



Public Works inquiry into the Sumners Road Interchange Upgrade project

Report No. 24, 57th Parliament
Transport and Resources Committee
October 2022

Transport and Resources Committee

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All web address references are current at the time of publishing. Please note that all in-text references have been removed. Refer to original source for more information.

Contents

Abbreviations	iii
List of Tables	iii
List of Figures	iii
Chair's foreword	iv
Conclusions and recommendations	v
1 Introduction	1
1.1 Role of the committee	1
1.2 Scope of inquiry	1
1.3 Inquiry process	2
2 Background and scope of the Project	2
2.1 Sumners Road Interchange	2
2.2 Upgrade project overview	3
2.3 Location	4
2.4 Site	5
2.4.1 Prior existing facilities	5
2.5 Project cost	6
2.5.1 Detailed budget	6
2.5.2 Project financing	7
2.6 Scope of works	9
2.7 Project time frame	10
3 Examination of the Sumners Road Interchange Upgrade Project	11
3.1 Purpose of the work	11
3.1.1 Work undertaken	11
3.1.2 Alignment with Queensland Government and DTMR strategic planning	12
3.2 Suitability of the work for its purpose	14
3.2.1 Suitability of location and site	14
3.2.2 Size and scale – project limits	15
3.2.3 Functional performance	15
3.2.4 Technical and environmental performance	16
3.2.5 Consideration to future development	17
3.3 Necessity for and the advisability of, the work	17
3.3.1 Necessity for the work	17
3.3.2 Timing of the work	18
3.3.3 Options considered	18
3.3.4 Option selected	21
3.3.5 Benchmark comparison with other projects	22
3.4 Cost of and recurrent costs of the work	23
3.4.1 Recurrent costs	24

3.5	Public value of the work, including the impact on the community, economy and environment	24
3.5.1	Community impacts	24
3.5.2	Economic impacts	26
3.5.3	Environmental impacts	27
3.6	Procurement methods	28
3.7	Balance of public and private sector involvement	29
3.8	Performance of the constructing authority, consultants and contractors	31
3.9	Actual suitability of the works in meeting the needs and achieving the stated purpose	32
	Appendix A – Public submissions	33
	Appendix B – Officials at public departmental briefing	34
	Appendix C – Witnesses at public hearing	35

Abbreviations

BCC	Brisbane City Council
BMD	BMD Constructions (principal contractor for construction)
BUG	Bicycle Users Group
DTMR	Department of Transport and Main Roads
EAR	Environmental Assessment Report
QTRIP	Queensland Transport and Roads Investment Program
RACQ	Royal Automobile Club of Queensland
SRIU	Sumners Road Interchange Upgrade

List of Tables

TABLE 1: DETAILED BUDGET	7
TABLE 2: ACTUAL COSTS VERSUS BUDGETED COSTS.....	7
TABLE 3: PROJECTED TIMEFRAMES.....	10
TABLE 4: ACTUAL TIMEFRAMES	11
TABLE 5: BENCHMARK COMPARISON OF CONSTRUCTION COSTS	23
TABLE 6: SUMMARY PROJECT BUDGET	23
TABLE 7: FINAL PROJECT BUDGET	24
TABLE 8: COMPARATIVE ECONOMIC ANALYSIS	26
TABLE 9: PUBLIC AND PRIVATE SECTOR CONTRIBUTIONS	30
TABLE 10: PUBLIC AND PRIVATE SECTOR PARTICIPATION IN MONETARY VALUE	30

List of Figures

FIGURE 1: PROXIMITY TO BRISBANE CENTRAL BUSINESS DISTRICT MAP	4
FIGURE 2: LOCALITY MAP	5
FIGURE 3: SUMNERS ROAD INTERCHANGE LAYOUT PRIOR TO UPGRADE	5
FIGURE 4: PRELIMINARY SRIU PROJECT PLAN.....	9
FIGURE 5: SRIU PROJECT COMPLETION PLAN	9
FIGURE 6: CONSTRUCTION OPTION ONE	19
FIGURE 7: CONSTRUCTION OPTION TWO	20
FIGURE 8: CONSTRUCTION OPTION THREE	21

Chair's foreword

This report presents a summary of the Transport and Resources Committee's examination of the public works inquiry into the Sumners Road Interchange Upgrade project.

On behalf of the committee, I thank those individuals and organisations who made written submissions and appeared at the committee's public hearings. I also would like to thank Mr Jack Ryan (Deputy Regional Director (Metropolitan)), Mr Gavin Allen (Project Manager – Sumners Road Interchange Upgrade) and Mr Scott Dight (Senior Inspector (Roadworks)) for their assistance during the committee's site visit in March 2022. I also thank our Parliamentary Service staff and the Department of Transport and Main Roads.

I commend this report to the House.

A handwritten signature in black ink that reads "Shane King". The signature is written in a cursive, slightly stylized font.

Shane King MP

Chair

Conclusions and recommendations

Conclusions

The committee has concluded:

- The work is suitable for its purpose.
- The work was necessary and advisable.
- The work was reasonable value for money.
- The costs and recurrent costs of the work are reasonable.
- The work has had a positive impact on the community, the economy and the environment.
- The procurement method for the work was suitable.
- The balance of public and private sector involvement in the work was satisfactory.
- The work was completed according to specifications, and delivered ahead of time and within budget, while meeting contractual obligations.

Recommendation 1

The committee recommends that the Legislative Assembly note the contents of this report.

1 Introduction

1.1 Role of the committee

The Transport and Resources Committee (committee) is a portfolio committee of the Legislative Assembly which commenced on 26 November 2020 under the *Parliament of Queensland Act 2001* and the Standing Rules and Orders of the Legislative Assembly.¹

The committee's primary areas of responsibility are:

- Transport and Main Roads
- Energy, Renewables, Hydrogen, Public Works and Procurement
- Resources.

Under section 94 of the *Parliament of Queensland Act 2001*, the committee has the following responsibilities to the extent that they relate to the committee's portfolio areas:

- (a) the assessment of the integrity, economy, efficiency and effectiveness of government financial management by—
 - (i) examining government financial documents; and
 - (ii) considering the annual and other reports of the auditor-general;
- (b) works (public works) undertaken by an entity that is a constructing authority for the works if the committee decides to consider the works;
- (c) any major works if the committee decides to consider the works.²

1.2 Scope of inquiry

On 29 November 2021, the committee resolved to conduct a public works inquiry into the Sumners Road Interchange Upgrade project, located in the Brisbane suburb of Sumner.

The terms of reference for the inquiry, as set out in section 94 of the *Parliament of Queensland Act 2001*, are to examine the Sumners Road Interchange Upgrade project and report to the Parliament on:

- a. the stated purpose of the works and the apparent suitability of the works for the purpose; and
- b. the necessity for, and the advisability of, the works; and
- c. value for money achieved, or likely to be achieved, by the works; and
- d. revenue produced by, and recurrent costs of, the works or estimates of revenue and costs for the works; and
- e. the present and prospective public value of the works, including, for example, consideration of the impact of the works on the community, economy and environment; and
- f. procurement methods for the works; and
- g. the balance of public and private sector involvement in the works; and

¹ *Parliament of Queensland Act 2001*, section 88 and Standing Order 194.

² *Parliament of Queensland Act 2001*, s 94.

- h. the performance of—
 - (i) the constructing authority for the works; and
 - (ii) the consultants and contractors for the works; with particular regard to the time taken for finishing the works and the cost and quality of the works; and
- i. the actual suitability of the works in meeting the needs and in achieving the stated purpose of the works.

1.3 Inquiry process

On 1 December 2021 the committee sought a written submission from the Department of Transport and Main Roads (DTMR) addressing the terms of reference and responses to specific questions.

On 8 December 2021, the committee invited stakeholders and subscribers to make written submissions addressing the terms of reference. Submissions closed on 16 February 2022. Two submissions were received, including the submission from DTMR. There were 2 pieces of further correspondence from DTMR in response to questions from the committee, received on 27 April 2022 and 11 October 2022. Appendix A contains a list of submissions and correspondence received.

The committee undertook a site inspection of the project, accompanied by DTMR officers, on 18 March 2022. On 28 March 2022, the committee held a public briefing with the Director-General, DTMR. Appendix B contains the list of participants. On 23 May 2022 the committee held a public hearing on the project. Appendix C contains the list of participants.

The submission, and transcripts of the briefing and hearing are available on the committee's webpage.



Chair and departmental officers on committee's site inspection on 18 March 2022.

2 Background and scope of the Project

2.1 Sumners Road Interchange

Every day, 85,000 vehicles use the Centenary Motorway with 35,000 using Sumners and Monier Roads.³ Sumners Road Interchange was identified by DTMR as a development which needed to be

³ Submission 2, p 56.

upgraded. High traffic volumes meant the interchange was operating beyond capacity, resulting in queuing and delays, both on the interchange and the adjoining entry and exit ramps.⁴ A concept plan for the upgrade was developed in 2012 following three years of community engagement.⁵ However, funding was deferred and the project was put on hold due to the change in Queensland Government and infrastructure priorities.⁶ In 2017, the Queensland Government committed \$65 million to funding the Sumners Road Interchange Upgrade (SRIU) and in September 2018, the SRIU design was released with an enhancement to deliver greater time savings, better active transport facilities and better outcomes for the community, at an increased cost of \$80 million. A tender for construction was subsequently released.

