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REX

**RIVERSIDE
EXPRESSWAY
RECONSIDERED**

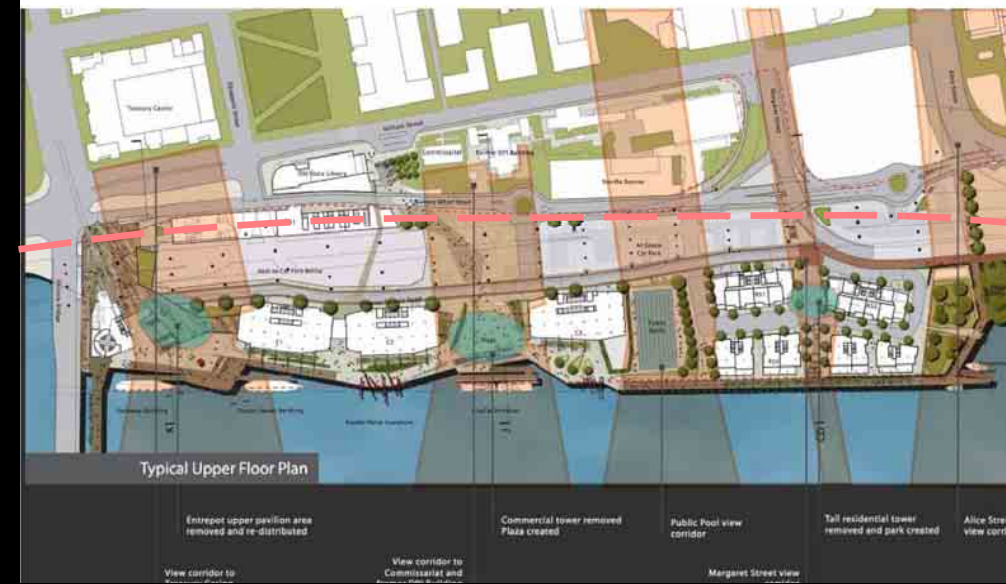
- 1 NORTH BANK**
- 2 TRANSPORTATION PLANNING
IN BRISBANE**
- 3 BRISBANE TRANSPORTATION PLAN
1965**
- 4 IMPLEMENTATION OF THE PLAN: Stage 1**
- 5 IS THE RIVERSIDE EXPRESSWAY SIGNIFICANT?**





CAPT COOK BRIDGE
RIVERSIDE EXPRESSWAY
VICTORIA BRIDGE

November 2007 Revised Scheme



BMX November 2007 Scheme – River Elevation



NORTH BANK 2001-2008

Cox Rayner Developed Design 2007 Plan and River Elevation



Media Release

12 September 2008

Speak Up on North Bank - before it's too late.

The National Trust is strongly urging Queenslanders to speak up on North Bank before public comments close on 24 September 2008.

President of the National Trust John Jackson said "The public is still confused and concerned about the North Bank process and is not supporting large commercial development in the Brisbane River."



Enhancing Heritage

Could North Bank become 'The Rocks' of Brisbane?

Extensive interpretation of history, great public spaces framed by historic buildings, sensitive subservient new development, places to sit, eat and drink, art and sculpture, markets and events, and a place of boats and waterfront activity.





JH Goldfinch, *Brisbane Town 1843* (NLA)
Site of first settlement May 1825



Henry Wade. Survey Brisbane April 1842 (QSA)

1920 Main Roads Board
1932 Bureau of Industry: Roads, Mining and General Works Committee
1938 Co-ordinator General

Brisbane CBD Transportation Planning

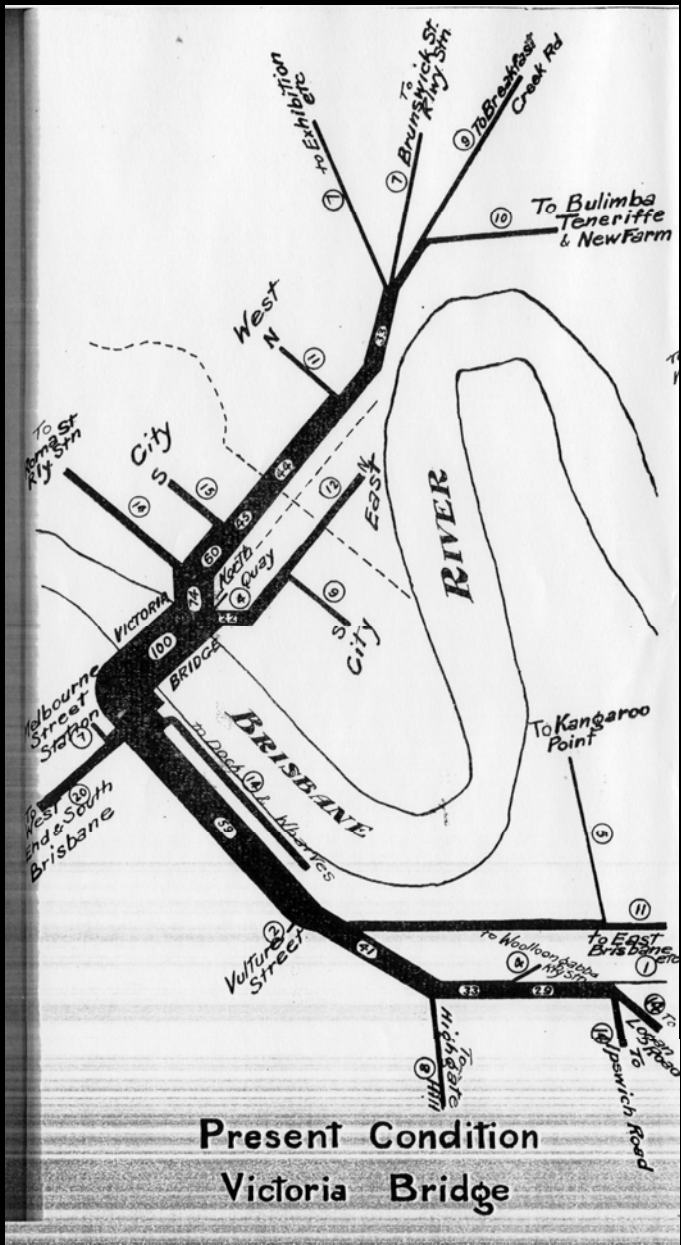
1925-1926 Cross River Commission
Grey Street and Kangaroo Point Bridges

1944-45 Brisbane Congestion Study
Eastern Bypass/Petrie Bight viaduct
1947-1950 Tram Undergrounding

1957 BCC Proposals for CBD
Viaducts to Town and South Brisbane River Reaches

1958 BCC/State Traffic Commission Study
Inner Ring road/Viaducts to both Reaches

1965 Brisbane Transportation Plan: Wilbur Smith & Associates
Riverside and Petrie Bight Expressways
Victoria and Captain Cook Bridges
1966 Lower Brisbane River Study, etc.
1968- Brisbane Public Transportation Plan



