a telescoping section to allow for the passage of ships. The cost of construction was estimated precisely at £15,562/16/-, and the annual revenue at £3798/12/6.

Agitation for a harbour bridge has been intense over the past 30 years. In 1928 the cost of a proposed bridge was estimated at nearly £2,000,000, and the following year the Government set up a commission to investigate the question. It reported that the bridge was "20 years before its time." But for the outbreak of war the bridge would probably have been built in the forties. The war not only forced the project to be placed on one side, it altered the public's way of thinking. If Auckland were bombed by an aggressor would not a tunnel be safer from attack?

LEFT: The Auckland Harbour Bridge, 3500 feet long, 200 feet high and costing more than £5,000,000, will link Stokes Point on the North Shore of Waitemata Harbour (top) with the city

Perhaps the bridge, if built, should run to the rapidly-developing Northcote district rather than to older, built-up Devonport. So, in the post-war years the whole question of trans-harbour traffic was reviewed.

The past ten years have seen the dreams of a harbour bridge merge into reality. The first step was taken in 1946 when a Royal Commission reported that the bridge should be built by the Government within 10 to 15 years. By 1949 tests of the sea bed and surveys had been made on the site that the Commission recommended—between Point Erin and Northcote—but the Government preferred to place the construction of the bridge in the hands of an independent body. So, at the beginning of 1951, the Auckland Harbour Bridge Authority was established by Act of Parliament. Meanwhile a British firm of bridge engineers, Freeman, Fox and Partners, had been preparing the preliminary plans of a steel bridge on reinforced concrete piers with a navigation arch under which large ships could pass. Two designs were submitted. One, with a high arch span regarded by the engineers as having better aesthetic values, was also more costly. The other design, with a low arch span, was adopted by the Auckland Harbour Bridge Authority in May, 1951.

Immediately the design was published there was more argument over the type of bridge to be constructed, whether it should be of the cantilever steel type as proposed, an arch like the Sydney Harbour Bridge (on which project Sir Ralph Freeman also worked), or a suspension bridge like those at San Francisco. The controversy was stimulated by the proposal of an American concern—the Pacific Bridge Company—to build a graceful suspension bridge. But the cost was nearly £3,000,000 more than the cost of the bridge for which tenders were called. The tender of the Cleveland Bridge-Dorman Long com-

bine of £4,236,036 was accepted by the Authority in October, 1952. This sum covered only the erection of the bridge itself.

By the end of 1952 the only major obstacle to be surmounted was that of finance. Sir John Allum went to London, where he found that the necessary millions were available. But the British Government could not, in its straitened circumstances, approve a loan for investment overseas. The New Zealand Government, also, was critical of the terms under which the Authority proposed to borrow £4,000,000. With no money forthcoming, the contractors' tender was allowed to lapse, and it seemed that the bridge had once again been thrown into the melting pot.

Mounting costs and the tightness of the money market now caused the Authority to review the project. A revised scheme was put forward in 1953 whereby the number of traffic lanes was reduced from five to four and the width of the bridge by 25 feet. The work on the approaches was to be kept to the bare minimum. This "austerity" bridge, together with its approaches and other amenities, cut the original total costs of £8,200,000 down to £5,000,000. The revised project was approved by the Government in December, 1953. The following April the Authority was given permission to raise a loan of £5,000,000 and in October, 1954, a contract was signed with Cleveland Bridge-Dorman Long to erect the bridge itself at a cost of £3,465,000.

Since then the work of building the Auckland Harbour Bridge has proceeded steadily. First, Aucklanders saw their beautiful Point Erin Park converted temporarily into a workers' camp. Then an area of reclaimed land at the western end of the Westhaven yacht harbour was covered with workshops, store sheds, offices, a short railway, structural steel, timber and piles. Work was started on the first of the caissons—those massive canisters of steel that form the foundations of the bridge's piers, deep down in the harbour bed. At Stokes Point, Northcote, where the northern anchorage is sited, work did not begin until last year. But already the first girders in the steel superstructure have been erected and at the southern anchorage the first span is almost complete.

There have been delays. There have been disputes between the contractors and their workers. The target date for the completion of the bridge is July 25, 1958, and it may be necessary for the contractors to ask for an extension of time. But, whatever the difficulties, the work is well advanced and the completion of the bridge appears to be assured. It only remains to assess the influence the bridge will have on the development of the North Shore, and Aucklanders are already talking about this. They are also talking about the tolls they will have to pay, whether the bridge will be able to carry an ever-increasing volume of traffic, whether it will still be quicker to catch the Devonport ferry, whether the bridge will be an aesthetic asset to the Waitemata, whether it would not have been better to build a tunnel after all, whether...

ALSO IN THIS ISSUE

<i>The Wit and Wisdom of Winston Churchill</i>	4
<i>Much Ado About the Third Wanted: Skilled Hands—and Brains</i>	6-7
<i>Short Story: The Sharemilker</i>	8
<i>Shepherd's Calendar</i>	9
<i>Editorial</i>	10
<i>Letters from Listeners</i>	11
<i>Books</i>	12-13
<i>Joseph Conrad</i>	14

<i>Helen Wilson</i>	-	-	-	15
<i>New Recordings</i>	-	-	-	17
<i>Open Microphone</i>	-	-	-	18
<i>Films</i>	-	-	-	19
<i>Radio Review</i>	-	-	-	20-21
<i>Ask Aunt Daisy</i>	-	-	-	22-23
<i>Programme Guide</i>	-	-	-	24-25

BROADCAST PROGRAMMES
Monday to Sunday, May 6-12 - 27-47