

The table below reflects the agreement by cabinet and published figures in the 25-26 Budget. These figures may differ from the below business case due to cabinet decision (ie a reduction in scope, or varied funding, etc)

Better and safer roads – Gundaroo Drive Duplication Stage 3 (TCCS C04)



Budget Outlook Description

	2025-26 \$'000	2026-27 \$'000	2027-28 \$'000	2028-29 \$'000	Total \$'000
Capital Impacts					
Capital injection	3,710	-	-	-	3,710
Capital offset – Commonwealth contribution	(3,365)	-	-	-	(3,365)
iCBR fee – resources received free of charge	148	-	-	-	148
iCBR fee – Commonwealth contribution	(135)	-	-	-	(135)
Net Capital	358	-	-	-	358
Expense Impacts					
Expenses - Depreciation/Amortisation	-	49	49	49	147
Expenses - Repairs and Maintenance	-	-	37	74	111
Net Expense	-	49	86	123	258

The Government will complete Stage 3 of the duplication of Gundaroo Drive.

This initiative will be partially delivered through funding announced as part of the 2025-26 Commonwealth Budget.

This initiative contributes to the wellbeing domain of Access and connectivity. Other domains which this initiative significantly contributes to are Safety, Social connection and Economy.

Key Points

- The project is nearing completion and is expected to be completed shortly.
- Funds provided are required to meet remaining project costs which include cost escalation, delay and disruption and settlement of claims not anticipated or estimated at the commencement of the project.
- These funds will allow the project to progress to completion and provide a duplicated road corridor from Gungahlin to Belconnen which will improve traffic flows, reduce travel times and increase road safety.



Project Business Case

Project name:	Gundaroo Drive Stage 3
Tier:	Tier 1 – greater than \$50 million
Risk assessment (high/med/low):	Medium
Total estimated project capital cost (P90, \$'000, nominal):	\$59.35 million
Whole-of-life cashflow (P90, \$'000, nominal):	
Funding requested (\$'000):	\$5.22 million
Recommended delivery model:	Construction, Open Tender via ICBR
Sponsoring Agency:	TCCS
Sponsoring Minister:	Tara Cheyne (Minister for City Services)
Contact officer:	Carl Dias – Senior Director Sophie Clement – Executive Branch Manager ID
Business Case advisors:	Nil

This Business Case template should be completed using the [Guidelines](#) on developing each section of the Business Case.

Sign-off

Sponsoring Agency:

<i>Print Name</i>
<i>Signature</i>

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Basis of authority for consideration in 2025-26 Budget: Gundaroo Drive Stage 3 – Cost Pressures is listed in the 2025-26 Budget authority letter dated 23 December 2024.

Brief Description: The project seeks additional funding to meet cost escalation, delay and disruption impacts and [REDACTED]

Wellbeing domain 1: Access and connectivity

Wellbeing domain 2: Economy

Wellbeing Framework priority target group(s): (Multiple categories can be ticked)

- | | | | |
|---|--|--|---|
| ☒ Older Canberrans | ☒ Women and/or gender diverse people | ☐ LGBTIQ+ | ☐ Carers |
| ☐ Culturally and linguistically diverse people | ☐ Children and young people | ☐ Aboriginal and Torres Strait Islander Peoples | ☐ People with disability |

Priority alignment: (Multiple categories can be ticked)

- | | | | |
|---|---|---|--|
| ☒ Election commitment | ☐ <u>National Agreement on Closing the Gap</u> | ☐ <u>ACT Aboriginal and Torres Strait Islander Agreement 2019-2028</u> | ☐ <u>ACT Women's Plan 2016-2026</u> |
| ☐ Housing | ☐ Physical and mental health | ☐ Early years | ☐ Women |
| ☐ Cost of Living | ☐ Addressing marginalisation and disadvantage | | |

Electorate: Ginninderra

Existing projects or program(s): Gundaroo Drive Stage 3.

Year to cease funding or ongoing: Funding is required to address project cost pressures for 25-26.

Link to Budget consultation: No.

Budget implications

Table 6: Budget impacts summary (P90, \$'000, nominal)

	2025-26	2026-27	2027-28	2028-29	2029-30	Total
Capital impacts						
Capital injection	5.05					5.05
Capital inflows						
Capital offset – existing provision						
New capital provision						
iCBR fee – resources received free of charge (if applicable)	0.17					0.17
Net Capital	5.22					5.22
Expense impacts						
Expenses ¹			0.05	0.10	0.10	0.25
Expenses – offsets						
Expenses – offsets – existing provision						
New expense provision						
Depreciation ²		0.07	0.07	0.07	0.07	0.28
Revenue/Commonwealth contribution/savings impacts						
Revenue						
Commonwealth contribution						
Savings						
Net Expense						
Staffing impact						
Total additional FTEs (no.)						

¹ Includes repairs and maintenance costs in the year following completion at 1% of the capital cost and 2% per annum thereafter.

² Based on the estimated useful life of an arterial road of 75 years.

Business Case Authorisations

Lead Minister

Ministerial Endorsement	Signature and date of endorsement
Lead Minister: Cheyne Portfolio: City and Government Services	 15/2/25

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1. Executive summary

This business case seeks endorsement of \$5.00 million additional funds to meet increased costs associated with cost pressures as a result of Contractor Claims for amended work methods, delays and disruption to Gundaroo Drive Stage 3 (Package B) works to ensure delivery of this project within program objectives.

The project was originally divided into two discreet packages of works aimed at encouraging local industry participation and allowing the inclusion of the signalisation of the Owen Dixon intersection which was not part of the original scope of works but emerged once the impacts of the proposed CSIRO Land development was included in the project assessment and evaluation criteria.

Package A – included the section of road between Barton Highway and Chuculba Crescent and Baldwin Drive to Ginninderra Drive intersections and was undertaken by BMD Contractors

Package B – included the section of road between Chuculba Crescent and Baldwin Drive intersection and undertaken by Woden Contractors.

Shortly after the commencement of Package A, the project was shutdown as a result of COVID and resulted in subsequent delays and disruption once the project recommenced and was subsequently completed. The Contractor claimed costs associated with delay and disruption which was approved by the Senior Executives under the Contract and managed within the budget.

The result of these delays impacted on the commencement of Package B, which was intended to commence following the completion of Package A works. These delays were further amplified due to the above normal frequency of seasonal wet weather that resulted in the saturation of the road foundation and flooding of the Ginninderra Creek which also impacted on the bridge works forming part of this project.

A large portion of these delays related to the discovery of “unsuitable material” (foundation saturation from rainfall events), an amount which was not contemplated at the time of tender and preparation of design documentation.

The Contract included a work methodology for the treatment of unsuitable foundation material. However, this methodology was not suitable for the Project which required the Contractor to seek direction from the Principals Authorised Person (PAP) on how to proceed.

The PAP directed a series of processes to proceed with the works and approved several variations in relation to the additional costs and time associated with these directions.

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The Contractor also had claims approved by the Territory for substantiated variations and material escalation costs which was not allowed for in the original cost estimates and/or tender documents.