Present Condition
Victoria Bridge

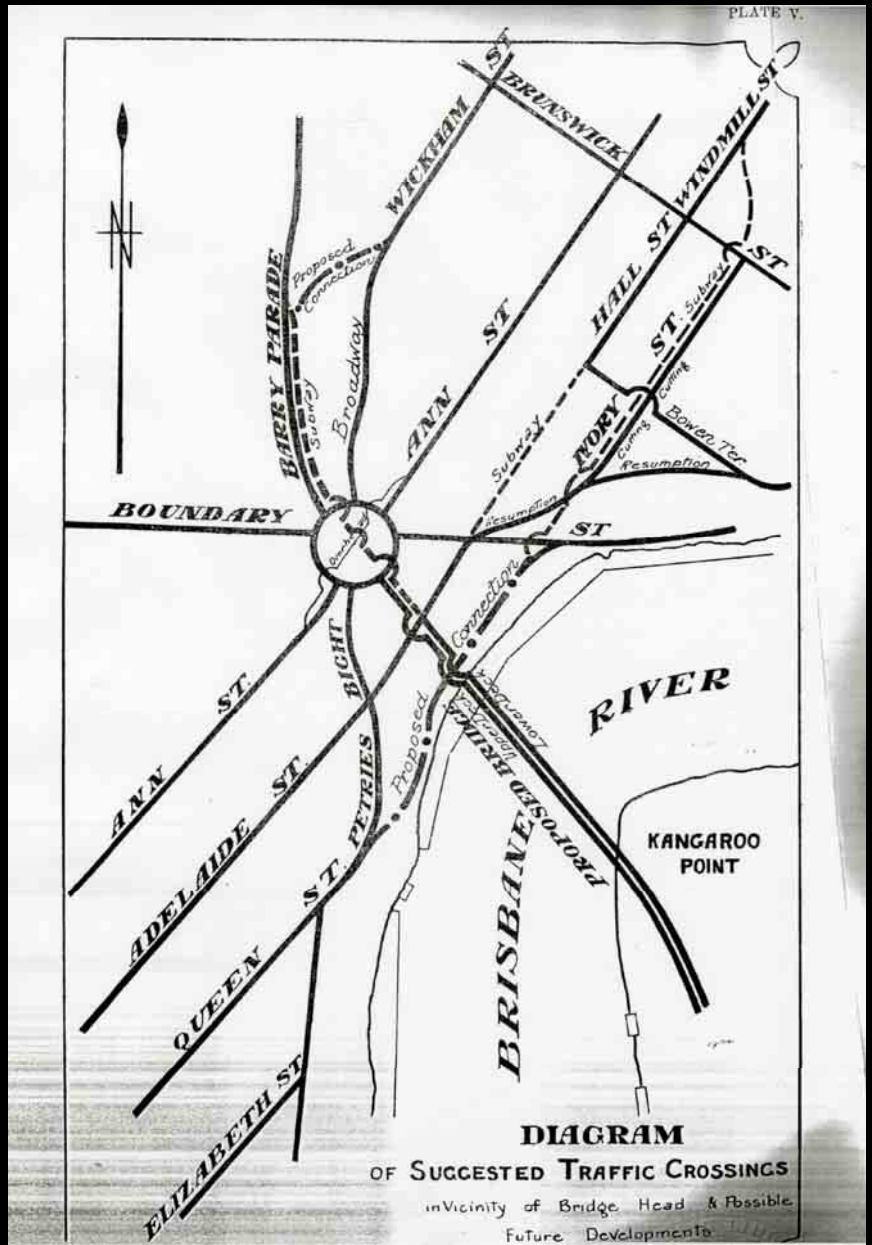


DIAGRAM
OF SUGGESTED TRAFFIC CROSSINGS
in vicinity of Bridge Head & Possible
Future Developments

Cross River Commission 1926:
Present condition: Victoria Bridge

WINNING SUGGESTIONS FOR BIGHT TRAFFIC

**USEFUL IDEAS
TO GO TO
CITY PLANNERS**

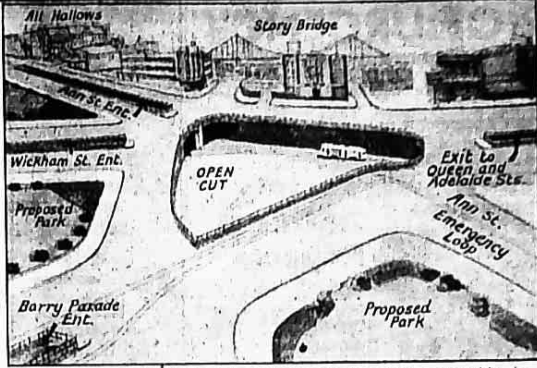
IDEAS put forward by readers who sent in entries to The Courier-Mail Petrie Bight traffic competition are being taken into account by the City Council planning committee in the comprehensive city plan, now under way.

The ideas include extension of tunnels, building of viaducts, re-routing of trams, and subways for pedestrians. Most of them go much further afield than the Petrie Bight problem. Few of the entrants were able to offer suggestions for practical improvement upon the sectional Petrie Bight plan already designed by the council's experts.

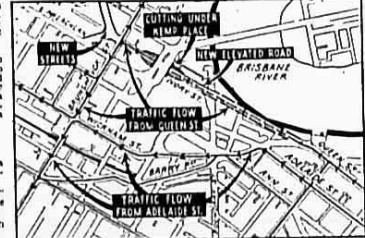
At the request of the Vice-Mayor (Ald. W. H. Moon) The Courier-Mail is handing the entries over to the City Council for further study by its planning and transport experts.

Analysis of the entries has provided a most interesting survey of Brisbane's traffic difficulties. The entries were submitted to a number of traffic experts, who look on the most promising and practical suggestions. These were then carefully investigated by a committee of City Council planners and transport experts and a Courier-Mail representative.

Prize Winners
The five winners of the extra prize offered by The Courier-Mail are:
Mr. G. H. Walker, "Thirlmere," Tarragindi Road, Tarragindi (see sketch).
Mr. E. V. Appleton, Meredith Street, Bardon (see design).
Mr. S. J. Baden, 154 Virginia Avenue, Hawthorne (see design).
Mr. J. Keane, Belvedere Hotel, Woody Point—He suggests underground trams from Creek Street to the Valley and a tram marshalling yard under Centenary Park.
Comment: A well thought out scheme for a long-range plan, although it is doubtful whether an underground tram marshalling yard would ever be successful.
Mr. W. Hale Gray, 84 Payne Street, Turwood—His scheme shows a system of viaducts leading one from Queen Street



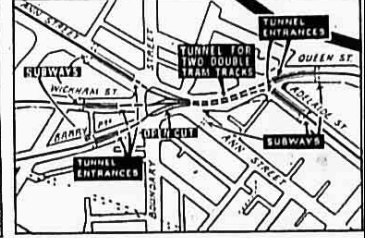
SKETCH of the Petrie Bight traffic solution prepared from plans proposed by the City Council Officers' Planning Committee. It was for constructive criticism or suggestions regarding this plan that The Courier-Mail competition was held.



MR. WALKER'S plan re-routes trams so as to avoid the bight, and provides for construction of a viaduct and road extension from the Customs House to Brunswick Street, forming a tunnel under Kemp Place. Comment: He does not provide for passengers desiring to go to intermediate points. Also, a junction is still necessary to handle Exhibition ground traffic.