2.2 Upgrade project overview

The SRIU project involved the construction of a new two-lane eastbound bridge, a new four-lane westbound bridge with provisions for pedestrians and active transport users to replace the existing westbound bridge, a separated cycle track as an underpass below the western intersection, and new signalised intersections to replace two existing roundabouts.⁷

The SRIU project upgrades the Sumners Road interchange, improving capacity, road user safety, connectivity, and active transport accessibility for cyclists and pedestrians. Congestion at the interchange presented serious safety issues. Afternoon peak queue lengths on the northbound and southbound exit ramps regularly backed onto the Centenary Motorway, reducing the capacity of the motorway to less than 50% in either direction of travel, and increasing the crash risk. The exit ramps at this interchange did not meet current design standards to accommodate existing and future traffic demands. Congestion also inhibited access to the Darra rail station, effecting freight reliability and passenger transit times.⁸

Construction of the project commenced in July 2019, and the project was completed ahead of schedule in March 2021.⁹ Subsequent to the project's completion the new four-lane bridge was named the 'Len Waters Overpass', in honour of the first known Indigenous person to serve as a RAAF fighter pilot in World War II. Mr Waters passed away in 1993 and his family are local residents of Middle Park.¹⁰

⁴ Submission 2, p 7.

⁵ Submission 2, p 8.

⁶ Submission 2, p 298.

⁷ Submission 2, p 298.

⁸ Submission 2, p 8.

⁹ Submission 2, p 9.

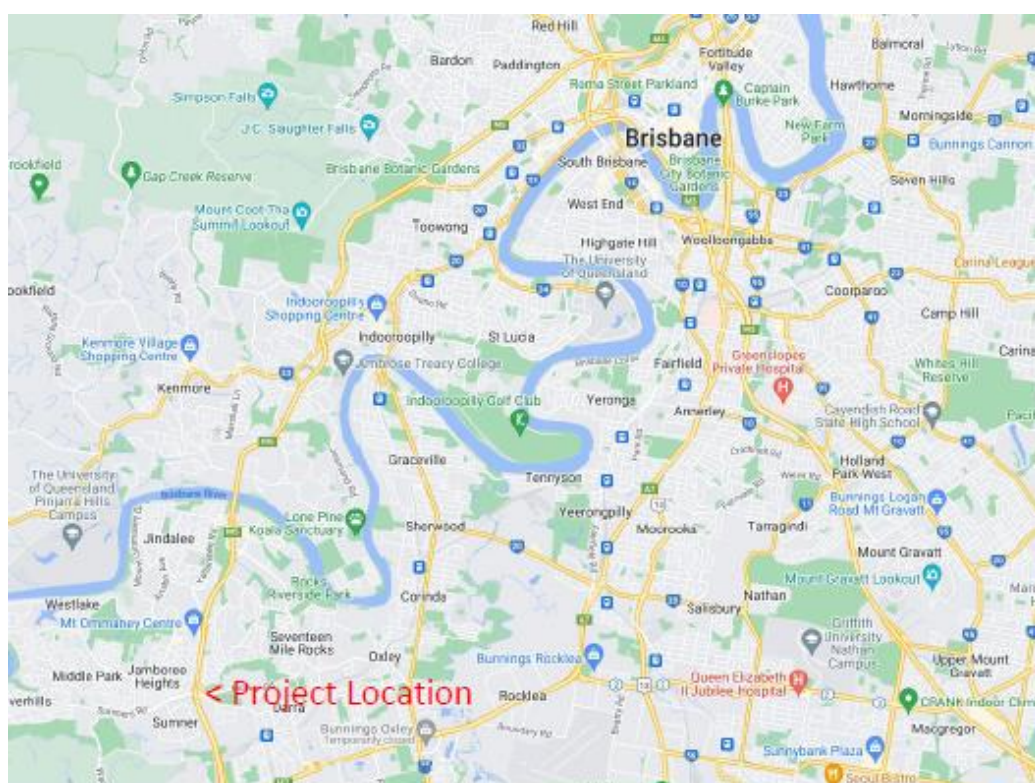
¹⁰ Centenary Today, 'New Sumners Road Interchange Renamed and Completed Months Ahead of Projection', <https://centenarytoday.com.au/tag/sumners-road-interchange/>.



2.3 Location

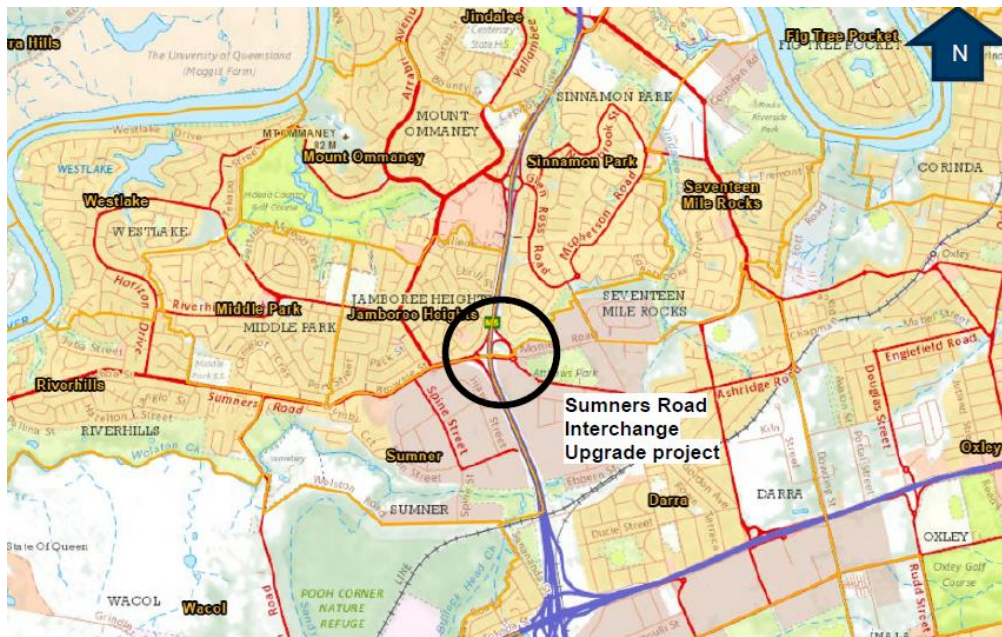
The SRIU project is located on the Centenary Motorway, approximately two kilometres north of the Ipswich Motorway and 1.3 km south of the Dandenong Road Interchange at Jamboree Heights in Brisbane. The project is at the intersection of four Brisbane suburbs – Jamboree Heights, Sumner, Darra and Sinnamon Park. The project is in the Brisbane City Council (BCC) Local Government Area. The Centenary Motorway (Western Arterial Road - U18A) including its interchange ramps are State Controlled Roads and managed by DTMR. Sumners Road, Monier Road and Westcombe Street are managed by BCC.

Figure 1: Proximity to Brisbane Central Business District map



Source: <https://www.google.com.au/maps>

Figure 2: Locality map



Source: Submission 2, p 7.

2.4 Site

The SRIU project delivers access to large residential catchments west of the Centenary Motorway, and residential and industrial catchments to the east of the Centenary Motorway. It provides an east-west link across the motorway corridor, carrying local traffic plus commercial (including B-double) trips.¹¹

2.4.1 Prior existing facilities

Prior to completion of the SRIU project, the interchange consisted of a two lane bridge over the motorway with two roundabouts, on either end of the bridge.

Figure 3: Sumners road Interchange layout prior to upgrade



Source: Submission 2, p 115.

¹¹ Submission 2, p 6.

The interchange was operating beyond capacity due to high traffic volumes in the area, resulting in queuing and delays, both on the interchange and the adjoining entry and exit ramps.¹² RACQ reported in 2018 that the Sumners Road Interchange and Centenary Motorway registered some of the slowest traffic speed during peak hours and that Sumners Road operated beyond its capacity with up to 35,000 motorists using the interchange every day, including 5 per cent being heavy vehicles.¹³ RACQ Head of Public Policy Dr Rebecca Michael said “the Sumners Rd intersection is consistently a choke point for those travelling along the Centenary Motorway. Our RACQ travel times survey has showed that, during the morning peak, motorists were travelling at just 30km/h from Sumners Rd to Dandenong Rd.”¹⁴

2.5 Project cost

The project was initially funded for \$65 million, however this estimate was based on a 2012 concept plan which was later found to result in interchange congestion within five years. The objective of the project was a design life for a minimum 10 years traffic usage from 2021. This would require the removal of the existing bridge and replacement with a new four lane bridge, and the construction of a pedestrian underpass. The project was subsequently funded an additional \$15 million, bringing the total project funding to \$80 million.

Significant savings during construction in respect of design management, insurances and contingencies resulted in the project being delivered for approximately \$65 million.¹⁵

2.5.1 Detailed budget

DTMR advised that the project budget was developed following preparation of a P90 project cost estimate in accordance with their Project Cost Estimating Manual.¹⁶ DTMR also advised that all amounts quoted for funding and expenditure are exclusive of GST.¹⁷

¹² Submission 2, pp 7-8.

¹³ Hon Anastacia Palaszczuk MP, Premier and Minister for Trade and Hon Mark Bailey MP, Minister for Transport and Main Roads, 'Palaszczuk Government fast-tracks design for a second Centenary Bridge', media release, 4 July 2018, <https://statements.qld.gov.au/statements/84927>.

¹⁴ Hon Anastacia Palaszczuk MP, Premier and Minister for Trade and Hon Mark Bailey MP, Minister for Transport and Main Roads, 'Palaszczuk Government fast-tracks design for a second Centenary Bridge', media release, 4 July 2018, <https://statements.qld.gov.au/statements/84927>.

¹⁵ Submission 2, p 6.

¹⁶ Queensland Government, Department of Transport and Main Roads, Project cost estimating manual, <https://www.tmr.qld.gov.au/business-industry/Technical-standards-publications/Project-cost-estimating-manual>.

¹⁷ Submission 2, p 8.