A combination of delay and disruption factors also impacted the costs associated with the administration of the Contract and the assessment of claims by the Principals Authorised Person (PAP). Based on current construction program forecast completion date for the contract it is now expected to be in the first half of 2025 which is beyond the PAP fees allowed for in the cost estimates to complete.

In Summary, this business case seeks reimbursement of costs not allowed for in the original business case associated with Package B including those in the Market Conditions Provision approved budget relating [REDACTED] cost escalation, variations, contract administration and DA compliance requirements.

2. Introduction

The project involves the duplication of the Gundaroo Drive Stage 3 (formerly William Slim Drive) between Ginninderra Drive and the Barton Highway. The \$54.5 million project was jointly funded (50:50) by the Federal and ACT Government. The Federal Government committed \$20.00 million (2019-20) and an additional \$5.0 million (signalisation of the Owen Dixon Drive) (2021-22) with the ACT Government contributing \$29.5 million to the costs of the project.

On 9 September 2022 agreement to reallocate \$2.0 million savings from Gundaroo Drive Stage 2 to meet cost overruns was approved by the Chief Minister and included an agreement to request the Federal Government to match an equivalent amount of funding to meet budget shortfalls (Refer Attachment A).

The DITRDLG A request for equivalent funding contribution was provided to the Federal Governments – Department of Infrastructure, Transport, Regional Development and Local Government (DITRDLG) for consideration on the 8 November 2022 and an additional \$3.63 million was provided by the ACT/ Federal Government (Attachments B and C).

A significant proportion of the additional funding provided was utilised to meet Package A delay/disruption and material cost escalation as a result of COVID 19 impacts.

More recently, the consequential impacts of heightened commodity prices and inflationary pressures have resulted in significant increases to the P90 outturn costs currently estimated to between 5 to 10 per cent (22-24) and resulted in the Territory approving a claim of \$0.850 million to cover direct cost escalation associated with specific material cost increases. While these were originally capped to an upper limit at current point in time, the cost to complete advice from ICBR is that the Contractor may seek additional costs associated with cost escalation for materials not previously approved.

In addition, a significant element over the construction outturn costs relate to subcontractor and supervision cost escalation which is estimated to be in the vicinity of approximately \$1.0 million. These include but are not limited to a recently approved Principal Authorised Person variation of \$0.806 million to cover cost escalation over the course of the project from COVID 19 and supply chain delays.

An additional \$3.5 million was provided under the Market Provision Conditions to meet these additional costs, \$2.5 million of this additional budget was to meet the anticipated work method claim which was anticipated to be raised by the Contractor and assessed as likely to have some entitlement.

The project experienced numerous delays during the course of the project. A large proportion of the delays related to the discovery of "unsuitable materials", the amount of which was not originally contemplated at the time of tender and preparation of the design documentation and related to the Note 19.

On 17 December 2024 the Contractor met with ICBR Executive seeking a resolution to [REDACTED] associated with the Amended Work Methodology.

[REDACTED] there are several variations and defects that are expected to impact time associated with the finalisation of the project. The consequence of these to program is expected to further impact on the project management and administration costs, overheads, direct costs and ensuring the project meets its Development Approval conditions.

The extended timeframe and work required to respond to the BCIPA by the PAP has required additional services and associated costs.

2.1 Overview

This project involves the construction of 3.5 kms of new dual carriageway of Gundaroo Drive between Ginninderra Drive and the Barton Highway and associated road related assets including structures, landscaping, kerbs, paths, barriers, signage, streetlighting etc.

The project has been delivered in two separate construction packages that were tendered separately and delivered by separate contractors:

1. Barton Highway to Chuculba Drive and Baldwin Drive to Ginninderra Drive (Package A) (BMD Contractors). Complete.
2. Chuculba Drive to Baldwin Drive (Package B) (Wodens contractors). Forecast completion Q1 2025.

Each of these stages were sequenced as follows:

- Service relocation,
- New carriageway, paths and bridge / underpass construction clear of the existing carriageway
- Widening of Intersections
- Existing carriageway re-construction under traffic where necessary
- Demolition of redundant existing pavement
- Landscaping, line-marking, signage and traffic signals

For further information Refer Appendix A

2.2 Project objectives

This proposal seeks to upgrade Gundaroo Drive Stage 3 (previously William Slim Drive) from Barton Highway through to Ginninderra Drive, including the construction of on-road cycle lanes; relocation and augmentation of shared paths; improved intersections / roundabouts and landscaping works.

With the new developments of Casey, Kenny, Bonner, Throsby and Moncrief, West Belconnen, Ginninderry and CSIRO Ginninderra as well as the new University of Canberra Public Hospital on Aikman Drive, there will be a need to improve the existing transport network within the coming years to support the expected growth. Completing the duplication of Gundaroo Drive will maximise the benefits and deliver the long-term vision to improve the arterial road network between Gungahlin and Belconnen districts.

The project is nearing completion with four lanes open to traffic. A number of outstanding works are still underway including the construction of the left turn lane and the Baldwin Drive roundabout and the completion of the off-road shared path and associated embankment construction, which are expected to be completed in coming months.

This Business Case seeks funds to support completion [REDACTED]
[REDACTED]
[REDACTED] As well as additional fees associated with extended PAP services on the project and recent variations for the contracted works.

2.3 Project background

The Gundaroo Drive project was staged in a manner to continue the duplication of Gundaroo Drive which would ultimately result in the duplicated corridor from Anthony Rolfe Avenue to Ginninderra Drive.

Works are nearing completion with most of the road and bridgeworks now completed. Minor works associated with the left turn (southbound) lane at Baldwin Drive, the off-road shared path connecting the path (east) from the bridge to Baldwin Drive, associated embankments, landscaping and defects rectification are currently underway and expected to be completed by June 25.

The Contractor has been requested to provide an updated Construction Program which is expected to provide further clarity regarding the expected completion dates and sequencing of works. However, at this stage the construction works are expected to be completed by mid-2025.

The works have been adversely impacted by the following factors including

- COVID shutdown delay impacts
- Cost escalation following recommencement of works post COVID
- Wet weather impacts – delays and claims for work method changes due to extensive pavement saturation and creek flooding (delaying bridgeworks)
- Higher Contract Administration Costs because of lengthened delivery timeframes.

In addition, the Territory has embarked on an ambitious infrastructure program that has resulted in a shortage of skilled resources including trades staff and subcontractors. This has been further impacted by an extensive land release program. The Contractor is currently delivering a large portion of this program of works, and with already constrained resourcing, has been unable to respond to projects in a timely and considered manner, thus impacting on their cash flow as a result of delays in implementation.

The indirect nexus of relevant skills shortage, a large program of works, environmental factors (site saturation) and their consequential impacts have created several financial and management issues that have resulted in higher project delivery costs and lengthened timeframes not envisaged at the time these works were tendered.

The Contractor has sought to claim for delays departure to previously agreed schedules of works and rates in addition to variations where the effort associated for these works could be assessed as not covered by the costs claimed.

2.4 Current state

The project is nearing completion with four lanes of traffic open to all road users. A left turn lane (southbound) at Baldwin Drive is currently under construction and an off shared path section between the Ginninderra Creek and Baldwin Drive intersection and associated embankment is currently underway and expected to be completed shortly. Landscaping works are underway.