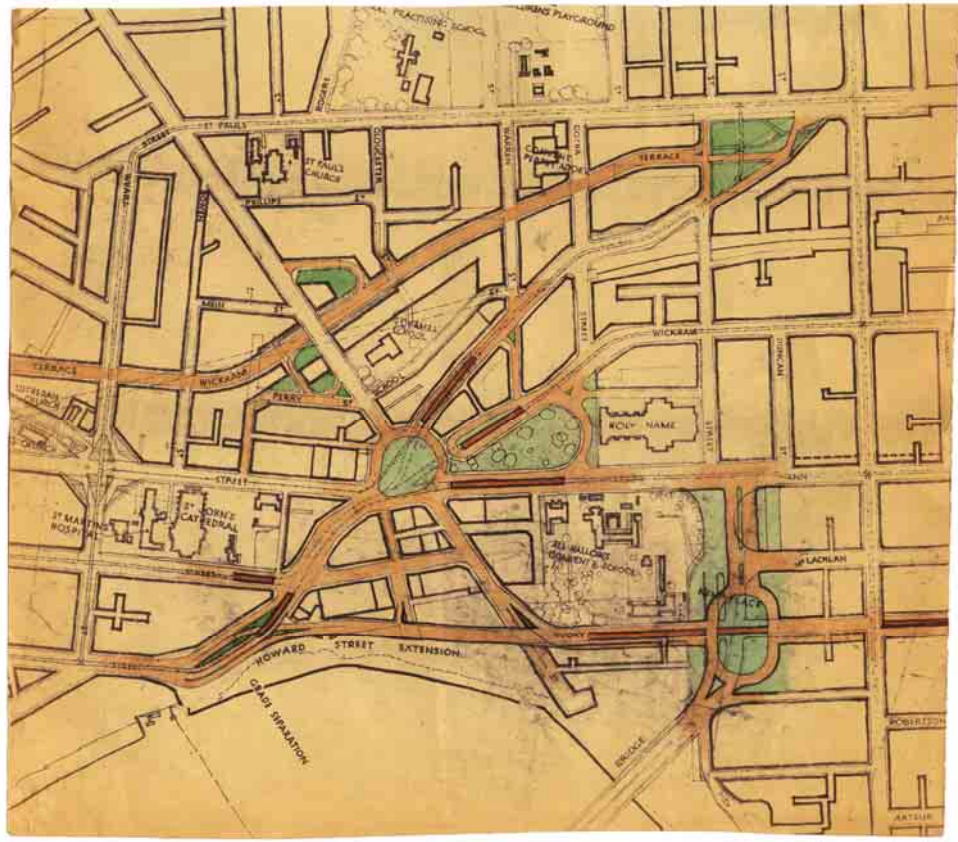


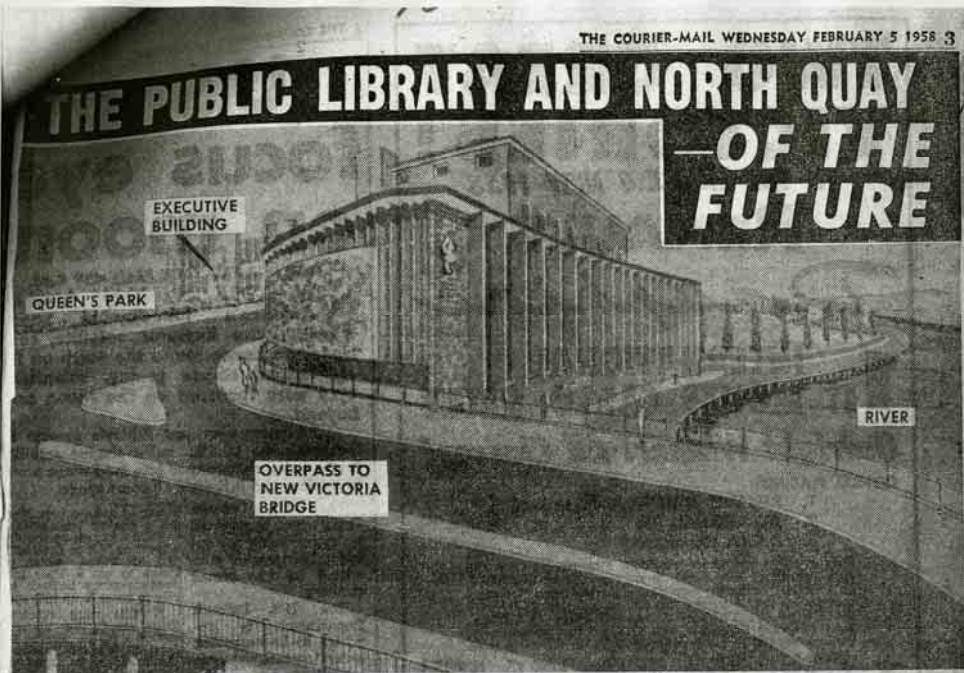
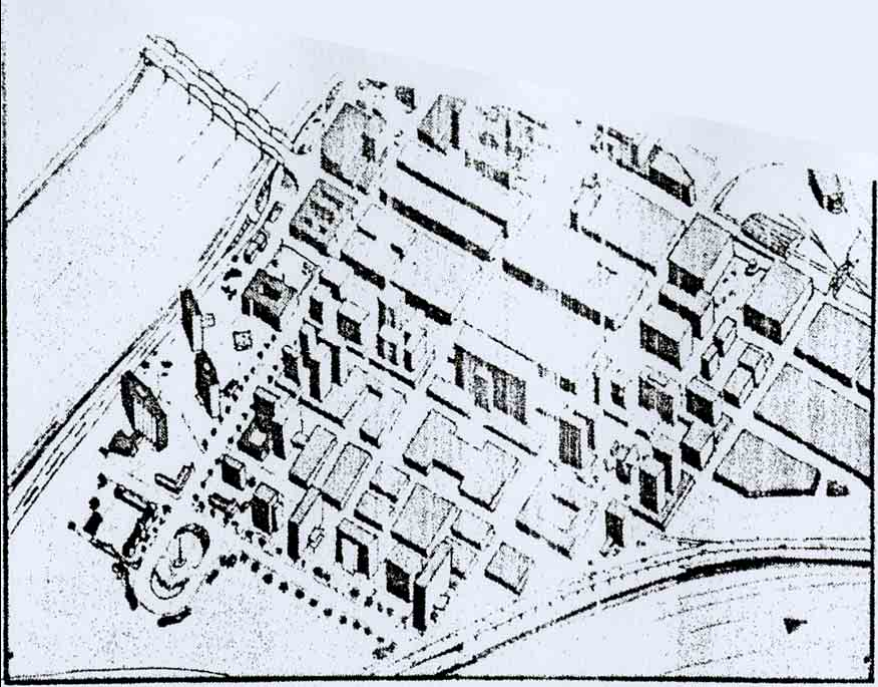
MR. APPLETON adopts a scheme of tunnels and brings a tunnel into Adelaide Street. Comment: He probably does not realise the difficulty of under-pinning St. John's Cathedral. No doubt, wider tunnels than shown on the council's plan will be necessary at a future date.



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DIGGERS HARP ON WAR JOB.





THE PUBLIC LIBRARY AND NORTH QUAY OF THE FUTURE

A PEEP into the future of North Quay, showing the State Public Library as the State Government expects it to look about May, 1959—Queensland's centennial year. The new overpass to Victoria Bridge, with the William Street underpass, will come later.

First work on the £200,000 remodelling and extension of the present building in William Street, will begin tomorrow.

The new library, a centennial year project, will be four stories high and constructed of steel, concrete, brick, glass and porphyry stone.

A special lecture hall auditorium will be the commemorative feature associated with the centennial year celebrations.

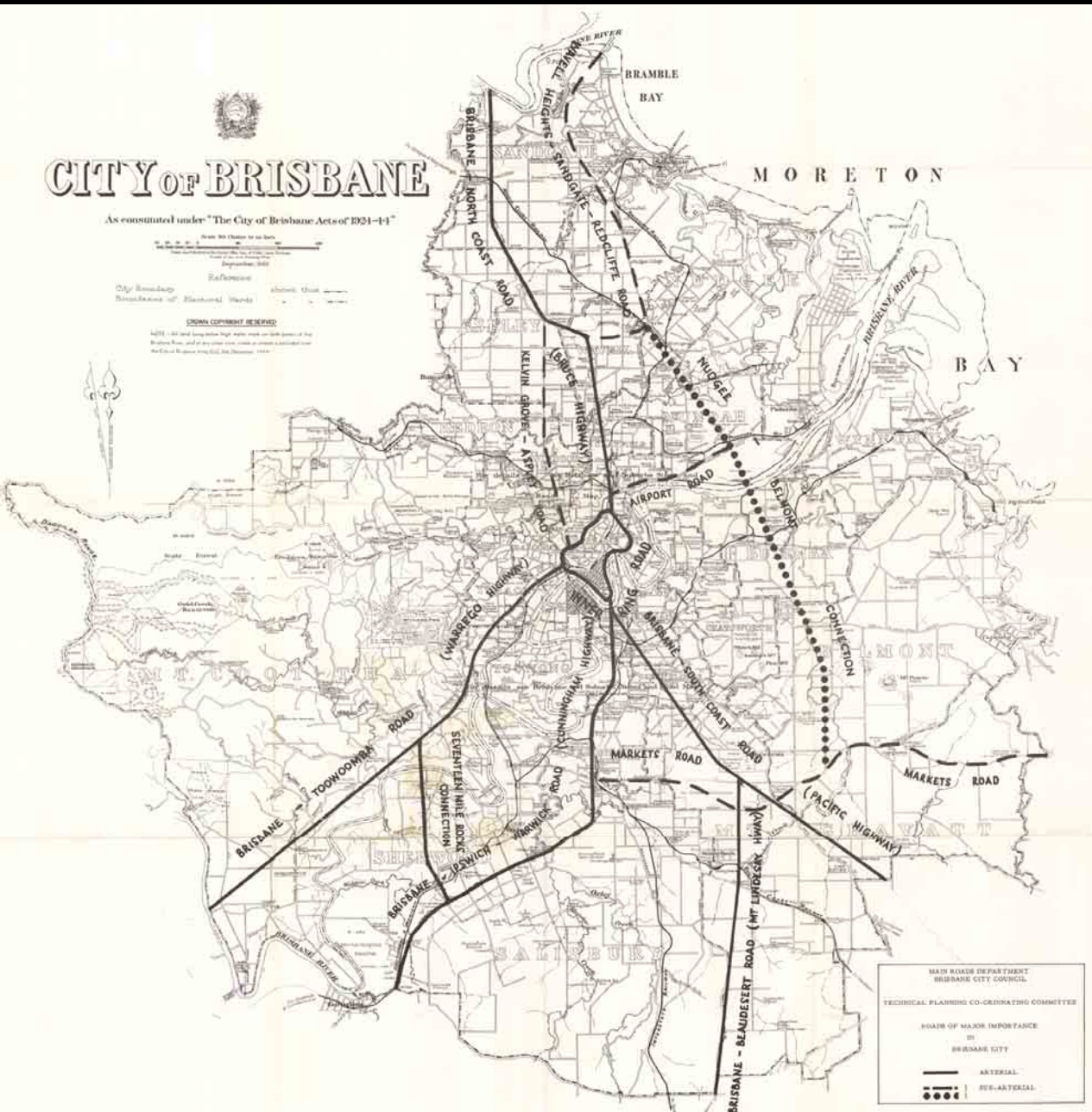
The main public entrance to the library and the centennial hall will remain in the present position in William Street. Another entrance will face towards the river at ground-floor level.

The State Government is offering £400 as first prize for an external mural which will be one of the features of the new library.

Proposals for Brisbane CBD incl. perimeter viaduct c1957
Additions to public library and riverside viaduct (Courier-Mail 5.2.1958)