Table 1: Detailed budget

Item	Budgeted Cost
Preliminaries	\$5,955,465
Drainage	\$2,693,704
Earthworks and Landscaping	\$1,559,641
Pavements	\$7,964,865
Road Furniture and Line-marking	\$1,006,888
Signals, Paths, Lighting and ITS	\$2,732,667
Northern Overpass Bridge (Eastbound)	\$4,078,995
Demolition of existing bridge	\$1,064,047
Southern Overpass Bridge (Westbound)	\$8,419,450
Bikeway Underpass and connections	\$1,745,935
Construction value (CV)	\$37,221,657
TMR Owner's costs (OC)	\$19,641,372
Base Estimate (BE)	\$56,863,029
Contingency P90 – 36.8% of BE less spent costs	\$20,677,563
Escalation – 3.5% of BE + Contingency	\$2,722,602
Total Outturn Costs (TOC)	\$80,263,194

Source: Submission 2, p 9.

DTMR advised that actual costs versus budgeted costs differed significantly, with a saving of nearly \$15 million being achieved over the life of the project.

Table 2: Actual costs versus budgeted costs

Item	Budget \$	Actual \$	Savings \$
Property admin and PUP	4,545,463	4,533,203	12,260
QLeave	370,000	248,900	121,100
PAI Insurance	600,000	380,288	219,712
Quality Assurance	400,000	206,299	193,701
Design management	4,000,000	3,705,845.68	294,154.32
Finalisation	330,474	0	330,474
Contingency	20,677,563	6,330,692.32	14,346,870.68
Total	30,923,500	15,405,228	15,518,272
	Approved Budget	Total Actuals	
Savings	\$80,000,000	\$64,480,728	15,518,272

Source: DTMR, correspondence, 27 April 2022, p 5-6.

2.5.2 Project financing

The project was included in the Queensland Transport and Roads Investment Program (QTRIP). QTRIP is DTMR's four-year infrastructure plan which prioritises project funding on a state-wide basis. During 2017-18 DTMR commenced construction activities for the project. The project was also funded through the Significant Regional Infrastructure Projects and Program (SRIPP), as part of the State Infrastructure Fund.

The following table depicts budget allocations included in the Budget Papers (Capital Statement) over the three financial years of the project:

Budget	Total Estimated Cost \$'000	Expenditure to end financial year \$'000	Budgeted amount \$'000	Post Budget year \$'000
2018-19	65,000	2,550	14,934	47,516
2019-20	80,000	10,484	16,000	53,516
2020-21	80,000	39,753	13,785	26,462

The QTRIP 2018-19 to 2021-22 document identifies the following information:

Indicative total cost \$'000	Estimated expenditure to 30 June 2018 \$'000	Approved \$'000		Indicative \$'000	
		2018-19	2019-20	2020-21 to 2021-22	Beyond
65,000	2,550	14,934	26,000	21,516	

The QTRIP 2019-20 to 2022-23 document identifies the following information:

Indicative total cost \$'000	Estimated expenditure to 30 June 2019 \$'000	Approved \$'000		Indicative \$'000	
		2019-20	2020-21	2021-22 to 2022-23	Beyond
80,000	10,484	16,000	20,000	33,516	

The QTRIP 2020-21 to 2023-24 document identifies the following information:

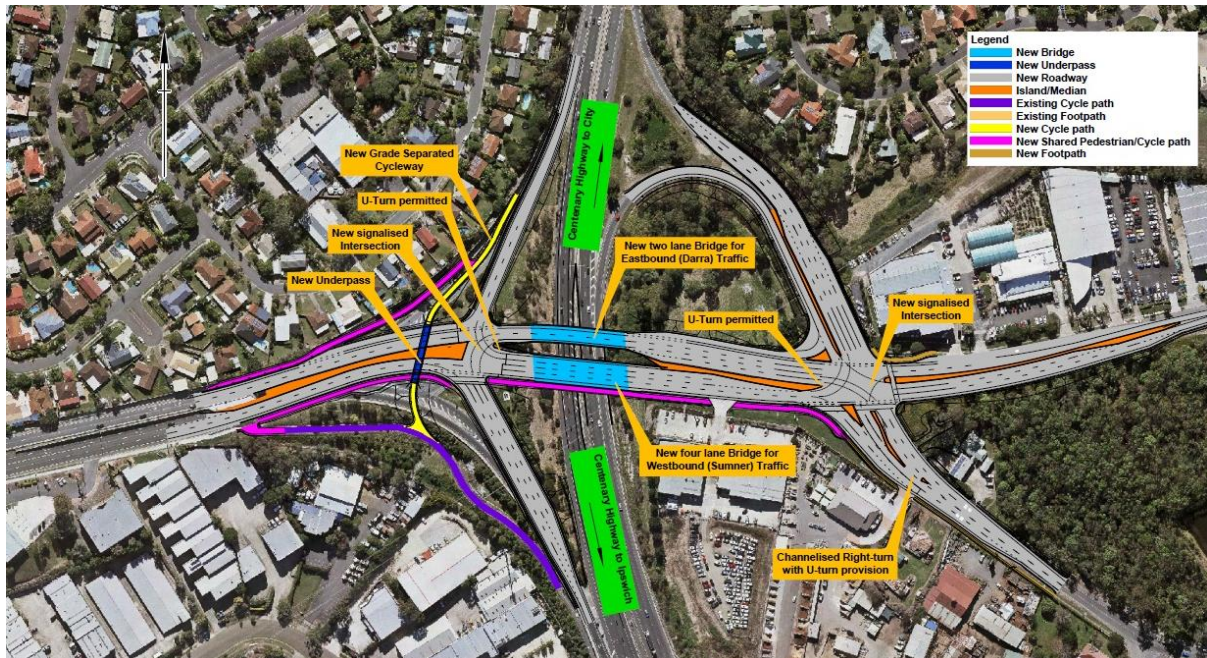
Indicative total cost \$'000	Estimated expenditure to 30 June 2020 \$'000	Approved \$'000		Indicative \$'000	
		2020-21	2021-22	2022-23 to 2023-24	Beyond
80,000	39,753	13,785	16,516	9,946	

The QTRIP 2021-22 to 2024-25 document identifies that the project was completed during 2020-21.

2.6 Scope of works

The following images depict the SRIU project preliminary plan and the completion plan:

Figure 4: Preliminary SRIU project plan



Source: TMR, Sumners Road Interchange Upgrade, https://www.tmr.qld.gov.au/_/media/projects/s/sumners-road-interchange-upgrade/sumners-road-map.jpg?sc_lang=en&hash=B39FDF41F92CD956C97252B7D6E1600B

Figure 5: SRIU project completion plan



Source: TMR YouTube video link, Sumners Road Interchange Upgrade flythrough video, <https://www.youtube.com/watch?v=u5-u3qw9FAI&t=5s>

The SRIU project works consisted of:

1. Demolishing the existing bridge and replacing it with two new bridges including a new westbound bridge providing four westbound lanes (two through lanes and two right turning lanes), a new eastbound bridge providing two eastbound lanes, with bridge spans to be sufficient to accommodate the future widening of the Centenary Motorway.
2. Collapsing the existing roundabouts with two new signalised intersections including vehicle detector loops and CCTV, using a 10 year design life for the intersections from the year of opening.
3. Constructing a new grade separated cycle track to connect the existing north and south approaches of the Centenary cycle way as well as providing a connection to the local network.
4. New active transport links including a two metre on road cycle lane and a three metre separated shared user path on the new westbound bridge, a two metre on road cycle lane on the new eastbound bridge, a shared path, concrete barrier, and on road cycle lane on the bridges cross section, and provision of an anti-throw screen.¹⁸

2.7 Project time frame

DTMR advised that the interchange upgrade was officially opened six months ahead of schedule.¹⁹ This was due to significant amounts of geotechnical investigations having already been completed prior to construction, good consultation with affected stakeholders, the principal contractor, BMD Constructions, doing an excellent job, and the project being done under traffic.²⁰

The project's major time-frames pre-construction were reported in the DMTR business case to include:

Table 3: Projected timeframes

Date	Milestone Achieved
July 2012	Original Concept Plan prepared
July 2018	Business case completed
July 2018	Commence detailed design
August 2018	Complete detailed design
September 2018	Commence procurement
October 2018	Award construction contract
March 2019	Commence construction
December 2021	Complete construction works

Source: Submission 2, p 83.

DTMR advised that there was some delays in milestones due to the original concept plan being superseded by higher traffic demand, improved safety design for active transport, escalation of market price, and future proofing against the anticipated Centenary Motorway upgrade.²¹ As a result, the milestones for completion of detailed design, award of construction contract and commencement of construction were delayed, however this did not impact the final completion of construction date.

¹⁸ Submission 2, pp 66-67.

¹⁹ Public hearing transcript, Brisbane, 28 March 2022, p 1.

²⁰ Public hearing transcript, Brisbane, 28 March 2022, p 2.

²¹ Submission 2b, p 2.

Table 4: Actual timeframes

Date	Milestone Achieved
2012	Original Concept Plan prepared
June 2018	Business case completed
July 2018	Detailed design commenced
November 2018	Design completed
May 2019	Construction Contract awarded
July 2019	Construction commenced
May 2020	New two-lane eastbound bridge completed
June 2020	Demolition completed on existing westbound bridge Construction commenced on new four-lane westbound bridge Civil works to the new grade separated cycle track under the Centenary Motorway completed
January 2021	New four-lane westbound bridge opened Roundabouts replaced by signalised intersections at approaches
March 2021	Construction completed ahead of planned date late 2021

Source: Submission 2, p 10.