3. Needs Analysis

The project seeks an additional \$5.00 million to fund future claims from the Contractor and additional costs associated with Contract Administration, Cost Escalation and outstanding variations.

The project has been adversely impacted by COVID Impacts including delays and disruption from the shutdown cost escalation, supply chain issues and skills shortage and most significantly, by the impacts of extreme wet weather conditions high wet weather leasing to unsuitable ground conditions beyond what could have been anticipated during design and at the time of tender.

Given the civil works are complete and the final works being completed are associated with median, landscape and defect works, this will be the last tranche of claims from the Contractor and/or the PAP and the value of the funds sought include contingency

3.1 Problem (or opportunity) and strategic responses

The road alignment for the north-south arterial connection between Gungahlin and Belconnen was set by the original carriageway construction. The road reservation established for the initial construction allowed sufficient width for future duplication. Since this original work the surrounding suburbs have been developed up to the road reserve leaving no alternative route alignments. As traffic growth has increased the need for projects which duplicated or improved intersections have been considered.

The new residential developments of Canberra's north (Casey, Kenny, Bonner, Throsby and Moncrieff) and the west (West Belconnen, Ginninderry and CSIRO Ginninderra) as well as the new University of Canberra Public Hospital on Aikman Drive, creates a need to improve the existing transport network within the coming years to support this expected growth.

Completing the William Slim Drive Duplication will maximise the benefits and deliver the long-term vision to improve the arterial road system between Gungahlin and Belconnen districts.

The project was initially staged in a manner to maximise the use of local Contractors and ensure that the works associated with the signalisation of the Owen Dixon Drive intersection which was not in the original design could be incorporated into the delivery outcomes of this project without major impacts on the management and the delivery of these works.

The project has been adversely impacted by the consequential impacts of COVID including delays to start of work, resource shortages and supply chain constraints, and more significantly high rainfall events outside of what could have reasonably been projected which created costs and time pressure associated with the delivery of these works.

Significant variations and claims have been as a result of these delays and disruption. This Business Case requests additional funding to cover the costs associated with these claims.

For further information refer to Appendix A.

3.2 Benefits

Reduced congestion, improved traffic flows, improved safety (less accidents) and sustainability.

Gundaroo Drive is an important piece of road infrastructure in the ACT, particularly given its proximity to the growing residential population in the north of Canberra. The tilting of population growth to the north of the city and proximity to the University of Canberra mean the road infrastructure of William Slim Drive has come under increasing pressure.

To that end, the Gundaroo Drive duplication will come with a range of benefits. These include:

- Improved traffic flows, reducing travel times as average vehicle speeds increase.
- Reduced vehicle operating costs due to improved average vehicle speeds.
- Reduced negative environmental externalities due to improvements in traffic efficiency and therefore less emissions.
- Improved safety and an expected reduction in crashes with the duplication in place.
- Job creation, particularly in the construction phase.
- Enhanced connectivity to the city

For further information refer to [Appendix A](#).

4. Strategic and Policy Alignment

4.1 Alignment with Government commitments and policies
Not applicable. Refer original business case.

4.2 Wellbeing Impact Assessment
Refer Appendix B – Well Being Impact Assessment

4.3 Alignment with other projects, Programs and Precincts
Not applicable

4.4 Consideration of Commonwealth Government policies and priorities
Not applicable

5. Options Analysis

5.1 'Do minimum' Base Case

The current state of the project will continue to see cost pressures being experienced on this project as a result of delay and disruption from the consequential impacts of wet weather requiring the Contractor adopt changes to the construction methodology to deal with pavement saturation.

ICBR have advised that there are several outstanding variations and "early warning" matters that are currently being assessed by the PAP which are likely due to the contractor.

[REDACTED] there are several variations submitted [REDACTED] that have been assessed as having entitlement which will need to be paid. [REDACTED]

TCCS and ICBR have investigated a number of options to address cost pressures as a direct result of potential claims / variations and/or their consequential impacts through scope/value management. However, given the current status of the project these measures will not be able to address the cost pressure. ICBR is continuing engagement with the Contractor and PAP to identify measures aimed at streamlining Contract Management Services and accelerating the program to ensure any future costs are minimised.

In addition, a review of the Development Approval conditions has also been undertaken to ensure that the works, when completed are in consistent with these approval conditions. At this stage these measures and outstanding construction works are being managed in a staged approach to ensure that funding provided can meet construction commitments and other associated costs.

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

[REDACTED]
[REDACTED]

This Business Case is the 'Do minimum' approach to seek additional funds to cover the known cost pressure [REDACTED], outstanding variations and additional PAP costs required to finalise the project.

5.2 Strategic solutions

Recommended strategic solution

5.3 Project options

Option 1 (preferred)

- Additional funds are granted to cover [REDACTED] and additional costs including outcome of current claims and PAP service fees;
- [REDACTED]
- Negotiate with the Contractor and PAP an accelerated construction program aimed at limiting supervision and associated additional costs to complete the project.
- Ensure that all Development Approval conditions are met.
- Ensure works are undertaken as a priority to limit additional supervision expenses.
- The Territory will seek assistance from the Federal Government to share these costs in alignment with the Federal Funding Agreement Schedule (FFAS) for Land Infrastructure Projects entered with the Territory. However, these may not materialise as it isn't clear whether "claims settlement" fall within the Agreements definition of construction related costs.
- TCCS will closely monitor expenditure of the funds and return any unspent funds to Treasury.

Option 2 – Do nothing

- The project will be managed within the TCCS internal budget.
- This would require funding for any outstanding costs from the internal TCCS budget.
- This option is seen as a high risk and not supported by TCCS. The TCCS internal budget scenario currently has a significant cost pressure, and this would add significant further pressure to the existing overall budget position.
- TCCS has been asked to fund capital works midyear projects through savings offsets. There are not sufficient forecast savings in the TCCS Capital Works program to cover the costs associated with this business case.

Evaluation criteria

Nil

Project options

Nil

Recommended project option(s)

Nil

5.4 Staging analysis

Not applicable at this stage of the project.

6. Project Scope

6.1 Scope of works

The scope of works include the final design and construction planning for the features/works below:

- Approx. 3.2km of new carriageway (the duplication of William Slim Drive)
- Approx. 6.4km of new on-road cycle lanes / hard shoulder
- Approx. 3.2km of new off-road shared paths
- Re-align segments of the existing carriageway (i.e. at intersections)
- Reconfiguration of existing intersections, including:
 - Ginninderra Drive
 - Dumas Street
 - Baldwin Drive; and
 - Chuculba Crescent
- Signalisation of the Dumas Street intersection
- Signalisation of the Owen Dixon Drive intersection (funded separately)
- A new bridge over Ginninderra Creek (to carry the road duplication) to SM1600
- Barrier replacements at bridges along the corridor, including:
 - Bridges: 1099, 1100, 1101, 1102, 1103, 1106 and 1107
- Installation of new barriers in key locations
- New bus bays and relocation of existing bus bays
- Construction of small linkages to existing community paths
- Street lighting
- New and augmented stormwater systems, including levee bank at the existing underpass
- Service relocations, including construction of service protection slabs
- Landscaping

For further information Refer Appendix A

6.2 Scope of services

The scope of services was to engage a suitably experienced, appropriately resourced and prequalified construction contractor to provide a value for money delivery through an open tender process. The successful construction contractor will undertake the works outlined in a detailed project brief and Request for Tender (RFT) documents delivered by IDP Group.