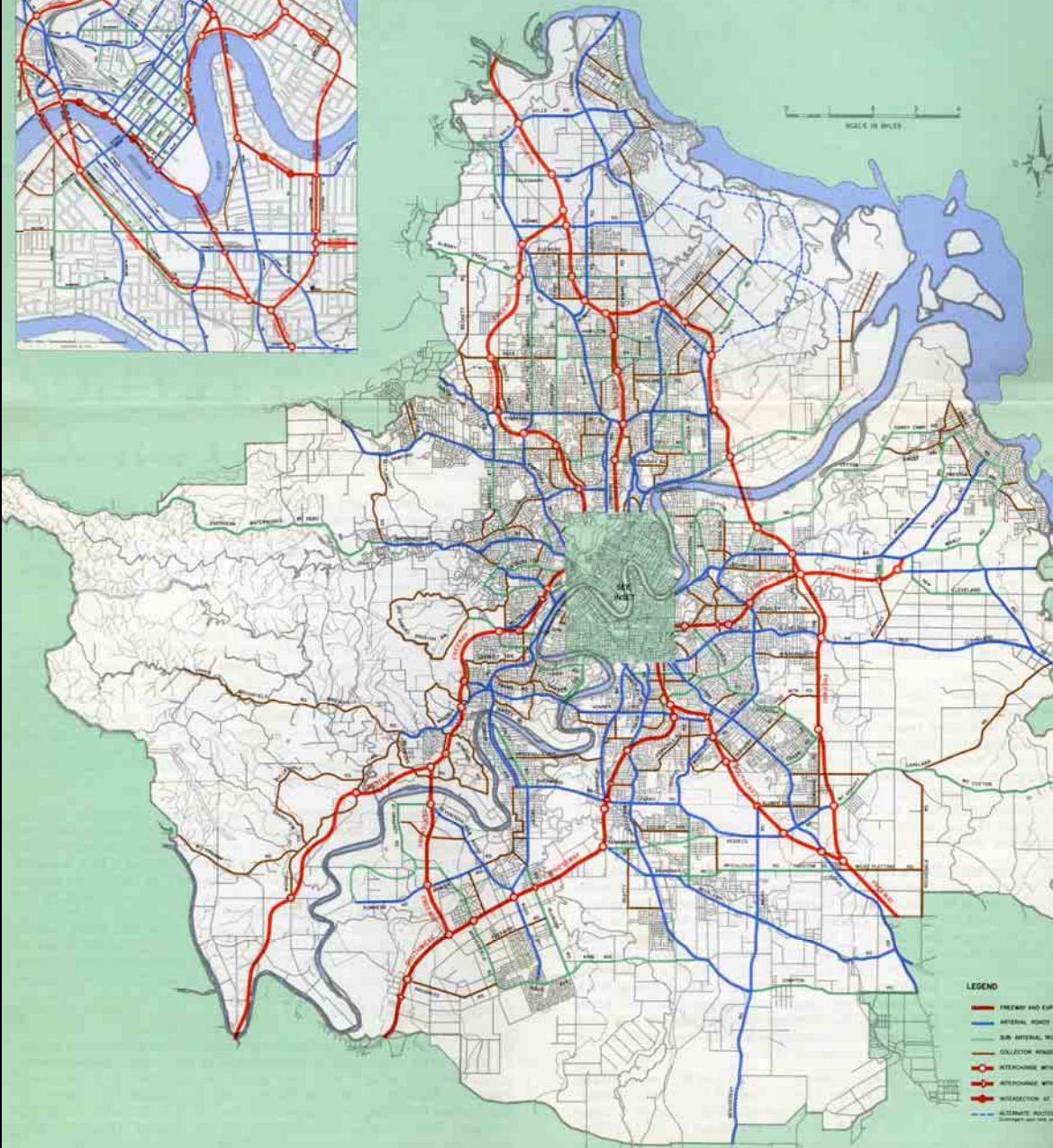


Detail of CBD



Brisbane City Council Technical Planning Co-ordinating Committee: Roads of Major Importance September 1963

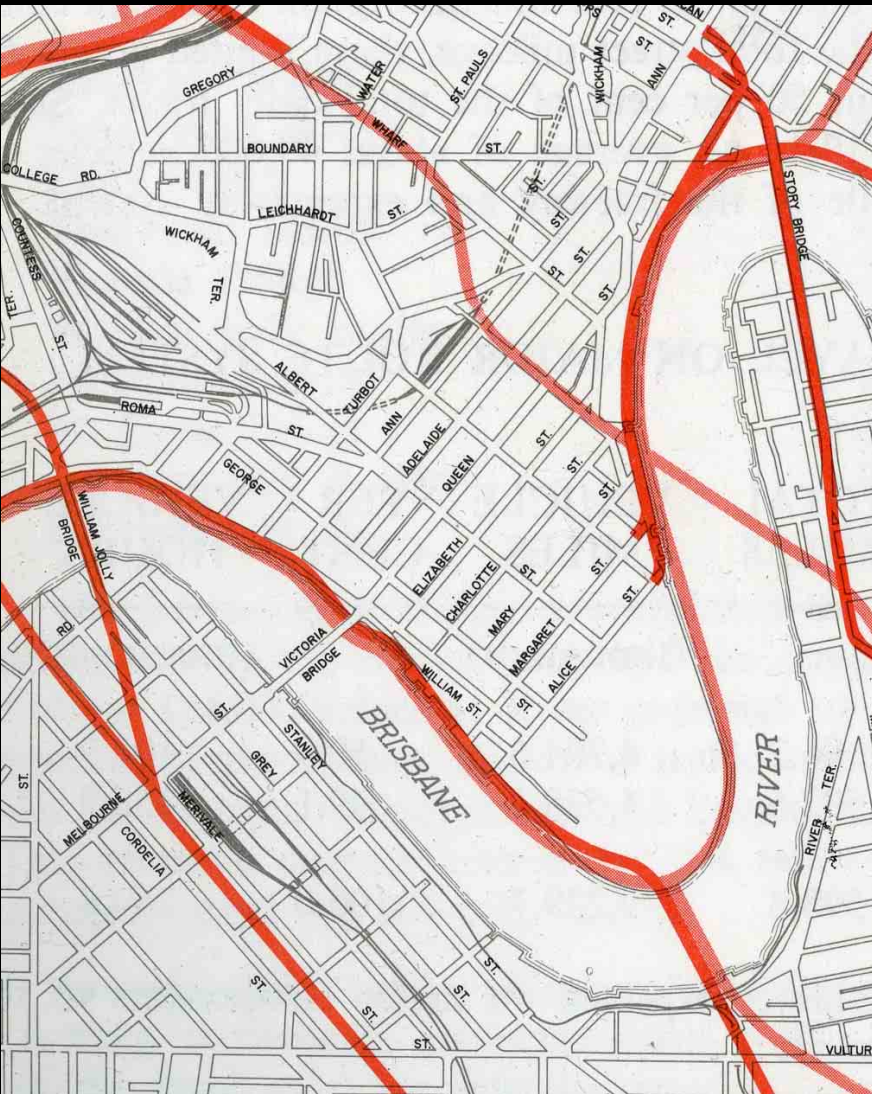
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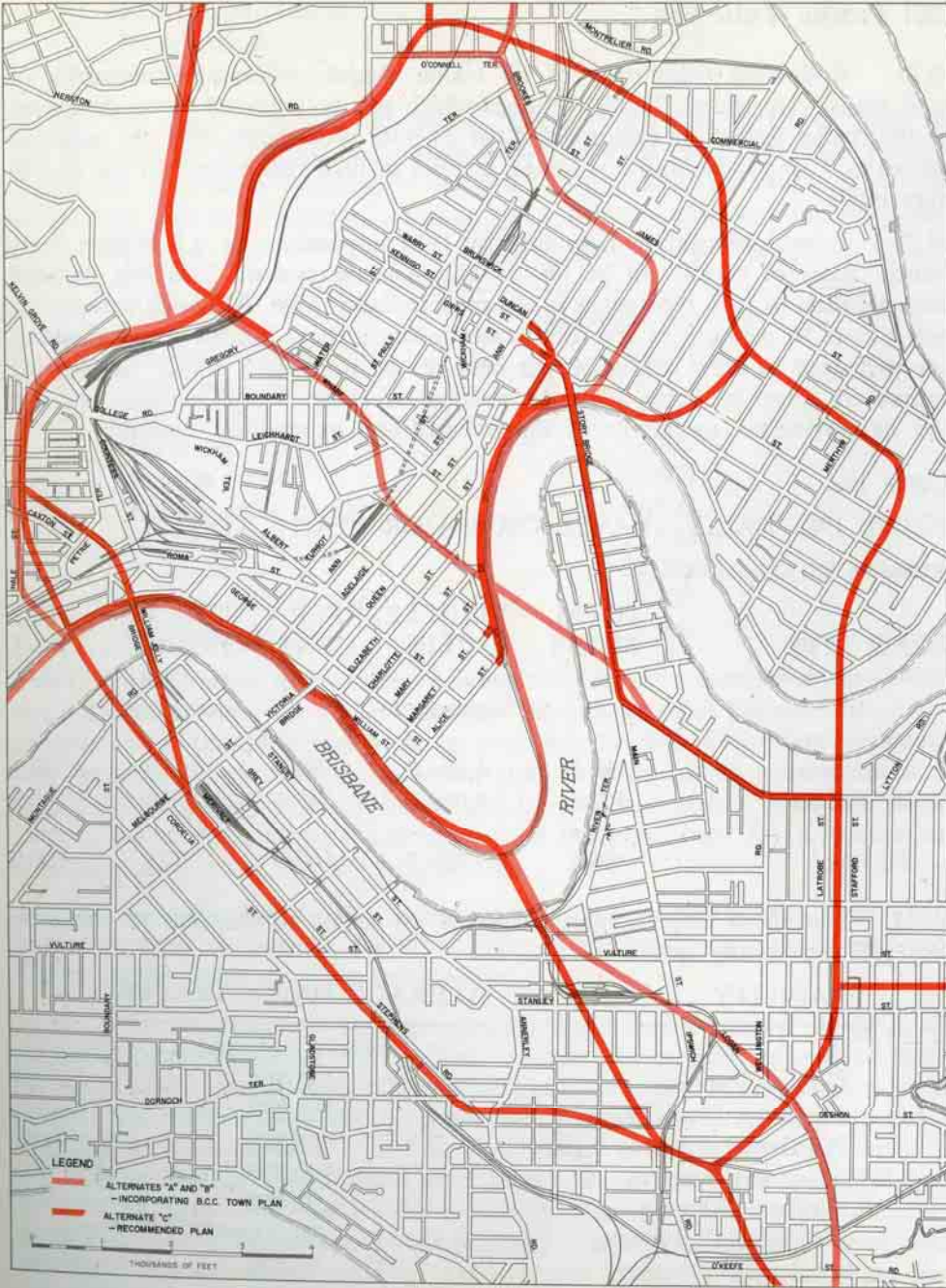
**Brisbane
 Transportation Plan 1965
 Street and Highway Plan**