3 Examination of the Sumners Road Interchange Upgrade Project

3.1 Purpose of the work

The purpose of the SRIU project 'was to improve the functionality, capacity and connectivity of the Sumners Road Interchange to achieve benefits to road safety, freight efficiency and reliability, and the surrounding road network.'²² Objectives of the project included:

- reducing congestion at the Sumners Road Interchange and the adjacent Centenary Motorway
- enhancing connections to cross network links
- improving road user safety on the interchange as well as the adjacent Centenary Motorway, and
- improving accessibility to Darra train station.²³

3.1.1 Work undertaken

The project involved project design, construction and commissioning. The scope of works is discussed at section 2.6. The works included:

- public utility plant relocation and protection
- demolition of the existing two-lane bridge built in 1965 and replacement with two new bridges spanning 55 metres over the Centenary Motorway
- replacement of the old roundabouts on either side of the bridge with new signal controlled intersections
- additional lanes to the local approaches and Centenary Motorway entry and exit ramps

²² Submission 2, p 11.

²³ Submission 2, p 11.

- new dedicated on-road bike paths, a new shared path on the westbound bridge and new footpaths throughout
- new bikeway underpass on the western side of the project, to provide connectivity with the existing Centenary Bikeway
- new noise fences totalling 200 metres
- landscaping.²⁴

3.1.2 Alignment with Queensland Government and DTMR strategic planning

The committee sought details regarding the project's alignment with DMTR's strategic plan and how the project contributes to DMTR's service delivery strategy. DTMR indicated that the SRIU project was considered by the Queensland Government to be critical infrastructure for supporting development in south-east Queensland.²⁵ The project aligned with Queensland Government strategic priorities and DMTR's vision of 'Connecting Queensland – Delivering transport for prosperity', by 'addressing congestion and safety related issues at the Sumners Road Interchange and the adjacent Centenary Motorway...[and] providing a safe, integrated, reliable and efficient transport system accessible to everyone.'²⁶

DMTR also advised that the project aligned with the following Queensland Government key strategic documents:²⁷

- The Queensland Plan (2014) – the Queensland Plan recognises that one of its nine key foundations is infrastructure, ensuring that the state can cater for on-going economic and population growth into the future. The project design catered for future upgrading and management of the Centenary Motorway which will provide for future growth in the region.²⁸
- Shaping SEQ – South East Queensland Regional Plan 2017 (SEQRP) – the SEQRP sets out a sustainable growth management strategy for SEQ and identifies integrated transport as a key outcome to support future economic development. The SEQRP identifies the Centenary Motorway as key enabling economic infrastructure supporting the knowledge and technology precinct at the Springfield Regional Activity Centre. The project design interface is consistent with the future Centenary Motorway upgrade.²⁹
- State Infrastructure Plan 2016 (SIP) – the SIP provides a coordinated and integrated approach to infrastructure planning, prioritisation, funding and delivery. The delivery of the project aligns with its policies and initiatives to support economic growth, productivity enhancement and job creation in the short, medium and long term.³⁰

²⁴ Submission 2, p 7.

²⁵ Submission 2, p 14.

²⁶ Submission 2, p 11.

²⁷ Submission 2, p 11.

²⁸ Queensland Government, The Queensland Plan Queenslanders' 30-year vision, <https://www.queenslandplan.qld.gov.au/assets/images/qld-plan.pdf>.

²⁹ Queensland Government, South East Queensland regional plan, <https://planning.statedevelopment.qld.gov.au/planning-framework/plan-making/regional-planning/south-east-queensland-regional-plan>.

³⁰ Queensland Government, Department of Infrastructure, Local Government and Planning, State Infrastructure Plan, March 2016.

- Moving Freight Strategy (2013) – the Moving Freight Strategy outlines the government’s ten year strategy and policy direction for the freight system. Of the six priorities identified in the Moving Freight Strategy, the project supports Priority 2 (increase road freight network access) and Priority 4 (support future freight growth).³¹
- Transport Infrastructure Asset Management Policy (August 2018) – the department has a strategic role in leading a safe and accessible transport system that contributes to economic development and enhances the quality of life for all Queenslanders. Long-term sustainable asset management is essential to fulfilling this role and delivering cost-effective transport infrastructure and services.³²
- Queensland Cycling Strategy 2017-2027 – by providing a new grade separated cycleway, the project supports the government’s commitment to cycling in Queensland by providing connection infrastructure to the existing Centenary Motorway Highway Bikeway.³³
- Transport Coordination Plan (2017) – the Transport Coordination Plan sets the direction for the transport network over the next 10 years identifying broad objectives for Queensland’s transport system. Project alignments include: improves network capacity beyond design year and minimises potential redundancy issues associated with a future Centenary Motorway upgrade; improved design addressed key community issues including congestion and road user safety; additional capacity will facilitate ongoing economic growth in the areas; grade separated cycle track provides enhanced connectivity with the Centenary Cycleway; improved connectivity to key economic activity centres; and improved motorist road user and cyclist safety by removing a weaving issue due to potential queuing at Sumners Road/Dandenong Road Intersection as well as providing a signalised pedestrian/cycling access to the footpath/cycleway.³⁴

The project also aligns with the DTMR Strategic Plan (2016-2020) through: augmenting DTRM’s strategic direction over a four-year horizon, including the department’s vision and purpose; showing the alignment between DTMR’s business objectives and the Queensland Government’s objectives for the community; and being part of the government’s commitments and supporting businesses at all levels.³⁵ Additionally, the project aligns with BCC’s Brisbane Industrial Strategy, which was developed in response to the strong demand for Brisbane’s limited supply of industrial land.³⁶

³¹ Queensland Government, Department of Transport and Main Roads, Moving Freight, <https://www.tmr.qld.gov.au/-/media/busind/Transport-sectors/Freight/Moving-Freight-final/Section1ForewordandIntroduction.pdf?la=en>.

³² Queensland Government, Department of Transport and Main Roads, Transport Infrastructure Asset Management Policy, November 2021, <https://www.tmr.qld.gov.au/-/media/busind/techstdpubs/Asset-management/TIAM-Policy/TIAMPolicy.pdf?la=en>.

³³ Queensland Government, Queensland Cycling Strategy 2017-2027 (Re-released 2020), <https://www.publications.qld.gov.au/dataset/queensland-cycling-strategy-2017-2027/resource/3f0c39d9-1df5-4fd5-a28a-9e3cfd7812f1>.

³⁴ Queensland Government, Department of Transport and Main Roads, Transport Coordination Plan, <https://www.tmr.qld.gov.au/About-us/Corporate-information/Publications/Transport-Coordination-Plan>.

³⁵ Submission 2, p 14.

³⁶ Submission 2, p 14.

3.2 Suitability of the work for its purpose

The SRIU project required an interchange that would reduce congestion and accommodate future predicted road user types and volumes, with a planned design life span of a minimum 10 years for traffic operations under AM/ PM hours of traffic.³⁷

The functionality improvement requirements included the following:

- improve network functionality by improving connections to cross network links
- improve safety by reducing traffic accidents
- increase freight efficiency and delivery reliability
- improve infrastructure to meet DTMR standards
- reflect prevalent government priorities in promoting growth and employment to local suppliers
- maximise flood immunity
- environmental considerations for legislative requirements
- optimise whole of life costs of the asset
- minimise impacts on the health and wellbeing of the local community.³⁸

The committee sought information from DTMR about how the work would be suitable for its purpose in terms of: location and site; size/scale; functional performance; and technical and environmental performance. The following sections detail the responses to these issues.

3.2.1 Suitability of location and site

DTMR advised that the work was suitable for its purposes as it utilised the existing site and generally stayed within the configuration of the brownfield environment of the existing interchange. The replacement of the existing bridge with a new one would increase storage capacity for vehicles which in turn enhances traffic efficiency. There was also the opportunity to locate the shared user pathway on the new southern bridge overpass.³⁹



Commercial properties located on the south east side of the overpass

³⁷ DTMR, correspondence, 27 April 2022, p 4.

³⁸ Submission 2, p 14.

³⁹ Submission 2, p 14.

3.2.2 Size and scale – project limits

DTMR advised the committee that the project increased capacity of the existing interchange by providing additional traffic lanes across the Centenary Motorway and storage length for right-turning vehicles alleviating congestion and improving road safety on the local road network and the Centenary Motorway.⁴⁰

The interchange has been designed for a minimum design life of 10 years, commencing in 2021. The predicted design life was directly related to forecast traffic growth, which is dependent on future network upgrades, including widening of the Centenary Motorway and population growth. The forecast traffic growth was based on a traffic study carried out as part of the business case development in 2018.⁴¹

Project parameters as advised by DTMR included:

- the efficient and safe operation of the interchange for the connecting local road network
- the Brisbane City Council operation and maintenance requirements
- the Queensland Government's commitment on active transport
- DTMR Road Safety Policy
- Minimal impacts to local businesses and emergency services such as Queensland Ambulance Service access at the corner of Monier and Sumner Roads.⁴²

3.2.3 Functional performance

Functional performance includes issues such as functional spaces, space allocations, space groupings and their functional relationships, quality and standards of design and construction, circulation, access, safety, and security, and general planning and design.

The delivery model involved procuring a design, and then procuring the construction component using DTMR's Transport Infrastructure Contract. The contract sets requirements for participation of local suppliers, and training targets. Procurement criteria for both designer and construction contractors required pre-qualification and quality assurance. The works were supervised by a professional engineering firm to oversee construction and to administer the contract.⁴³

In relation to functional performance, DTMR advised that pathways have been provided for active transport users with preferred alignments that minimise conflict points. Turning paths have been designed in accordance with DTMR design standards to cater for heavy freight vehicles.⁴⁴

The West Brisbane bicycle user group (BUG) advised

The new shared path adjacent to the southern or westbound bridge is very high quality, with barriers from the traffic providing a sense of safe separation, and the high fence facing the

⁴⁰ Submission 2, p 14.