The Project also included the engagement of a PAP consultancy as a separate engagement to undertake day-to-day construction supervision and contract administration services. Both the construction contract and PAP consultancy were procured by IDP (MPC) through a competitive open tender process and advertised on the TendersACT website.

6.3 Project interdependencies

The signalisation of the Owen Dixon Drive intersection supporting the CSIRO Land Development was separated funded by the Federal and ACT Governments.

These works were included as part of the Package B works and are now completed.

Gundaroo Stages 1 and 2 from Anthony Rolfe Avenue to the Barton Highway continues the staged construction of Gundaroo Drive.

7. Risk Analysis

7.1 Risk analysis process

Some of the major risks associated with not funding these works include

Risk	Mitigation
Further delays to project completion resulting additional delay and disruption costs	Engage with all parties to the contract to ensure that firm commitments are made to ensure that project is completed by scheduled completion date.
[REDACTED]	[REDACTED]
If settlement not agreed, cost increases due to expert determination and GO service fees.	Settlement accepted in line with ICBR advice.

7.2 Key project risks

Risk	Potential Project Risk	Risk Management Priority	Risk Management Strategy
Budget Overrun	Significant	High	Prudent Project Management through competent programming and planning
Schedule Delays	Significant	High	Competent scheduling planning and monitoring
Non-Integration with existing facilities	Some	Medium	Consultation and communication with relevant agencies
Lack of Availability of Expertise, Equipment and Materials	Significant	High	Prudent selection of contract and project management
Industrial Disputes	Some	Low	Structure the Contract in a manner that minimises the potential for disputes
Environmental Issues especially within the Ginninderra Creek and native grasslands	Some	Low	Consult with the relevant agencies and community groups as appropriate. Ensure that the contractor has a Management Plan for working at these sensitive locations.
Brown field sites with collisions between cars and construction plant / workers due to high volumes of traffic passing through confined spaces	Some	High	Clearly document the standards for vehicles and pedestrians as part of the concept TTM Plans

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Large vehicles may collide with workers and other public traffic due to the route being used by B Doubles to service to Gungahlin and Belconnen and Gungahlin Town Centres	Some	High	Specify minimum lane width and check heavy vehicle movements and turning templates and clearly document standard of vehicle and protection measures as part of the concept TTM Plans
Electrocution or explosion due to high pressure 250 mm steel gas main. HV cables and other trunk services	Some	High	Accurately locate services with hydraulic drilling. Safety Management Workshop for the 250 mm diameter gas main to be undertaken
Injury to users of existing underpasses due to material falling on pedestrians or pedestrian vehicle collisions directed across William Slim Drive	Some	High	Specify the use of appropriate protection systems
Erosion and Sediment Control	Some	Medium	Conform to EPA Guidelines in DA documentation

8. Delivery Model Analysis

8.1 Overview of delivery model assessment process

Not applicable

8.2 Project characteristics

Not applicable

8.3 Delivery model assessment

The analysis assessed the construction procurement for the project using the following models including:

1. Public Private Partnership
2. Construct Only Lum Sum Contract
3. Design, Novate and Construct
4. Design, Develop and Construct
5. Design, Construct and Maintain
6. Construction Management (Bill of Quantities)
7. Alliance Contracting
8. Managing Contractor Model

Selection of the Delivery Model

The choice of the delivery model forms a critical stage in the development of the procurement strategy for the project.

A decision on the delivery model decision required

1. Understanding of the project objectives and how they relate to each of the delivery models
2. Understanding of risk identification, allocation and management under each delivery model scenario;
3. Assessment of the costs and benefits of each model in achieving the project objective including a shortlist of models that would provide for maximum value for money; and
4. Risk assessment of prioritised delivery model within the project concept

A scoring methodology was subsequently adopted that was weighted using the above criteria to determine the preferred delivery model and included:

1. Capital Budget - Weight (100) x Confidence Level (60%);
2. Road Quality – Weight (100) x Confidence Level (20%);
3. Time – Weight (100) x Confidence Level (10%); and
4. Maintenance - - Weight (100) x Confidence Level (10%).

Based on the assessment of each delivery model and given the stage of the project **Construction Management** was chosen as the preferred methodology for delivery and has been adopted on this basis.

Market sounding (where relevant)

Not applicable

Packaging assessment / services bundling

Not applicable

Shortlisted delivery model options

Not applicable

Validation

Not applicable

Evaluation criteria

Not applicable

Analysis / assessment against evaluation criteria

Not applicable

8.4 Recommended delivery model

Not applicable at this stage of the project.

9. Financial Analysis

9.1 Estimated project capital cost
Not applicable

9.2 Whole-of-life cashflows

Table 1: Funding Summary

Budget Year	Description	Amounts \$'m	Notes
2019-20	Better Connecting Belconnen and Gungahlin	44.53	
2023-24	Capital Variation	2.00	
2022-23	Cost Pressure Funding	3.643	MPC Fees included
2024-25	Market Conditions Provisions Access	3.957	MPC Fees included
Total		54.13	

Gundaroo Drive duplication Stage 3	Roads Election Commitments	TCCS Infrastructure Investment - Budget Pressures	Variation from Gundaroo Drive Duplication Stage 2	Market Conditions Provision	Total
	2019-20 Budget	2022-23 Budget Review	2023-24 Budget	2024-25 Budget	Pre 25-26 Budget
Feasibility	-				-
Design	-				-
Superintendency	2.02				2.02
Design & Supervision	-				-
Contingency	4.47				4.47
Construction	33.14	3.50	2.00	3.81	42.45
ICBR Fee - Procurement Fees (Contract Management) 4%	1.66	0.14		0.15	1.95
Insurance Fees	0.44				0.44
GC21 Contract Fees	0.68				0.68
Other (Project Management) 5%	2.12				2.12
Total Project funding	44.53	3.64	2.00	3.96	54.13

Table 1: Funding requirements

Cost item	Budget \$'m	Funding Shortfall (\$m)	Comments
Capital cost			
Budget	54.13		
Expenditure to Date	51.47		
Balance	2.67		
Costs to complete		2.00	Includes Asbestos (approx. \$1.0m)
Cost Escalation		0.50	
Additional Schedule of Rates Quantities		0.68	Additional quantities to meet Road safety audit/ DA condition and errors in quantities
Contingency	0.67	0.30	
Superintendency		0.45	Based on March 25 completion
Total direct costs	2.67	4.43	
Project Management (5%)		0.22	
Insurance		0.40	
Total estimated capital funds required		5.05	
iCBR Fees (4%)		0.17	
Total estimated project capital cost		5.22	

9.3 Project contingency

Table 2: Original Project capital contingency (\$'000, nominal)

Cost item	P90
Total raw capital costs	40.056
Contingency allowance	4.474
Total estimated project capital cost	44.53
Contingency allowance as a proportion of total estimated project capital cost (%)	10

9.4 Summary assessment

Works on the Gundaroo Drive Stage 3 are nearing completion with the only outstanding works remaining include:

- Off road shared path (east) connecting the path under the Bridge to Baldwin Drive intersection and associated embankment.
- Left turn turning lane (southbound) at the Baldwin Drive intersection.
- Additional works, defects rectification and variations associated with safety audits and Development Application conditions for Approval.