RECOMMENDED STREET AND HIGHWAY PLAN

Figure

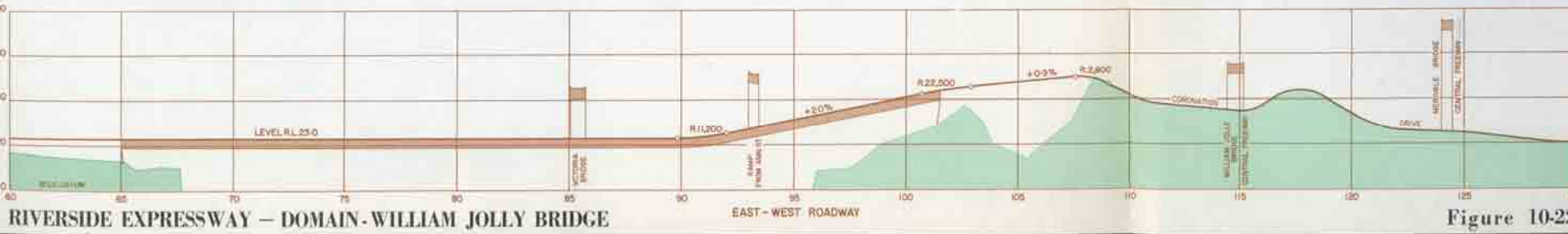


Brisbane Transportation Plan 1965
Alternate Highway Plans
 (red) Wilbur Smith & Assoc 1965
 (pink) Brisbane City Council 1963



ALTERNATE HIGHWAY PLANS
BRISBANE STUDY AREA

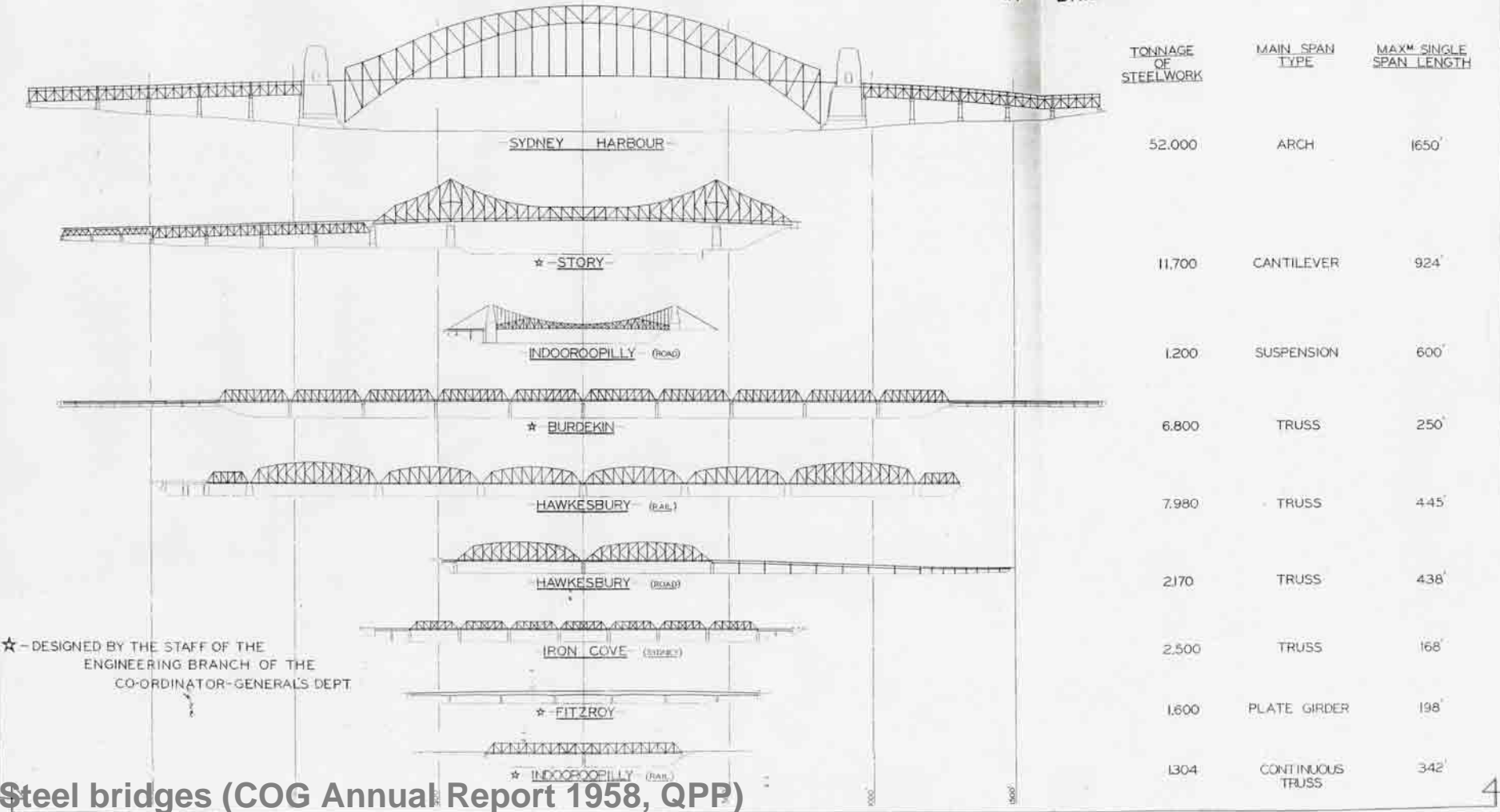
Figure 10-1



RIVERSIDE EXPRESSWAY – DOMAIN - WILLIAM JOLLY BRIDGE

Figure 10-22

STEEL SUPERSTRUCTURES OF SOME AUSTRALIAN BRIDGES



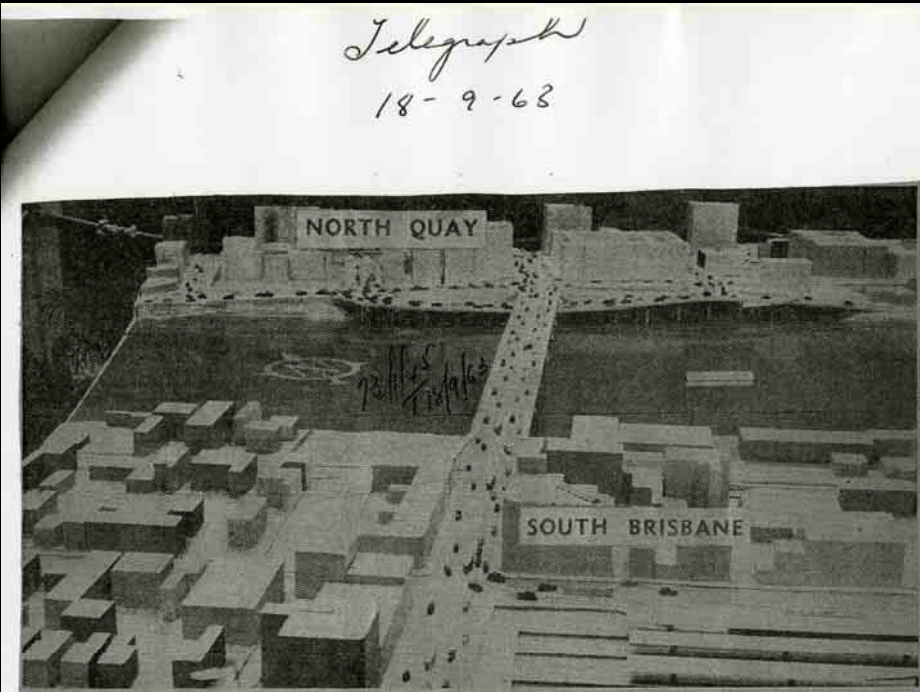
Steel bridges (COG Annual Report 1958, QPP)



Burdekin Bridge (COG Report 1958, QPP)



Bribie Island Bridge 1963



New bridge in city 'up to the Council'

The question of replacing the Victoria Bridge with a new bridge was up to the City Council, the Co-ordinator General, Sir James Holt, said today.

He said a Council design for a new bridge had been referred back to the Council for further consideration some years ago.

No new approach had been received from the Council.

In State Parliament yesterday, Mr. Hughes

(Liberal, Kurilpa) and Mr. Bennett (A.I.P., South Brisbane) called on the Government to replace the Victoria Bridge to ease traffic congestion.

Mr. Bennett said plans for a new bridge had been pigeonholed by the Government, which had done nothing to alleviate the problem.

Bridge checked by engineers

Sir James said it must be admitted that the bridge approaches should be improved to ease traffic flow.

But until a new scheme was submitted by the Council, he did not expect that the Government would act.

The bridge was checked by responsible Council

engineers, who were certain it was safe.