⁴¹ Submission 2, p 14.

⁴² Submission 2, p 15.

⁴³ Submission 2, p 16.

⁴⁴ Submission 2, p 16.

motorway deterring misbehaviour such as throwing projectiles, while still enabling users to enjoy the view south and west towards Flinders Peak and the Teviot Range.⁴⁵

DTMR also advised that the project design was altered following consultation feedback to include U-turns at both sets of traffic signals to accommodate businesses at 28 Sumners Road, and a U-turn facility at Monier Road to accommodate businesses whose access points changed as a result of the project design.⁴⁶

3.2.4 Technical and environmental performance

The project includes bridge structures, road pavements, drainage, intelligent transport systems and environmental features for water runoff quality, noise and vegetation. DTMR advised that these features were designed to departmental design standards aligned with national harmonised standards and practices.⁴⁷ The project has also been designed such that it is upgradeable in the future.

The committee also noted innovative design of high-speed entry and exit points from the grade-separated cycle path to bitumen roads within the project area. The points were specifically angled so that cyclists do not lose pace as they go through, which differs from the traditional gap in the guttering used in BCC sections surrounding the project area.⁴⁸ DTMR indicated this innovation occurred after engagement with the West Brisbane BUG, to obtain their advice to ensure their design was to the latest possible standards regarding visibility and traction on the cycleway itself.⁴⁹

West Brisbane BUG also advised

The delivered project is very high quality. The landscaping adjacent to the cycleway and shared paths is attractive, with a good array of native planting which will improve the shade, sound absorption, air quality and amenity of the area in coming years. The quality of cycleway surface is outstanding, and lighting in the tunnel is a very high standard which provides a feeling of safety and confidence and there have been no reports of miscreant behaviour.⁵⁰

The West Brisbane BUG submitted a concern about the amenity of the shared path on Sumners Road constructed as part of the upgrade. The concern related to traffic light timing and number of crossing stages required to progress from Sumners Road to the Monier Road footpath.⁵¹ West Brisbane BUG requested that DTMR review the timings and automations of the stage crossings at the SRIU. In response DTMR advised that in August 2022, it engaged with a representative of West Brisbane BUG about operational improvements at the interchange.⁵² This resulted in planned reconfiguration of pedestrian crossing push buttons at the eastern intersection of the interchange, and enhancements at the western intersection to improve active travel at this intersection. These operational improvements will be completed by June 2023.

⁴⁵ Submission 1, p 2.

⁴⁶ DTMR, correspondence, 27 April 2022, p 6-7.

⁴⁷ Submission 2, p 16.

⁴⁸ Public hearing transcript, Brisbane, 28 March 2022, p 3.

⁴⁹ Public hearing transcript, Brisbane, 28 March 2022, p 3.

⁵⁰ Submission 1, p 2.

⁵¹ Submission 1, p 3.

⁵² DTMR, correspondence, 10 October 2022, p 2-3.

3.2.5 Consideration to future development

DTMR advised that future development considerations involved population, network and infrastructure growth. Factors taken into account included:

- Improving network capacity beyond the design year of 2031.
- Minimising potential redundancy issues associated with future Centenary Motorway upgrades.
- The redundancy of the existing cycleway and bridge on commencement of any future widening of the Centenary Motorway.
- The design addressed key community issues associated with this part of the State Controlled Road Network including congestion and road user safety.⁵³

3.3 Necessity for and the advisability of, the work

The committee sought information from DTMR regarding the necessity of the work, the business case for the work, its timing and consideration of options. The following sections detail DTMR's responses.

3.3.1 Necessity for the work

DTMR advised the primary issues the project needed to address were congestion and safety. The original 2012 concept plan, which retained the existing bridge, was subject to review in 2017 and found to result in a six year design life with continued afternoon peak north- and south-bound ramp queuing, reducing the capacity of the Centenary Motorway to less than 50% in either direction of travel, and increasing accident risks.⁵⁴

A critical safety issue was also identified associated with the free flow left turn movement from the northbound Centenary Motorway exit ramp at the western terminal intersection. Due to potential queuing at Sumners Road and Dandenong Road intersection, left turning vehicles from the northbound exit ramp wanting to turn right into Dandenong Road might not find gaps in the traffic stream to change lanes leading to increased crash potential. The lack of pedestrian crossing facilities across the free flow lane to allow safe pedestrian access to the adjacent footpath added to the crash risk in this area.⁵⁵

The business case analysis found that continued industrial development in the area, the poor safety record of the interchange, and poor connectivity to the nearby Centenary Cycleway were all necessary considerations for the SRIU project.⁵⁶

In their submission, the West Brisbane BUG advised

Unanimously our members have expressed that being able to proceed straight through the Centenary Cycleway tunnel under Sumners Road has greatly improved safety compared with crossing at the Dandenong Road intersection. Prior to the project this crossing was necessary and, for reasons of traffic flow, it was possible for left turning vehicles out of Dandenong Road into Sumners Road to not have a red arrow despite the pedestrian crossing

⁵³ Submission 2, p 17.

⁵⁴ Submission 2, p 17.

⁵⁵ Submission 2, p 17.

⁵⁶ Submission 2, p 17.

light still being active. Our members recount occurrences where people in cars have turned across them, causing them to take evasive action, and one member was seriously injured by a turning heavy goods vehicle.

Being able to wholly avoid this intersection if travelling north or south along the Centenary Cycleway is without question a significant improvement for safety.⁵⁷

3.3.2 Timing of the work

A concept plan for the project was funded in 2012 with ‘future funding to compete with other state-wide priorities.’⁵⁸ DTMR was asked why the project, which had received concept planning in 2012, did not have a business case completed until 2018. DTMR advised that by 2017, the interchange was operating beyond its capacity to service 85,000 vehicles on the Centenary Motorway at the interchange, 35,000 vehicles at Sumners Road to the west and Monier Road to the east. A high crash rate and significant queuing required addressing.⁵⁹ DTMR advised ‘the project was allocated funding in QTRIP 2011-12 to 2014-15. No funding was allocated in QTRIP 2012-13 to 2015-16. Funding was allocated in QTRIP in 2018-19 to 2021-22.’⁶⁰

3.3.3 Options considered

DTMR advised that multiple design options were considered during the development phase and these options focused on the project objectives and in scope requirements. DTMR engaged a traffic consultant to develop concept level traffic analysis of the options identified, with benefits of each option estimated over a 10 year operational life.⁶¹ Three potential project options were identified.

Option One was based on a 2012 concept plan for the SRIU project, and subject to an initial 2017 funding commitment of \$65 million.⁶² This option retained the existing two-lane, two-way bridge which was found by traffic analysis to result in interchange congestion within five years or less. Option One also retained active transport for bike riders at-grade only. This option was found to be inconsistent with future traffic demand, active transport and pedestrian connectivity, and any future upgrade of the Centenary Motorway.⁶³

⁵⁷ Submission 1, p 3.

⁵⁸ Submission 2, p 17.

⁵⁹ Submission 2, p 17.

⁶⁰ DTMR, correspondence, 27 April 2022, p 3.

⁶¹ Submission 2, p 17.

⁶² Submission 2, p 72.

⁶³ Submission 2, p 7.

Figure 6: Construction Option One

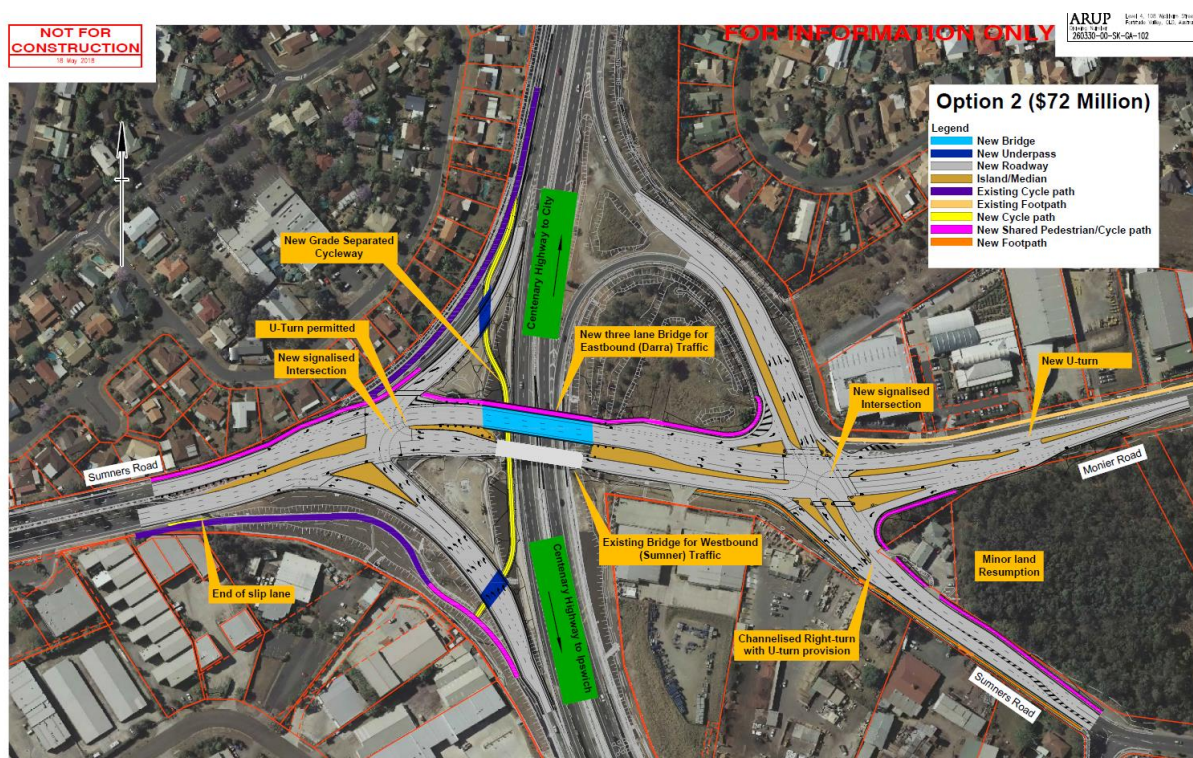


Source: Submission 2, p 109.