A significant proportion of the funding provided was utilised to meet Package A delay/disruption and material cost escalation as a result of COVID 19.

The consequential impacts of heightened commodity prices, inflationary pressures and shortage of skilled resources that subsequently followed have resulted in significant increases to the project outturn costs, not included in the original project contingency.

The project has seen significantly higher wet weather that have resulted in significant delays and disruption due to the saturation of the pavement foundation, flooding in the Ginninderra Creek impacting the timely progress of the bridgeworks, and a significant change in the pavement construction methodology and additional works not previously anticipated in the original design and/or allowed for in the project contingency.

The time and costs associated with the compounding effect of these delays resulted in addition supervision costs, volume of work and subsequently resulted in a claim for the secondary impacts these have had on the Contractors ability to deliver these works on time and budget.

It is anticipated that the funds sought in this business case will meet the current shortfall that exists on the project.

		4% Discount rate	7% Discount rate
Present Value Cost (\$ m)		43.3	39.9
Present Value Benefits (\$ m)	Standard benefits	396.8	276.5
	Standard benefits with WEBS		
	Standard benefits with WEBS and other benefit categories		
Benefit Cost Ratio	Standard benefits	9.2	6.9
	Standard benefits with WEBS		
	Standard benefits with WEBS and other benefit categories		

9.5 Budget implications

Not applicable

9.6 Funding and financing strategy

Not applicable

9.7 Value for money (Integrated delivery models only)

This section is only to be included when an Integrated delivery model is used

Methodology

Public Sector Comparator

Project cost

Not applicable

Risk of the project

Not applicable

Sensitivity testing and scenario analysis

Not applicable

Summary Assessment

9.8 Assumptions

Nil at this stage

10. Economic Appraisal

10.1 Base Case

For more information Refer Attachment 1

10.2 Project Case

For more information Refer Attachment 1

10.3 Assumptions and methodology

For more information Refer Attachment 1

10.4 Project costs

For more information Refer Appendix A

10.5 Benefits and economic costs

For more information Refer Appendix A

10.6 Non-monetised benefits and economic costs

For more information Refer Appendix A

10.7 Distributional analysis

For more information Refer Appendix A

10.8 Results

For more information Refer Appendix A

10.9 Sensitivity analysis

For more information Refer Appendix A

11. Project Governance

11.1 Recommended governance structure

For more information Refer Appendix A

11.2 Key bodies

For more information Refer Appendix A

11.3 Governance roles and responsibilities

For more information Refer Appendix A

12. Stakeholder Engagement Plan

12.1 Stakeholder identification

For more information Refer Appendix A

12.2 Outcome of stakeholder engagement to date

For more information Refer Appendix A

12.3 Communication Strategy

For more information Refer Appendix A

13. Advisor Engagement Plan

13.1 Legal

For more information Refer Appendix A

13.2 Financial, commercial and procurement

For more information Refer Appendix A

13.3 Technical design and engineering

For more information Refer Appendix A

13.4 Probity

For more information Refer Attachment 1

13.5 Stakeholder management and communication

For more information Refer Appendix A

13.6 Transactions management

For more information Refer Appendix A

13.7 Environment and sustainability

For more information Refer Appendix A

13.8 Other specialists

For more information Refer Appendix A

14. Timeline

14.1 Project timeline

Table 3: Implementation milestones and timeframes

Milestones	Date to be completed
1. Project Completion – Final Milestone	May 25
Final completion date	May 25

14.2 Project decision points

Not applicable

14.3 Recommended float

Not applicable

14.4 Project timeline risks, dependencies, constraints and/or deadlines

Not applicable

14.5 Project timeline assumptions

Not applicable

Appendices

The Project Team are recommended to include the following appendices. Where the Project Team has undertaken further analysis, they should append this additional information to the Business Case.

Appendix A - TCCS CW22 – Road Election Commitments

Appendix B - Wellbeing Impact Assessment

Appendix C – Accessing Market Condition Provisions



ACT
Government

Single Assessment Framework (SAF)

CAPITAL Business Case

Tier 2 (\$10 million to \$50 million)

Project Name:	Better Roads – Delivering Election Commitments (ECLAB 055 & ECLAB 058)
Total Project Value (estimated):	\$45.45 million
Capital Appropriation Requested:	
Project Stage:	A group of projects to be undertaken: • Duplicate William Slim Drive (Staged construction) • Feasibility study, traffic modelling & design of Tharwa Drive Duplication • Asbestos Management Plan & detailed design of Nudurr Drive Extension
Project Value:	\$45.45 million
Risk Assessment (high/med/low):	Low
Proposed Delivery Model:	
Requesting Directorate:	Transport Canberra & City Services
Requesting Minister:	Minister Steel
Business Case Advisors:	

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Contact Officers

Contact Officer, Requesting Directorate

Reviewing Officer, Infrastructure Finance
and Capital Works (IFCW):

Reviewing Officer, Treasury:

Karl Cloos / Darwin Zeta Infrastructure Planning

Sign Offs

Requesting Directorate:

Document in order to proceed

Infrastructure Finance and Capital Works

Document in order to proceed – IFCW Sign-offs complete

Treasury:

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Appendix E – Project Programme55

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1. Executive Summary

The objective of this proposal is to seek funding to improve the following roads that were election commitments:

Project	Delivery proposal
William Slim Drive Duplication	Staged construction <i>(\$0.25m allocated in 2018/19 for construction planning and design)</i>
Tharwa Drive Duplication	Feasibility Study/Traffic Modelling & Early Design
Nudurr Drive Extension	Asbestos Management Plan & Detailed Design

The completion of these works will deliver the long-term vision to improve the arterial road network in the territory and maximise the benefits of the investment made, and will also deliver the election commitments for road duplication works during the present government's tenure.

The proposed works are considered necessary to ease congestion, manage traffic growth and improve safety and sustainability. Not undertaking these works would mean that congestion along these corridors will impact all road users, increasing travel times and reducing safety and amenity (including ride quality and pavement life) as well as detracting from the use of the public transport system due to travel time delays.

1.1 Statement of Need

As the population of the ACT continues to grow, the road network connecting the various business and town centres around Canberra are rapidly becoming more congested, especially during the peak traffic periods. Further, the combined effects of traffic volumes, weight of traffic (heavy vehicle usage), turning movements, and the environment (sunlight, water damage during rainfall, hot weather, frost, etc.) causes road pavements to deteriorate over time.

With significant growth in the region, in recent years as well as into the near future, considerable investment must be made on the road network in order to ensure the safety of all road users, as well as ease congestion which in turn has economic, social, environmental and health benefits for the ACT.

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This group of works represents the road augmentation elements of the current Government's Election Commitments.