Sir James said the question of an underpass at the city end of the bridge had been shelved temporarily because the combination of new traffic lights and traffic police control had proved satisfactory but the underpass was included in the Town Plan, which was awaiting Government legislation.

The Town Clerk, Mr. Slaughter, said today the question of a new bridge was part of a major transport investigation being conducted by a joint Council and Government committee.

The safety of the Victoria Bridge was not in question.

It and other cross-river bridges were under constant review.

This model of the proposed new Victoria Bridge went on display in the City Hall foyer in 1954. A new bridge was then considered an urgent work, but the scheme finally was dropped because of lack of finance.

Yesterday in Queensland Parliament two members called on the Government to replace Victoria Bridge and thus ease traffic congestion.

The new bridge was to be of reinforced concrete, to have six vehicular traffic lanes and to be built practically on the present site but partially upstream, on the alignment of the Prudential Building on North Quay.

On the North Quay side an underpass way to be built to take away cross traffic on Queen Street.

Rendel Palmer & Tritton (E Buckton/J Cural)
Waterloo Bridge, London 1942-45
Victoria Bridge/underpass 1954 (Telegraph 18.9.1963)

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Ulrich Finsterwalder/G Lohmer *Bendorf Bridge*, Koblenz 1960-65
Freeman Fox *Medway Bridge* on M2, Kent under construction (completed 1960)

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QUEENSLAND ROADS

ENGIN

OFFICIAL JOURNAL OF THE MAIN ROADS DEPARTMENT, QUEENSLAND



VOL. 15, No. 30 DECEMBER, 1976

QUEENSLAND ROADS

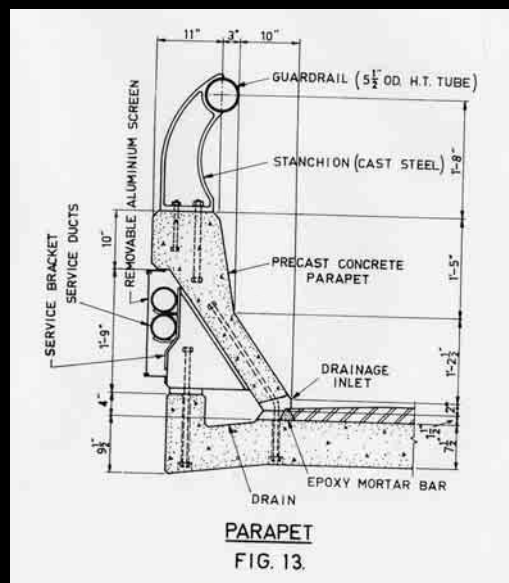
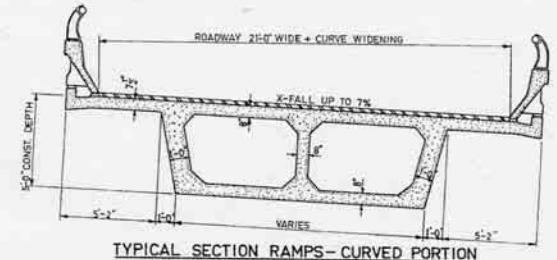
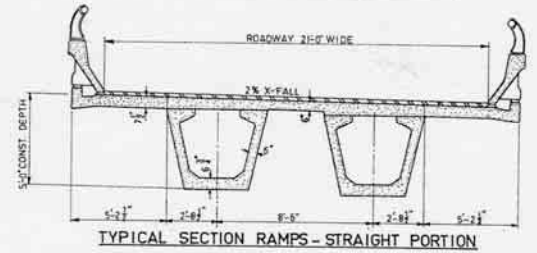
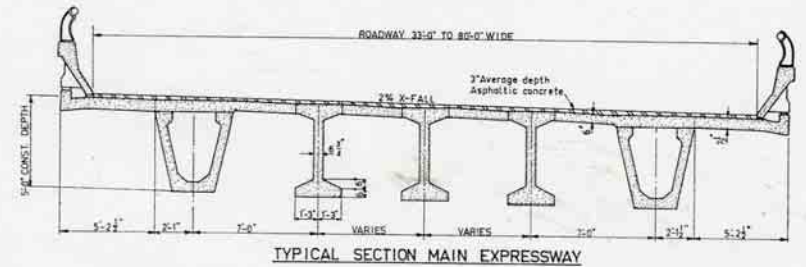
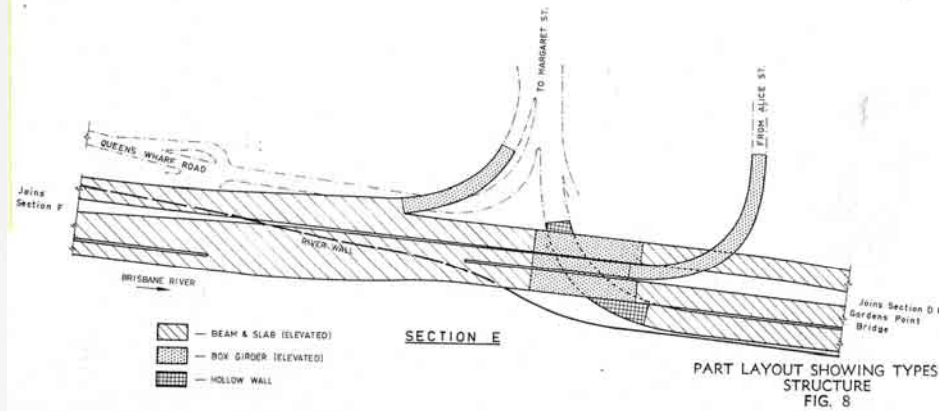
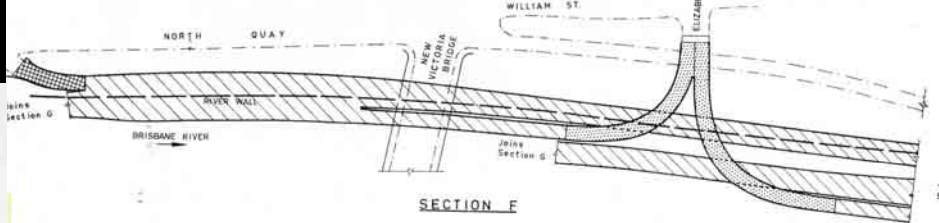
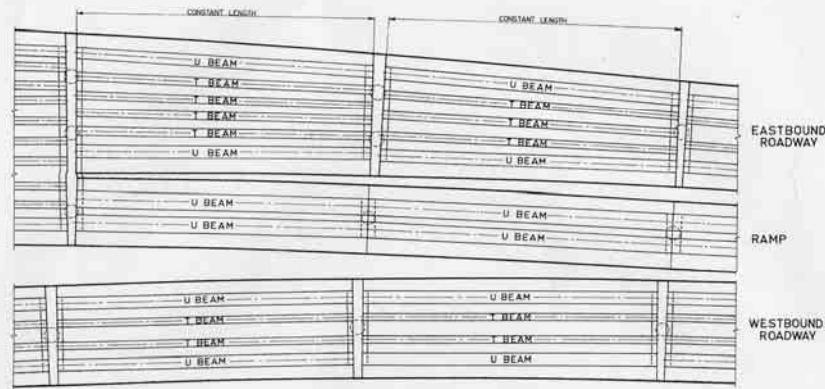
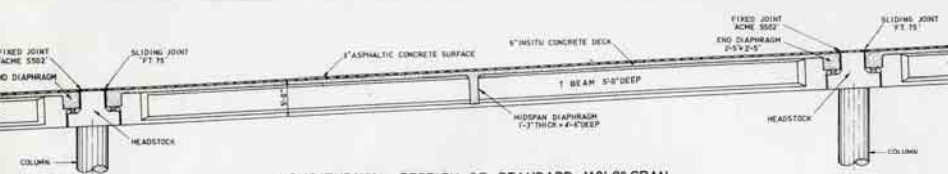
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OFFICIAL JOURNAL OF THE MAIN ROADS DEPARTMENT, QUEENSLAND



VOL. 13, No. 25 JUNE, 1974

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**Co-ordinator-General's Department
Riverside Expressway**

Has RE^x cultural heritage significance?

Does it meet criteria for inclusion in the Queensland Heritage Register?