A second option, at a projected cost of \$72 million, included a separated bikeway and footpath (including an underpass for the safety of bike riders) at an additional \$7 million.⁶⁴ Option Two also retained the existing two-lane bridge. This option was found to result in that infrastructure becoming redundant on the inevitable commencement of the widening of the Centenary Motorway.

⁶⁴ Submission 2, p 53.

Figure 7: Construction Option Two



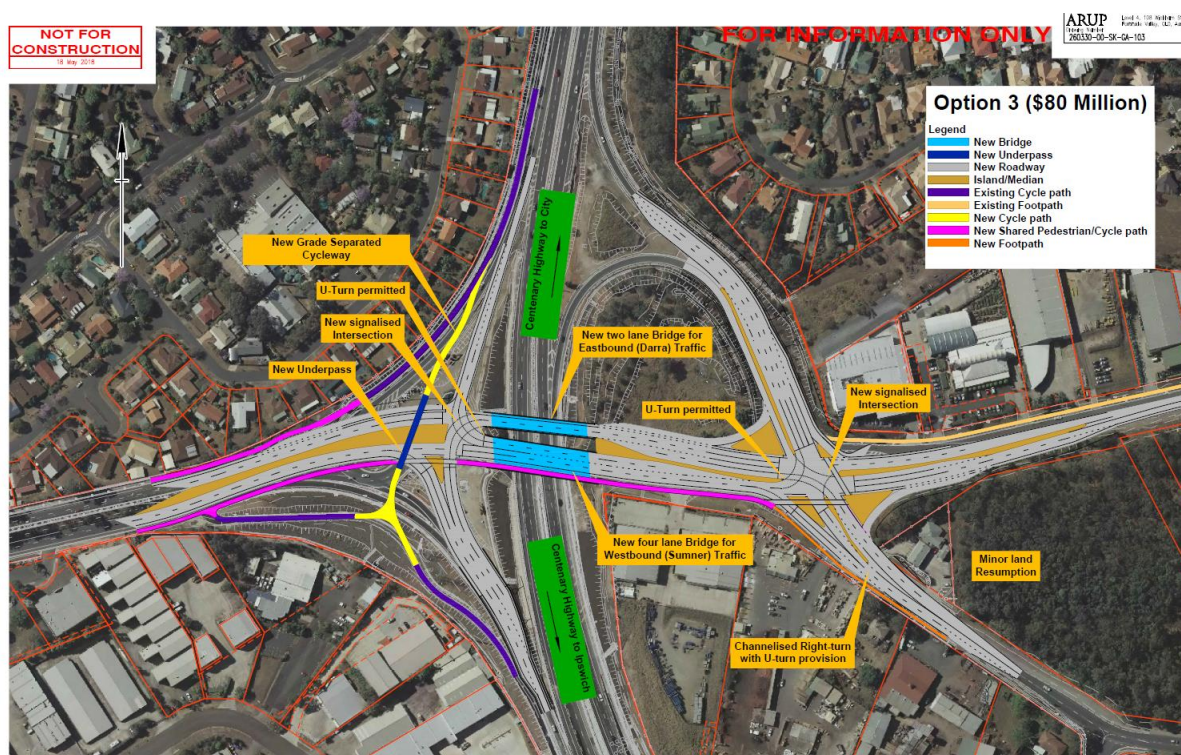
Source: Submission 2, p 110.

Option Three, at a cost of \$80 million, involved demolition of the existing bridge and construction of a new four-lane bridge for \$8 million.⁶⁵ It included the grade separated bike track and a new eastbound bridge, meaning the project would have two bridges.⁶⁶

⁶⁵ Submission 2, p 53.

⁶⁶ Submission 2, p 18.

Figure 8: Construction Option Three



Source: DTMR, correspondence, 27 April 2022, p 111.

DTMR advised that the cost of a project is not the sole determiner of a project design.⁶⁷ Option Three was considered to provide the greatest value for money solution for the project, because of its capacity to:

- Interface with the Centenary Motorway Master Plan
- Cater for planned Centenary Motorway widening works
- Increase the design life from six years to ten years
- Provide a shared user path on the most appropriate side of the interchange
- Maintain support from stakeholders and
- Reduce long term maintenance costs compared to retaining the existing bridge.⁶⁸

3.3.4 Option selected

Through economic analysis, Option Three was preferred. Option Three was funded for construction in 2018. DTMR advised that the selected option increased the interchange from two to six traffic lanes, resulting in improved road user safety by reducing congestion-related accidents, better efficiency and reliability for freight, commuter, and public transport users, increased safety and connectivity for active transport users, and better access for passengers to Darra Station.⁶⁹

⁶⁷ DTMR, correspondence, 27 April 2022, p 5.

⁶⁸ DTMR, correspondence, 27 April 2022, p 5.

⁶⁹ Submission 2, p 21.

The West Brisbane BUG acknowledged the increase in costs that the final project design resulted in, but advised that:

...the previous detour and unsafe crossing of Sumners Road, which the original design (Option One) had included, acted as a deterrent to people choosing cycling for transport. The new cycleway tunnel and additional improved connections encourage more people to choose to cycle or walk instead of drive, reducing demand on the road network and increasing return on investment for the project.⁷⁰

DTMR undertook a project cost financial analysis during the business case stage to determine the project's value for money in terms of cost factors. The analysis provided an estimate of the financial cost to government of procuring the infrastructure and the assumed ongoing services required for whole-of-life costs, which included routine and periodic maintenance.⁷¹ The key purpose of the financial analysis was to establish the viability and affordability of the project options, and the results ultimately formed the basis for determining the funding framework.⁷²

3.3.5 Benchmark comparison with other projects

Three other projects were considered benchmark comparisons due to the similar nature of construction features.⁷³ These are:

- Pacific Motorway (M1) -Yatala South Interchange (Exit 41)
- Bruce Highway – Boundary Road Interchange
- Pacific Motorway – Coomera Interchange (Exit 54).

The Pacific Highway Yatala South Interchange is presently under construction and comprises features similar to the SRIU project including a new overpass bridge, replacement of roundabouts with traffic signals and a new pedestrian bridge. The Bruce Highway Boundary Road interchange completed in 2017 included similar features such as removal of an existing bridge and construction of new bridges, and provision of a grade-separated pedestrian and cycle path. The Pacific Highway Coomera Interchange completed in 2016 included a new overpass bridge, and replacement of roundabouts with signalised intersections.⁷⁴

⁷⁰ Submission 1, p 1.

⁷¹ Submission 2, p 20.

⁷² Submission 2, p 18.

⁷³ Submission 2, p 21.

⁷⁴ Submission 2, pp 21-22.

Table 5: Benchmark comparison of construction costs

Projects	Comparison factors			
	Approved Budget	Actual Costs of major project cost items		
		Construction	Design	Contract admin
Bruce Highway-Boundary Road Interchange upgrade	\$61,709,200	\$51,088,056	\$2,184,250	\$2,807,973
Pacific Motorway – Exit 54 Interchange upgrade	\$63,700,000	\$52,327,220	\$3,008,211	\$4,174,296
Pacific Motorway – Exit 41 Interchange upgrade	\$77,900,000	\$54,070,186	\$5,107,174	\$3,186,148
Sumners Road Interchange upgrade	\$80,000,000	\$49,067,721	\$3,685,519	\$3,522,290

Source: Submission 2, p 22.

3.4 Cost of and recurrent costs of the work

The initial budget was revised upwards from \$65 million to \$80 million in order to increase the SRIU project design life from 5 years to 10 years, by accommodating an increase in scope for an additional bridge costing at \$8 million and the new grade separated bike underpass costing at a further \$7 million.⁷⁵

The approved project cost estimate was developed in accordance with the DTMR Project Cost Estimating Manual. The project was fully funded by the Queensland Government. Detailed project figures are provided for the \$80 million budget in the following table.⁷⁶

Table 6: Summary project budget

Item	Budgeted Cost
Construction Value (CV)	\$37,221,657
TMR Owner's Costs (OC)	\$19,641,372
Base Estimate (BE)	\$56,863,029
Contingency P90 – 36.8% of BE less spent costs	\$20,677,563
Escalation – 3.5% of BE + Contingency	\$2,722,602
Total Outturn Costs (TOC)	\$80,263,194

Source: Submission 2, p 22.

The project was completed with the total expended costs being less than the budgeted amount.⁷⁷ DTMR advised that the project's actual cost was \$64,562,555, representing a saving of \$15,700,639 over the life of the project.⁷⁸ These savings were made up of departmental and contract management costs, and projected project risks - such as an unknown public utility plant, or the amount of asbestos anticipated in demolition of the original bridge - that did not materialise.⁷⁹

⁷⁵ Submission 2, p 22.

⁷⁶ Submission 2, p 25.

⁷⁷ Submission 2, p 25.

⁷⁸ DTMR, correspondence, 10 October 2022, p 7.

⁷⁹ Submission 2a, p 6.