The following initiatives have been identified by TCCS for action:

ECLAB055 – Duplication of William Slim Drive (construction package only) - \$44.53m (capital initiative - \$0.25m approved in 2018/19)

ECLAB058-8 – Tharwa Drive Duplication - \$0.42m (capital initiative for feasibility study, traffic modelling and design)

ECLAB058-7 – Nudurr Drive Extension - \$0.5m (capital initiative for Asbestos Management Plan and detailed design)

1.2 Delivery Model

The construction planning for **William Slim Drive duplication** works have been covered through \$0.25 m, approved in 2018/19 financial year. Detailed Design and Development Application are under review for this road, with the most viable option now is to **construct** only. However, for a project of this nature and scope, the full development of the design prior to tendering the construction contract is generally supported however consideration should be given to benefits that could accrue in time and risk transfer with some structural components i.e. the bridges being issued as discrete Design & Construct packages.

For **Athllon and Tharwa Drive Duplication works**, the delivery at this stage will be a feasibility study and early design works comprising traffic modelling to understand traffic issues on these road links, and what (if any) improvements could be undertaken to ease congestion and improve safety. The study will provide the Government a better understanding of the current situation and therefore be in a better position to plan and allocate appropriate funding to address the existing problems in the future.

For **Nudurr Drive extension**, a detailed design had been completed in 2010, however on the conclusion of the works it was found that the area contained asbestos which would impact any future works. A detailed asbestos investigation was commissioned in 2016 to augment the 2010 detailed design.

This bid seeks to update the detailed design work completed in 2010 for the current road design and safety standards, as well as develop an Asbestos Management Plan. The updated detailed design and Asbestos Management Plan will be used to inform a future capital works bid for construction in future years.

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Given the project construction costs for William Slim Drive duplication, it is likely that delivery will be undertaken through an open tender using GC21 contract type. This model will be discussed with IFCW (procurement officers).

For the Feasibility Studies an open tender for consultancy services will be the delivery model

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1.3 Funding Approval Sought

1.3.1. Type of funding sought

- ☒ Feasibility*
 - ☒ Concept design*
 - ☒ Detailed design (note only where D+C has been justified)
 - ☐ Full Business Case
 - ☐ Final Design & Construction Planning
 - ☒ Construction (For William Slim Drive)
- *Funding for the Athllon Drive / Tharwa Drive duplication and Nurdurr Drive extension

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1.3.2. Cost Estimate

Project Cost Breakdown - Better Roads – Delivering Election Commitments	
<i>1. William Slim Drive Duplication (Staged construction package)</i>	
Feasibility	0.000
Design	0.000
Superintendency	2.021
Design & Supervision	0.000
Contingency (approx. 10%)	4.474
Construction	33.139
Procurement Fees (Contract Management) ¹	1.784
Insurance Fees	0.436
GC21 Contract Fees ⁵	0.677
Other (Project Management) ⁴	2.220
Total	\$44.530m
<i>2. Tharwa & Nudurr Drive (Feasibility Study, Traffic Modelling, Asbestos Management Plan & Design)</i>	
Feasibility	0.284
Design	0.552
Superintendency	0.000
Design & Supervision	0.000
Contingency	0.000
Construction	0.000
Procurement Fees (Contract Management) ¹	0.037
Insurance Fees	0.000
GC21 Contract Fees ⁵	0.000
Other (Project Management) ⁴	0.047
Total	\$0.920m
Total Project Cost (1 + 2) = \$45.450m	

1.3.3. Payment Stream (PPP/DCMO only)

N/A

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1.3.4. Incremental Procurement/Transaction Costs

N/A

1.3.5. Contingencies Included

N/A

1.4 Treasury Budget Summary

Funding Category: *Construction*

Preliminary Financial Impacts Summary

Financial Impacts Summary¹	2019-20	2020-21	2021-22	2022-23	Totals
	\$'000	\$'000	\$'000	\$'000	\$'000
Capital Impacts					
Capital	10,450	15,000	20,000*	0	45,450*
Expense Impacts^(a)					
Expenses	0	0	0	448	Ongoing
Expenses - Depreciation	0	0	0	597	Ongoing
Revenue/Savings/Offsets Impacts					
Revenue					
Savings					
Provision – William Slim					
Duplication	-10,000	-15,000	-15,000	0	-40,000
Offsets ^(b)					
Costing assessment	Varies dependant on project by project basis				

Staffing Impacts Summary

Impact	2019-20	2020-21	2021-22	2022-23
Total Additional FTEs	0	0	0	0

*NB: Increase funding required due to Final Design report for William Slim Drive Duplication

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2. Project Outline

2.1 Description of the Projects

2.1.1. Overview

As the population of the ACT continues to grow, the road network connecting the various business and town centres around Canberra is rapidly becoming more congested, especially during the peak traffic periods. Further, the combined effects of traffic volumes, weight of traffic (heavy vehicle usage), turning movements, and the environment (sunlight, water damage during rainfall, hot weather, frost, etc.) causes road pavements to deteriorate over time.

Given the anticipated future growth in the ACT (and region) there will be a need to improve elements of the existing transport network to support the expected and future growth, as well as provide increased levels of maintenance to aging road infrastructure.

This group of work represents the road augmentation elements of the Government's Election Commitments.

The following initiatives have been identified by TCCS for action:

- ECLAB055 – Duplication of William Slim Drive (construction package only) - \$44.75m (capital initiative - \$0.25m approved in 18/19 budgeting)
- ECLAB058-8 – Tharwa Drive Duplication - \$0.2m (capital initiative for feasibility study, traffic modelling and design)
- ECLAB058-7 – Nudurr Drive Extension - \$0.2m (capital initiative for Asbestos Management Plan and Detailed Design)

The proposed works are considered necessary road network service works to ease congestion, manage traffic growth and improve safety and sustainability. Not undertaking these works would mean that congestion along these corridors will impact all road users, increasing travel times and reducing safety and amenity (including ride quality and pavement life) as well as detracting from the use of the public transport system due to travel time delays. These works are supported by Roads ACT's Strategic Asset Management Plan. As these projects are Election Commitments they will need to be fulfilled within this government's term to prevent government embarrassment at the next election.

If funding for these projects is not provided within the upcoming budget (as outlined here) there will be ongoing impacts to the road network (apart from political embarrassment) for all road user groups which will result in various degrees of severity, including but not limited to:

- Increased traffic delays and congestion for motorists and public transport users, including associated environmental issues
- Decreased safety and amenity of the road network, including increased structural damage to pavements

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- The ACT Government will not meet commitments made during the last election
- Delay / compromise to land release program which will impact government revenue
- Higher costs to undertake works in future years