- (a) Is RE^x important in demonstrating the evolution of Qld's history?**
- (b) Does RE^x demonstrate rare or uncommon aspects of Qld's history?**
- (d) Is RE^x important in demonstrating the principal characteristics of freeways?**
- (e) Is RE^x important for its aesthetic significance?**
- (f) Has RE^x a high degree of creative achievement?**
- (g) Has RE^x a strong association with a community/cultural group?**
- (h) Has a special association with the work of a particular person or organisation?**

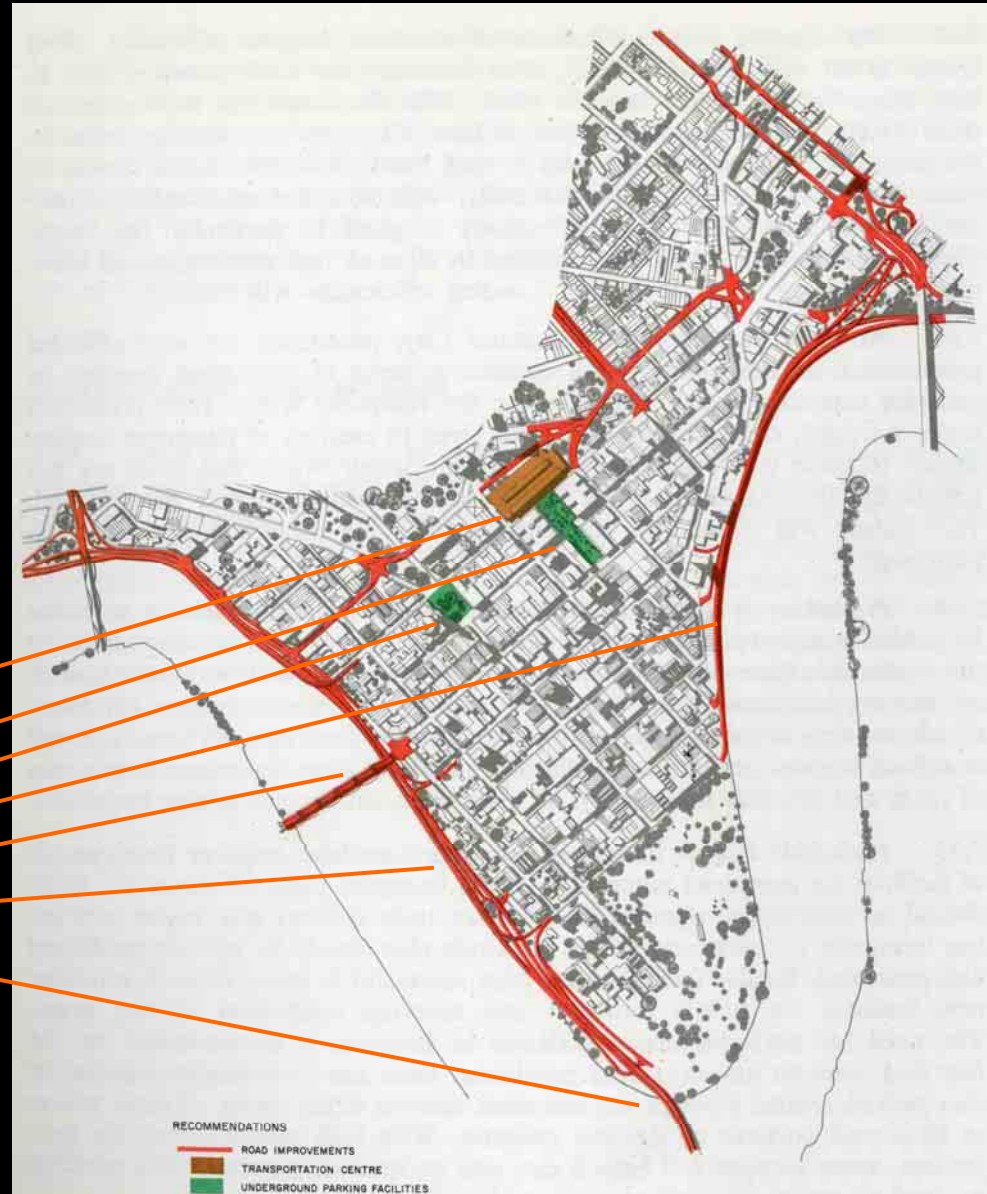
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RECOMMENDATIONS

- ROAD IMPROVEMENTS
- TRANSPORTATION CENTRE
- UNDERGROUND PARKING FACILITIES

**Wilbur Smith & Assoc.
Brisbane Transportation Plan 1965
Central Business District**

- Central Station: Transportation Terminal
- Anzac/PO Square Car Park
- King George Square Car Park
- Petrie Bight Expressway
- Victoria Bridge
- Riverside Expressway
- Captain Cook Bridge



RECOMMENDATIONS

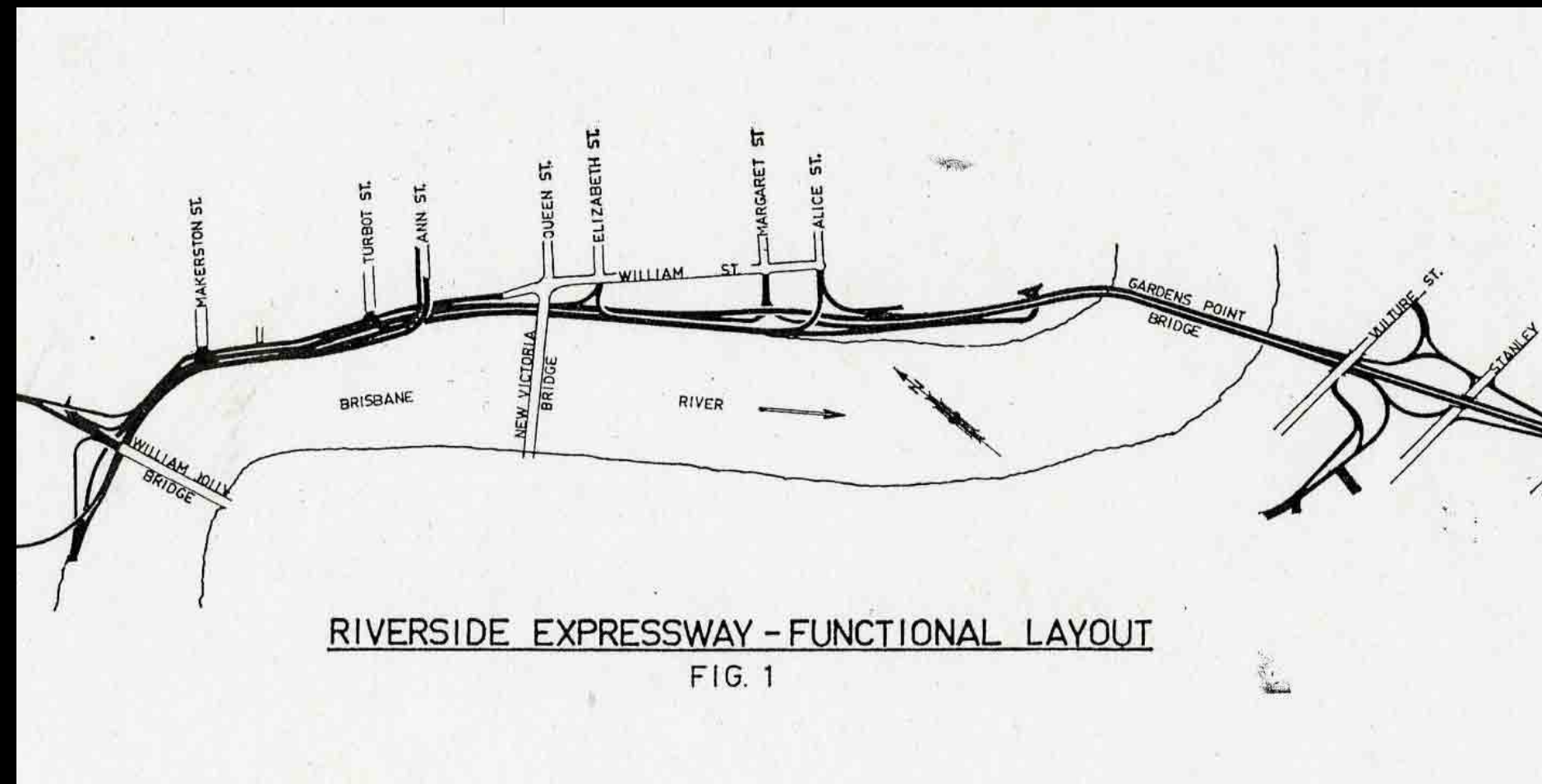
- ROAD IMPROVEMENTS
- TRANSPORTATION CENTRE
- UNDERGROUND PARKING FACILITIES

**AERIAL PERSPECTIVE
CENTRAL BUSINESS DISTRICT
BRISBANE STUDY AREA**

Figure 9-5

Wilbur Smith and Associates

**(a)
Is RE^x important in demonstrating
the evolution of Qld's history?**



COG: Revised layout of Riverside Expressway -1967

- (b) Does RE^x demonstrate rare or uncommon aspects of Qld's history?**
- (d) Is RE^x important in demonstrating the principal characteristics of freeways?**



- (g) Has RE^x a strong association with a community/cultural group?**
- (f) Has RE^x a high degree of creative achievement?**
- (e) Is RE^x important for its aesthetic significance?**



NORTH Bank ... improve a wonderful aspect of Brisbane.

Sculpt a brighter view

WHEN valuing the landmarks of Brisbane (The Big Picture, C-M June 21-22), we need to ask "If there was a severe earthquake tomorrow and buildings/places were destroyed, which ones would we really be sorry to lose?"

We have lived overseas and travelled extensively in many countries and visited and walked in many cities.