Table 7: Final project budget

Item	Final Cost
Construction Value (CV)	\$49,067,720
TMR Owner's Costs (OC)	\$15,494,834
Base Estimate (BE)	\$64,562,555
Contingency P90 – 36.8% of BE less spent costs	-
Escalation – 3.5% of BE + Contingency	-
Total Outturn Costs (TOC)	\$64,562,555

Source: DTMR, correspondence, 10 October 2022, p 3.

3.4.1 Recurrent costs

DTMR advised that there will be ongoing routine maintenance activities including sealed surfaces, drainage, road furniture, lighting and traffic signals, traffic delineation and structures. These costs are assumed to occur annually throughout the 30 years evaluation period, at a present dollar value of total of \$98,367 per year.⁸⁰ Programmed maintenance of typical asphalt overlay treatment will be required every 10 years, at a present dollar value of \$62 per m², or \$1.7m in total (based on 2018 rates).⁸¹

3.5 Public value of the work, including the impact on the community, economy and environment

DTMR analysed the social impacts of the SRIU project through public consultation and community engagement throughout the life of the project. A comprehensive economic analysis of the project was undertaken to assess the 3 construction options on a 10 year benefits basis.⁸² Environmental assessments undertaken by DTMR in 2010 and 2017 were used to assess the environmental and heritage constraints and opportunities associated with the project.⁸³

3.5.1 Community impacts

The Sumners Road Interchange Planning Study was launched in November 2009 to identify possible future upgrade solutions. The results of the study formed the basis for the SRIU project. The community engagement strategy for the planning study was completed in 2011, following 3 phases of community engagement that culminated in presenting a preferred and alternative option to the community. Following the commencement of design in February 2018, consultation with affected stakeholders around Sumners Road, regarding their design requirements for driveways, took place.⁸⁴

An increase in project scope was announced in September 2018. The project team then commenced another round of consultation with stakeholders on a range of issues such as access, landscaping, timeframes and potential detours. Key stakeholders and the local community were informed about the final design and upcoming construction in July 2019.⁸⁵ Key stakeholders for the project included:

⁸⁰ DTMR, correspondence, 10 October 2022, p 4.

⁸¹ DTMR, correspondence, 10 October 2022, p 4.

⁸² Submission 2, p 26.

⁸³ Submission 2, p 30.

⁸⁴ Submission 2, p 268.

⁸⁵ Submission 2, p 25.

- Local businesses on Monier Road, Westcombe Street, 28 Sumners Road
- Queensland Ambulance Service at Westcombe Street
- BMW Dealership on Monier Road
- Centenary Stormers Football Club on Monier Road
- Brisbane City Council
- Local Aboriginal Group
- Local community and
- Local elected representatives.⁸⁶

3.5.1.1 Social impacts associated with the project

DTMR advised that there was broad support for the interchange upgrade, with some feedback for improvements related to the provision for active transport, access to local businesses, and concerns raised around project timing and funding.⁸⁷

DTMR additionally advised that:

Feedback provided throughout the consultation process was taken into consideration by the project team and addressed in the detailed design stage. This included the following:

- Investigations into U-turn facilities in the detailed design phase to allow provision of U-turns for businesses at the intersections without compromising the safety and efficiency of traffic. Motorists are able to perform U-turns at the western and eastern intersections; and there is provision for a channelised right hand turn outside Centenary Landscaping. A U-turn provision was also provided on Monier Road, close to the Centenary Stormers Football Club, to allow safe access for motorists exiting businesses on Monier Road.
- The overpass was named as 'Len Waters Overpass' after an application from the local MP, with support from multiple stakeholder groups
- Active transport provisions for pedestrians and people who ride bikes with shared pathways and on-road cycle lanes, dedicated crossing facilities and links to the surrounding local network and the Centenary Motorway Bikeway. Based on feedback received, a grade-separated cycle track was constructed as an underpass below the western intersection, which will link up with the Centenary Motorway Bikeway
- As a Queensland Ambulance Service (QAS) station was located within the project's footprint, the interchange was sequenced so the new signalised intersection would give QAS vehicles priority emergency access.⁸⁸

The community was likely to experience various noise, odour, dust and vibration impacts, as well as changed conditions including detours and intermittent closures for pedestrians, cyclists and motorists.⁸⁹ DTMR worked with the community and local businesses to minimise disruptions caused by the work. Mitigations included the provision of email alert notifications of night works, road impacts and changes to footpaths and cycleways, and traffic management.⁹⁰

⁸⁶ Submission 2, p 26.

⁸⁷ Submission 2, p 26.

⁸⁸ Submission 2, p 26.

⁸⁹ Submission 2, p 294.

⁹⁰ Submission 2, p 295.

3.5.2 Economic impacts

DTMR identifies the Centenary Motorway as key enabling economic infrastructure supporting the knowledge and technology precinct at the Springfield Regional Activity Centre.⁹¹

The project provided employment opportunities directly during the construction phase. The 12 month construction phase supported about 105 jobs.⁹²

3.5.2.1 *Public Value of the Work*

DTMR advised that a robust economic analysis was undertaken to assess the proposed upgrade options. The results of the economic analysis are shown in the table below. The analysis is based on a 10 year benefits timeframe.⁹³

Table 8: Comparative economic analysis

Parameter	Option 1	Option 2	Option 3
Present value of vehicle operating cost benefits	\$1,685,333	\$8,018,742	\$10,272,213
Present value of travel time benefits (cyclists)	\$3,423	\$8,590	\$8,396
Total Present Value of Benefits	\$4,957,096	\$22,264,925	\$27,677,266
Benefits Cost Ratio (BCR)	0.10	0.37	0.41
Net Present Value (NPV)	\$(44,426,721)	\$(37,763,282)	\$(39,960,437)

Source: Submission 2, p 76.

DTMR further advised:

The economic analysis was undertaken using benchmark inputs from the Australian Transport Assessment and Planning (ATAP) Guidelines (2016) and Austroads Guide to Project Evaluation, Part 4 Project Evaluation Data Austroads, 2012). TMR's Cost Benefit Analysis Manual for Road Projects was also used to inform this assessment. The Benefit / Cost Ratio for the preferred option (Option 3) is 0.41, which is above option 1 and 2.⁹⁴

3.5.2.2 *Local Industry Policy:*

Several local business were contracted to provide the 17,000 tonnes of asphalt, 6000 tonnes of concrete and 36 girders needed in the project.⁹⁵ Local construction business BMD Group was procured as the Principal Contractor.⁹⁶ DTMR advised that BMD's commitment to local community opportunity and support demonstrated its understanding of adhering to the Queensland Government's 'Local

⁹¹ Submission 2, p 27.

⁹² DTMR, Public hearing transcript, Brisbane, 28 March 2022, p 2.

⁹³ Submission 2, p 28.

⁹⁴ Submission 2, p 76.

⁹⁵ DTMR, Public hearing transcript, Brisbane, 28 March 2022, p 2.

⁹⁶ Submission 2, p 28.

Industry Policy.⁹⁷ BMD achieved small and medium enterprise participation throughout 3 construction phases: pre-procurement planning, procurement and contract execution.⁹⁸

DTMR advised that

The SRIU project ensured compliance with the Queensland Government Building and Construction Training Policy by:

- Employing on the site, either directly or indirectly through subcontractors, apprentices and trainees and upskilling workers employed on the site, the deemed hours for the training policy were determined by the contract sum multiplied by 0.03 percent for civil construction projects.
- In complying with the training policy, not less than 60% of the required number of deemed hours were allocated toward the employment of apprentices and trainees (new entrants) with the remaining deemed hours allocated to other workforce training.
- The number of attributable deemed hours to upskill a worker were limited to the hours necessary to adequately present the educational material, in a classroom delivery mode, for the worker to achieve an identified competency or qualification.⁹⁹

3.5.3 Environmental impacts

The project area was located within a largely modified urban environment, with some small areas of environmental significance and potential cultural heritage significance. An environmental assessment report (EAR) was prepared to manage environmental and cultural heritage constraints.

3.5.3.1 Environment constraints

The key area of environmental constraint is associated at Atthows Park to the south of Monier Road.¹⁰⁰ Atthows Park was historically used as a Brisbane City Council landfill. According to mapping, parts of Atthows Park contained remnant regional ecosystems, however DTMR advised that subsequent field investigations in 2018 indicated vegetation communities present on site were inconsistent with the endangered classification.¹⁰¹

3.5.3.2 Environmental impact mitigation measures

DTMR advised that environment and cultural heritage were managed in accordance with its departmental Environmental Processes Manual. Overall, the project was assessed as having a medium risk for environment factors such as noise, erosion, contaminated land, native title, biosecurity and cultural heritage.¹⁰² On the basis of findings in the EAR, DTMR undertook the following mitigation measures:

- A contaminated land assessment confirmed risk of disturbed contaminant levels if soils were removed from site. In mitigation, the design aimed to minimise ground disturbance,

⁹⁷ Submission 2, p 28.

⁹⁸ Submission 2, p 28.

⁹⁹ Submission 2, p 29.

¹⁰⁰ Submission 2, p 30.

¹⁰¹ Submission 2, p 31.

¹⁰² Submission 2, p 371.

particularly excavation. This served to reduce the risk of transporting Red Imported Fire Ants off site requiring inspections and approvals from the Department of Agriculture and Fisheries.