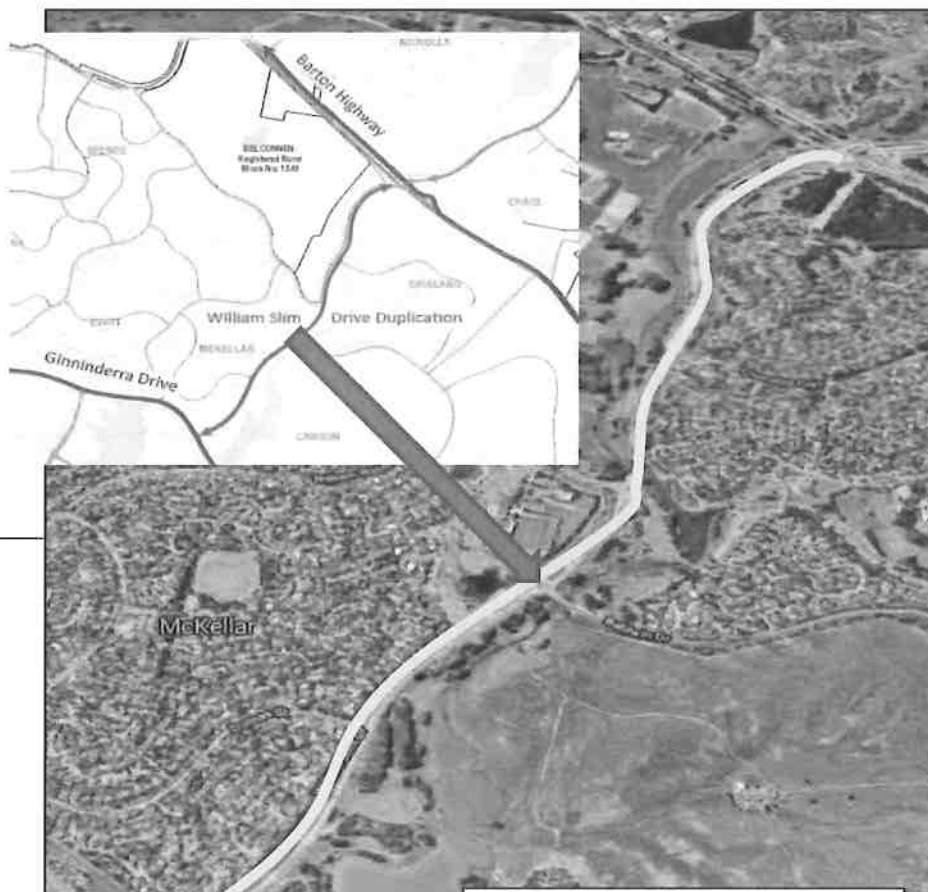
The table 1 below shows the work proposals :

Table 1: Project proposal in this business case

Sl.No	Project title	Location	Delivery proposal	Remarks
1	William Slim Drive (Road Duplication)	From Ginninderra Drive to Barton Highway	Construction (Staged)	\$0.25 m funded in 2018/19 for construction planning & design
3	Tharwa Drive Duplication	From Woodcock Drive to Pocket Avenue	Feasibility Study, Traffic Modelling & Design	
4	Nudurr Drive Extension	From Grampians St to Gungahlin Drive	Asbestos Management Plan & Detailed design	

Figure 1: Project sites

William Slim Drive duplication :



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This proposal seeks to upgrade William Slim Drive from Barton Highway through to Ginninderra Drive, including the construction of on-road cycle lanes; relocation and augmentation of shared paths; improved intersections / roundabouts and landscaping works with Flood mitigation structures/Levy to protect properties in Heney Close, McKellar which is currently identified to be impacted by the 1% AEP flood.

With the new developments of Casey, Kenny, Bonner, Throsby and Moncrief, West Belconnen, Ginninderry and CSIRO Ginninderra as well as the new University of Canberra Public Hospital on Aikman Drive, there will be a need to improve the existing transport network within the coming years to support the expected growth. Completing the duplication of William Slim Drive will maximise the benefits and deliver the long-term vision to improve the arterial road network between Gungahlin and Belconnen districts.

The duplication of this road ensures that the road network meets the demand and levels of service for safety and capacity that the community expect and the road works supports the previous work on Gundaroo Drive.

Tharwa Drive Duplication:



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Tharwa Drive between Pockett Avenue and Woodcock Drive is currently a single carriageway with a single lane in each direction over a distance of 1.6 km.

Currently in the morning peak, on this section of road, traffic moves slowly until it passes the Woodcock Drive roundabout at Lanyon Marketplace. This impacts Gordon, Banks and southern ACT rural residents accessing Tuggeranong, Woden Town Centre and the City.

Duplication of this section of road will improve traffic safety (by removing the risk of head on collisions) and will improve traffic flow in peak periods. This funding bid seeks to undertake Feasibility, Traffic Modelling and Design works as well as determine when the duplication works should be undertaken.

Nudurr Drive Extension:



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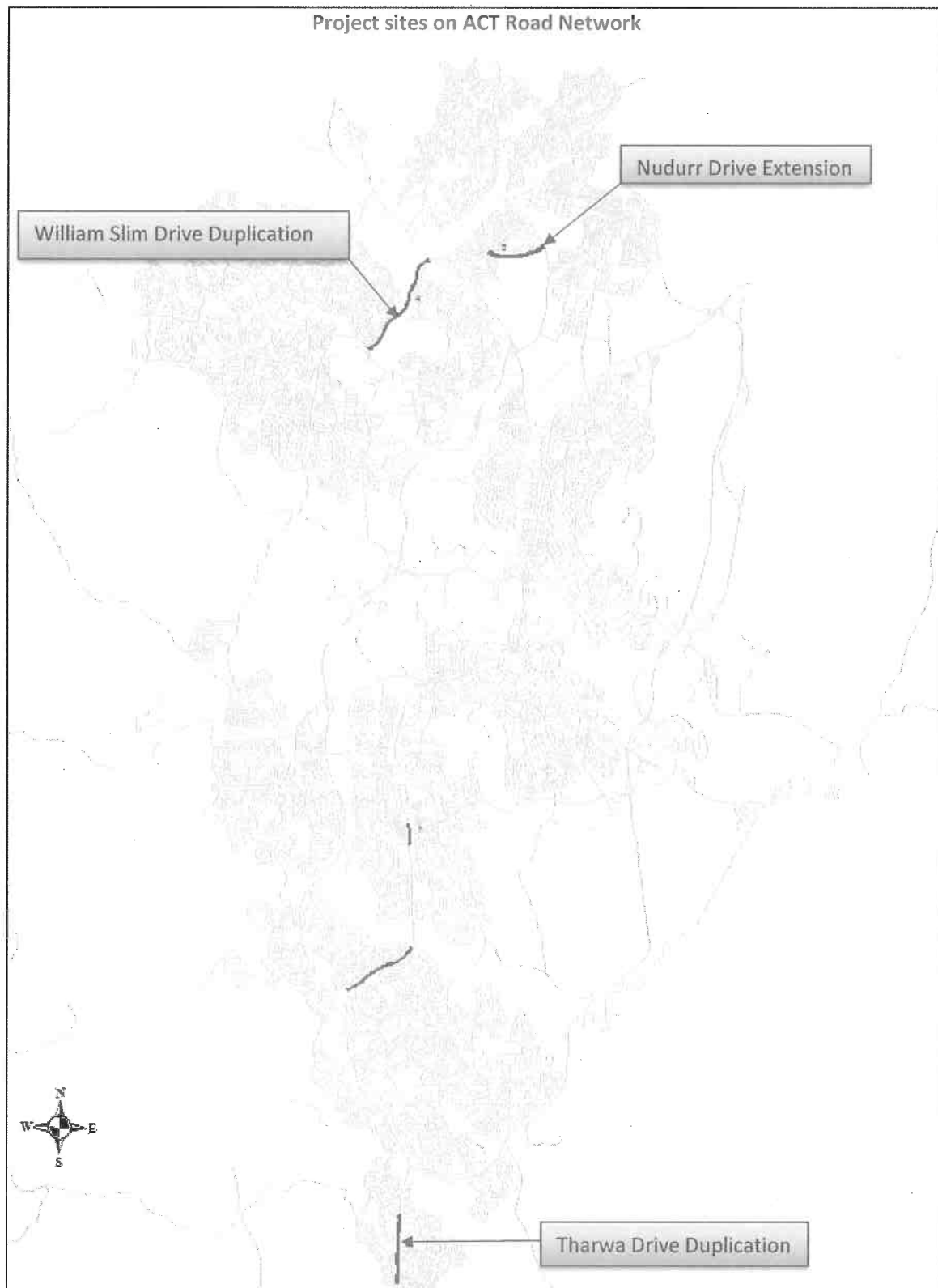
Nudurr Drive is an arterial road adjacent to the suburbs of Crace and Palmerston. It connects Gundaroo Drive with Gungahlin Drive, however it has only been constructed to Grampians Street to date and provides vehicular access into Palmerston from the south west. The existing Nudurr Drive road reserve continues east and connects with Gungahlin Drive approximately 500m south of the intersection with Kosciuszko Avenue.