One of the highlights of Brisbane is the North Bank precinct, especially when seen from South Bank. Looking on to the ribbons of freeway with the green underneath and the open view across the old Treasury building and into

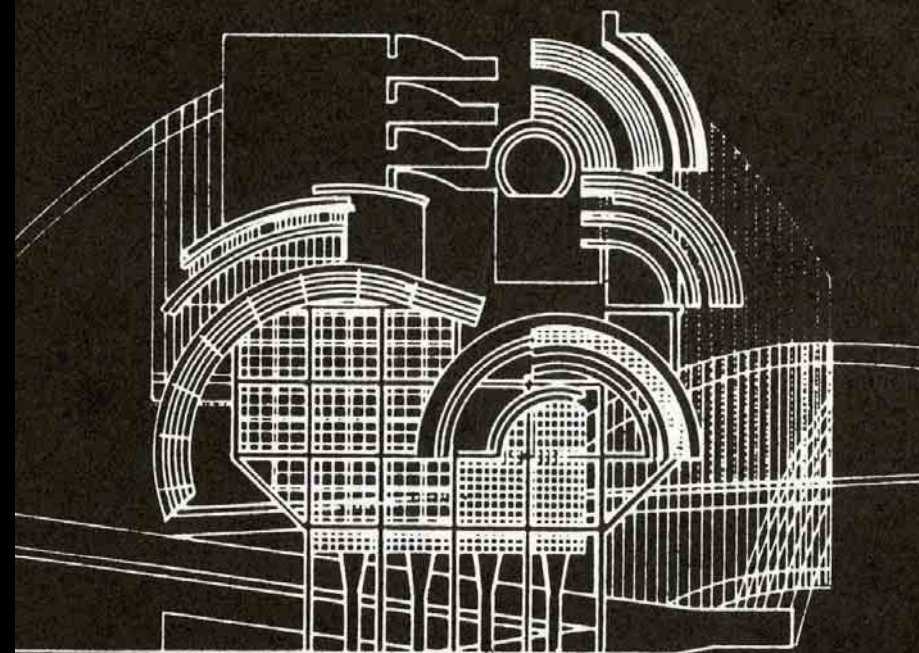
the city is unique, even worth a photo.

This open view into the city, when driving across the Captain Cook Bridge is also quite spectacular; night or day.

Please keep the North Bank profile as it is, while enhancing the neglected space below the freeway. The city belongs to all of us.

Commission some sculptures, or alternatively organise a yearly sculpture exhibition along the river from Eagle St to the William Jolly Bridge like the one held yearly along Sydney's southern beaches cliff walk.

John and Beryl Holmes, St Lucia



PETER COOK
TOWER PROJECT
1983 1984

Ray Hughes Gallery

June 15-July 5 1984



QUEENSLAND DIVISION TECHNICAL PAPERS

(PRE-PRINT)

Vol. 10

DECEMBER, 1969

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(To be presented at a Civil Engineering Branch Meeting of Queensland Division at the Hawken Auditorium, Brisbane, on 5th December, 1969).

"DESIGN OF CURVED BRIDGES"

by

H. G. BRAMELD, B.E., M.I.E. Aust., and **J. GRALTON, B.E., M.I.E. Aust.**

- R = Radius of curve
- $\lambda = \sqrt{\frac{GK_s}{EK_B}}$
- G = Shear Modulus
- E = Youngs Modulus
- K_s = St. Venant torsion constant
- K_B = Torsion-bending constant
- L = Span length
- U = Total strain
- U_b = Strain energy due to bending
- U_t = Strain energy due to torsion
- U_f = Strain energy due to shear
- I = Second moment of area about the natural axis
- ds = Length of element around curve
- θ = angle of arc
- δ_b = deflection (rotation) at point b
- M_x = Bending moment at point x
- T_x = Torsion moment at point x
- F_x = Shear at point x
- W_d = Uniform distributed load per unit length
- $F'c$ = Minimum compressive strength of concrete at 28 days
- T_c = Average force in tendon over length L_c
- L_c = Length of tendon curved in elevation
- θ_c = Angle change of tendon in elevation



QUEENSLAND DIVISION TECHNICAL PAPERS

(PRE-PRINTS)

Vol. 10

SEPTEMBER

No. 13

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(To be presented at a Civil Engineering Branch Meeting of Queensland Division at the Hawken Auditorium, Brisbane on 26th September, 1969).

THE NEW VICTORIA BRIDGE

by

H. G. BRAMELD, B.E., M.I.E. (Aust.)

(Chief Structural Design Engineer, Co-ordinator-General's Department)

and

A. CONTESSA, B.E., M.I.E. (Aust.)

(Executive Engineer, Co-ordinator-General's Department)

SUMMARY: This paper describes the design and such parts of construction as affect the design of the New Victoria Bridge, Brisbane.

INTRODUCTION

Historical

Queen Street, Brisbane, ends at the river in a rocky bluff so inviting to bridge builders that already three and a half bridges have occupied the site, and as far back as 1843 people were ferried across in open boats, and vehicles in flat top punts.

The first bridge, of wrought iron, was commissioned in 1864, but a temporary timber bridge, built as a staging for the iron bridge, was completed and opened for traffic in 1865 thus becoming the first bridge at the site. Within two years this structure had been severely damaged by borers and half of the framework collapsed in 1867. Financial troubles caused delays and a flood in 1873 wrecked the temporary timber bridge and damaged the unfinished iron bridge.

The permanent bridge, constructed of wrought iron lattice girders, and made of eleven fixed spans and a double swing span had a total length of 1,008 ft. between abutments. It was finished in

RE^x: Creative and technical significance?

Prestressed Concrete Box-Girder: Bridges
Ulrich Finsterwalder

Bendorf Bridge, Rhine River, 1964: max span 208m
Culmination of development of prestressed concrete bridges in Germany

Co-ordinator-General/Main Roads Department

(HG Brameld/A.Contessa/S McIntosh) Victoria Bridge, 1969: max span: 142m (466'8")

(HG Brameld/A Contessa) Captain Cook Bridge 1972: max span: 183m

(J Gralton/J Fenwick) New Farm Bridge (not built): max span: 215m

Horizontal curve of 2,300m radius/longer thinner, wider

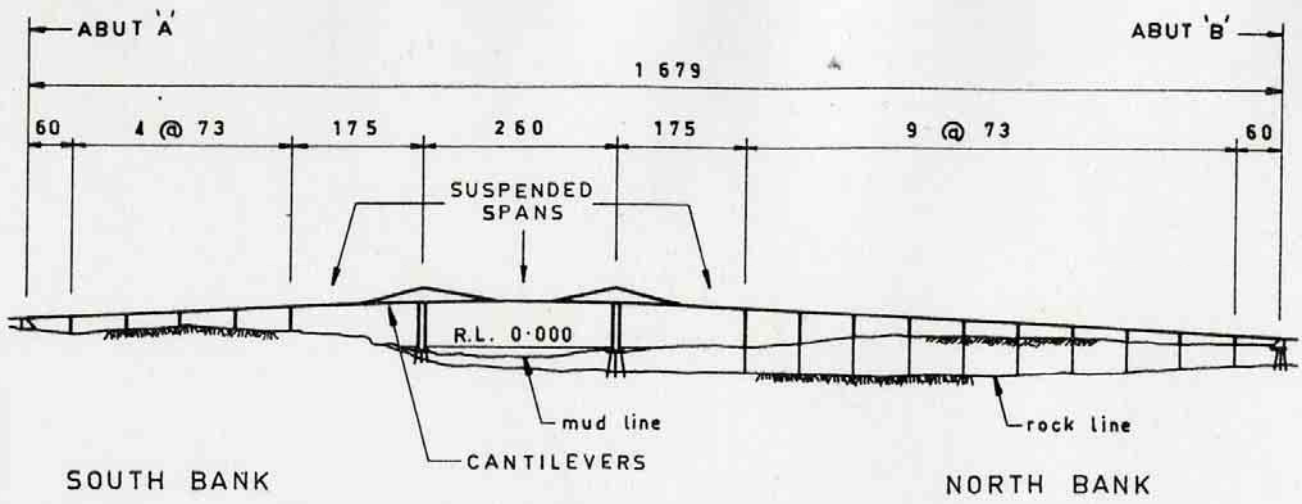
(J Gralton/JA Hart: official design – not built) Gateway Bridge: max span: 260m

Balanced cantilever spans as inverted "T", strutted cantilevers

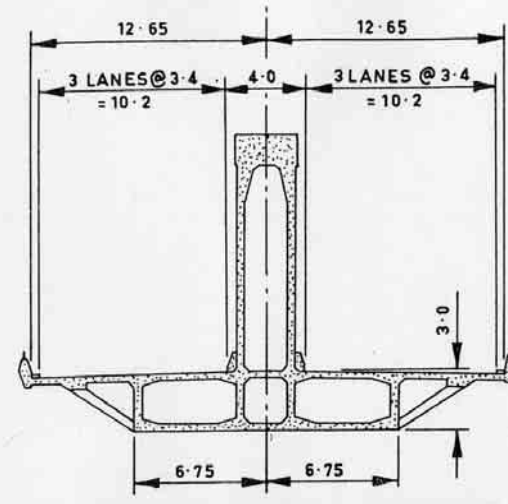
Pioneering fin back bridge

Macdonald Wagner & Priddle/VSL(contract design): Gateway Bridge, 1985: max span: 260m

Longest concrete box girder bridge in the world 1985-1998



ELEVATION OF BRIDGE FIG. 2



(a) CROSS SECTION - CANTILEVER

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