- Cultural heritage assessments were undertaken for ancillary works areas.
- Retention of all non-juvenile koala habitat trees with significant offsets for any removed. The design aimed to minimise clearing of such vegetation.
- Consultation with stakeholders for any vegetation on council-owned land that required removal.
- Avoidance of removal of entire trees, where possible.¹⁰³

DTMR additionally advised that operational noise levels after the completion of the SRIU project exceeded the threshold at 4 residential properties. Mitigation consisting of a 2 metre high, 145 metre long noise barrier along Sumner Road was built as part of the project.¹⁰⁴ It was also advised that new noise fences at Melody Street and Leopard Tree Crescent were included in the design.¹⁰⁵

3.5.3.3 Environmentally sustainable design features

The cycling underpass was designed to incorporate crime prevention measures and included low level landscaping to ensure good visibility to both ends of the underpass, as well as:

- 4.2m clear width and 2.4m clear height
- A straight geometry with no curves
- One-way crossfall
- Lights in the soffit and CCTV
- Provided with CCTV
- Wingwalls to be splayed with a large angle.¹⁰⁶

3.6 Procurement methods

DTMR advised that it used a traditional principal's design tendered for construction contract, which involved a 2-stage tender process: an Expression of Interest process with non-price criteria, followed by a shortlisting of 4 tenderers to progress to Stage 2, which was the price only criteria.¹⁰⁷ For Stage One, 9 contractors provided conforming tender submissions. Four of those contractors were progressed to Stage Two.¹⁰⁸

DTMR advised that the assessment panel recommended BMD Constructions represented the best value for money principal contractor based on the following:

- Lowest conforming price
- Within 3% of DTMR's estimate
- The upper limit contract value was comparable to next lowest tenderer and within \$100,000.
- Competitive tender rates and pricing

¹⁰³ Submission 2, p 31.

¹⁰⁴ Submission 2, p 31.

¹⁰⁵ Submission 2, p 33.

¹⁰⁶ Submission 2, p 31.

¹⁰⁷ Submission 2, p 32.

¹⁰⁸ Submission 2, p 33.

- Low risks to TMR with no tender assumptions or conditions associated with the tender Submission.¹⁰⁹

DTMR advised that Arup was recommended as the best design consultant tender based on the following:

- Arup offered a very skilled, experienced, available and suitable team to deliver the project updated Business Case, Preliminary Design and Detailed Design.
- The majority of the team had recent experience from Coomera Interchange Upgrade (Exit 54) a very similar project which also involved rapid delivery model.
- Arup demonstrated previous support on past projects, with a strong focus about value for money and responsiveness to enable TMR to meet the accelerated committed timeframes.
- Arup's tender price offers the best value for money.¹¹⁰

DTMR advised that 5 pre-qualified contract administration suppliers were invited to submit an offer, with 4 offers received. Aurecon was subsequently assessed as the best offeror.¹¹¹

DTMR advised that for the SRIU project the information technology equipment included CCTV and traffic signals, along with the associated communication cables. This information technology equipment was patched into an existing communications network. The procurement of the project's information technology equipment was included in the larger infrastructure contract.¹¹²

3.7 Balance of public and private sector involvement

The public and private sector worked collaboratively in various stages of the project, as indicated in the below figure. DTMR advised that the SRIU project was considered a significant infrastructure project under the Queensland Procurement Policy and therefore the requirement arose to use local subcontractors and manufacturers where the local capability and capacity existed.¹¹³

¹⁰⁹ Submission 2, p 34.

¹¹⁰ Submission 2, p 35.

¹¹¹ Submission 2, p 36.

¹¹² Submission 2, p 36.

¹¹³ Submission 2, p 38.

Table 9: Public and private sector contributions

Concept and Development Phase	Implementation & Finalisation Phase
Private Sector: <ul style="list-style-type: none"> • Design Consultants • Investigation work • Early Works • Property/planning/resumptions • PUP 	Private Sector: <ul style="list-style-type: none"> • Construction Contractor • Contract Administration • Design Consultant • Insurance • PUP
Public Sector: <ul style="list-style-type: none"> • Project Management • TMR Technical Advisors 	Public Sector: <ul style="list-style-type: none"> • Project Management • TMR Technical Advisors

Source: Submission 2, p 37.

DTMR provided a cost breakdown of work by the public and private sectors for the SRIU project, as detailed in the following table.

Table 10: Public and private sector participation in monetary value

Item	Public sector cost	Private sector cost
Concept Phase	\$27,132.82	
PUP (Relocation Services)		\$4,469,450.22
Operating Property Expense	\$63,753.00	
Develop Phase Project Management & Administration	\$1,108,828.43	
Survey		\$12,215.75
Detailed Design		\$3,685,518.73
Preliminary works	\$512,556.34	
Procurement	\$47,982.25	
Contract Administration		\$3,522,289.75
Project Management & Admin	\$1,058,201.43	
Principals Responsibility	\$196,930.90	
PAI Insurance	\$380,288.46	
Q Leave	\$248,900.00	
Construction		\$49,067,720.54
Environmental and Cultural Heritage	\$2,039.00	
Total costs	\$4,256,612.63	\$60,757,194.99

Source: Submission 2, p 37.

3.8 Performance of the constructing authority, consultants and contractors

DTMR advised that it considered the SRIU project as a successful project.¹¹⁴ In respect of the principal contractor, BMD Constructions, DTMR advised

The project was delivered to a high standard with a strong focus on quality and minimising stakeholder impacts. The project team delivered the works professionally and demonstrated strong leadership through a proactive collaborative approach to achieving solutions. This attitude employed by the BMD project manager filtered through to the wider team who were approachable and knowledgeable.

Early identification and mitigation of potential issues and the transparent conversations amongst the client, administrator and contractor helped to deliver the best result for TMR and its stakeholders.

With the project undertaken in a largely modified urban environment, BMD tabled a proposal to construct noise fences at Melody Street as one of the project's first activities to appease stakeholders and mitigate construction noise. The initiative shown by the project team was well received by residents and acknowledged by the Member for Mount Ommaney.

Health and safety were a priority for BMD and no notable incidents occurred during the 21-month construction period. The project's COVID-19 management plan was the blueprint used by TMR Metropolitan Region for the project to ensure workers and visitors were kept fully informed and protected.¹¹⁵

West Brisbane BUG complimented the performance of BMD Constructions as the principal contractor:

During construction there was inevitable impact on the existing cycleway and shared paths. From our perspective these were managed well throughout the duration of the project.

There were specific times where the path conditions left open for cyclists was inadequate – be it too narrow to safely allow two-way travel, or rough and unmarked deviations in the surface which could have resulted in a crash and injuries. On all occasions, we found BMD and the TMR contacts extremely responsive and addressed our concerns promptly. Where traffic control was required, it was managed professionally.

The speed with which the project was completed was impressive, and we understand it was completed several months ahead of schedule.

Our members expressed very few concerns regarding the performance of the project team and contractors delivering the works.¹¹⁶

In respect of Arup, the design consultant, DTMR advised that its overall performance was excellent.¹¹⁷ DTMR further advised

The team were on hand to provide specialist technical advice to the Principal's Representative and Contract Administrator at key times during the construction phase. This was particularly evident through their attendance at the bridge construction workshops where the girder lifts and crane studies were being developed for implementation. Arup's input was key to ultimately ensuring the project was completed to a high standard, as they worked collaboratively with all parties to achieve the best for project outcomes.

¹¹⁴ Submission 2, p 39.

¹¹⁵ Submission 2, pp 38-39

¹¹⁶ Submission 1, p 2.

¹¹⁷ Submission 2, p 40.

Arup clearly understood this was a high-profile project that needed to be delivered on time and on budget. The design program was accelerated, and Arup delivered a robust set of contract documents to TMR. The quality of the documents stood the rigour of the construction phase, with only minor design errors identified. It should be noted these design errors were amended at the consultant's costs and revised drawings were provided to TMR in a prompt manner and with no additional costs to the Principal. Communication channels were always clear and concise with a focus on providing a quality client service.

The relationship between the Arup and the TMR team was very positive. Both parties had open dialogue with issues resolved in a professional and collaborative manner. Arup also developed relationships with the Contract Administration team to assist them in any technical queries or design clarifications that the contractor had put forward through the Request for Information process.¹¹⁸

In respect of the contract administrator, Aurecon, DMTR advised:

Aurecon delivered satisfactory outcomes in a challenging environment while professionally demonstrating a proactive collaborative approach to achieving solutions to mitigate potential contractual issues between TMR and BMD. They acted in good faith to achieve best for project outcomes.

Overall, Aurecon's performance was good. Aurecon ensured project construction stayed on track to meet time and cost milestones whilst also maintaining quality at the forefront of the project teams thoughts. Aurecon followed the specifications diligently in all aspects of contract administration. Aurecon played a key role in the successful delivery of this project.¹¹⁹

3.9 Actual suitability of the works in meeting the needs and achieving the stated purpose

Submissions provided by DTMR and the West Brisbane BUG indicate that the completion of the SRIU project has delivered significant benefits. These include:

- Improved active travel transport options for pedestrians and cyclists
- Use of a local construction company as Principal Contractor
- Improved vehicular access for local businesses on Monier Road
- improved road user safety by reducing congestion-related accidents
- better efficiency and reliability for freight, commuter, and public transport users
- better access for passengers to Darra Station
- future proofing the interchange for the planned widening of the Centenary Highway.

¹¹⁸ Submission 2, p 40.

¹¹⁹ Submission 2, p 40.

Appendix A – Public submissions

Sub #	Submitter
001	Brisbane West Bicycle User Group
002	Department of Transport and Main Roads
Correspondence 27 April 2022	Department of Transport and Main Roads
Correspondence 10 October 2022	Department of Transport and Main Roads

Appendix B – Officials at public departmental briefing

Department of Transport and Main Roads

- Neil Scales, Director General

Appendix C – Witnesses at public hearing

West Brisbane Bicycle Users Group

- Chris Cox, Co-convenor