Detailed Design had been completed in 2010, however on the conclusion of the works it was found that the area for the road extension contained asbestos due to a historical landfill site, which would impact any future works. A detailed asbestos investigation was commissioned in 2016 to augment the 2010 detailed design.

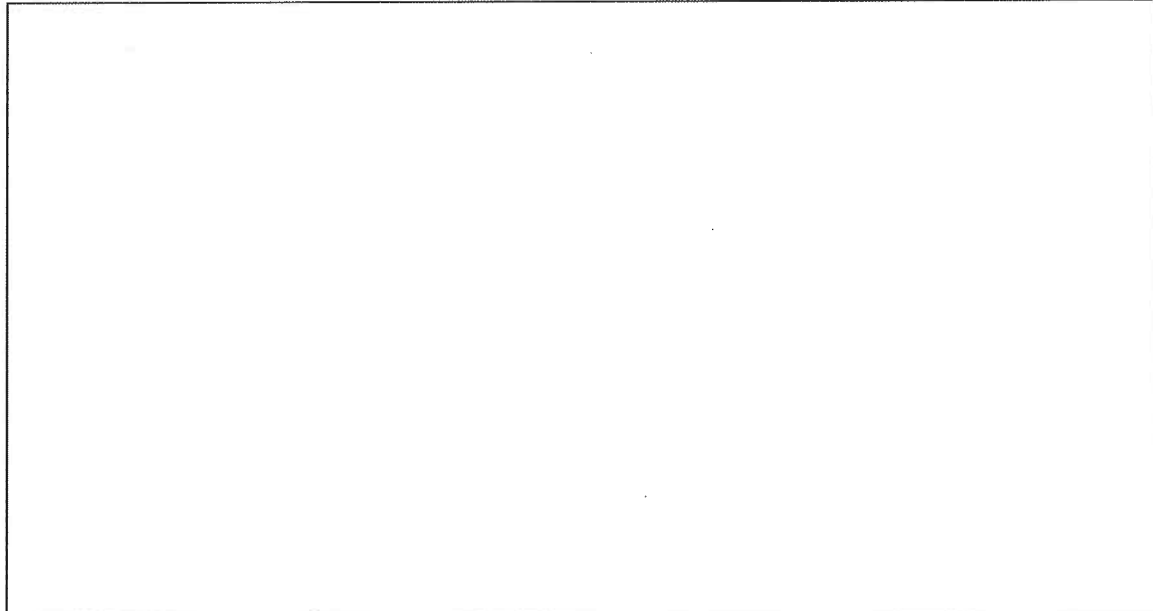
This bid seeks to update the detailed design work completed in 2010 to the current road design and safety standards, as well as develop an Asbestos Management Plan. The updated detailed design and Asbestos Management Plan will be used to inform a future capital works bid for construction.

The extension will not only ease the traffic congestion due to difficult access onto Gundaroo Drive but will also facilitate active travel due to its potential to accommodate both on and off road cycling linkages. The extension proposes to also include an upgrade to the roundabout intersection of Nudurr extension with Bollard Street with a signalised intersection and street lighting.

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2.1.2. Scope of works

The scope of work includes:

- Construction of William Slim Drive Duplication works. The funding of \$0.25m was approved in 2018/19 financial year for early design and construction planning works.
- Feasibility study with early design for Tharwa Drive duplication. The proposal will also include traffic modelling, costing and assessing potential physical impacts;
- Asbestos Management Plan and completed detailed design for Nudurr Drive extension.

2.1.3. Scope of services

Construction Supervision Services will be required for the William Slim Drive construction works.

The contracted consultants will be required to provide construction supervision to the satisfaction of the detailed design, in compliance with construction specifications and construction contract.

Construction Services will also be required for these William Slim Drive duplication.

The construction contractors will be required to deliver the civil and electrical works to the satisfaction of the detailed design, in compliance with construction specifications and contract.

Consultants will be engaged for the Feasibility Studies, Asbestos Management Plan for the other roads.

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2.1.4. Project Assumptions and Dependencies

Coordination of the construction works along William Slim Drive can be managed, as the proposal contains multiple construction projects along the corridor and staged across five years. However, any significant delays in any one year, such as extended service relocations, could affect the overall coordination / timing of works.

Utility Companies have already been consulted and have agreed to service relocations. However, Utilities Companies will need to be contacted to confirm that the existing proposals remain approved and that the associated costs remain valid.

2.2 Review 1 (IFCW): Status of Functional Brief/Output Specification

Sign off that the functional brief/output specifications are sufficiently progressed in order to go to market under the delivery model selected and within the procurement timeline outlined in the business case. Attach the Functional Brief at **Appendix A**.

Review 1 (IFCW) Officer Name: _____

Signature: _____

Date: _____

3. Needs Analysis

☐ Has an Investment Logic Workshop been undertaken?

An Investment Logic Workshop (ILW) has not been undertaken for all these projects except Athllon Drive Duplication (attached in annexure below). An ILW for William Slim Duplication was not undertaken but due its similar issues, the ILW for Gundaroo Drive is attached herewith. The Transport Network Improvements for Gungahlin, ILW identified the corridor duplication. The detailed design of William Slim Drive Duplication was completed in 2013 prior to the Single Assessment Framework being introduced.

Due to the advanced nature of this project, various 'Safety in Design' and 'Value Management' workshops have been undertaken as part of the previous design processes i.e. Preliminary Sketch Plan, Final Sketch Plan, Forward Design and Document Readiness are complete.

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These workshops are considered to be sympathetic to an Investment Logic Workshop, in that they consider, discuss and resolve similar issues. For these reasons, it is not envisaged that an Investment Logic Workshop (ILW) will be undertaken.

3.1 Problem

Nudurr Drive

The principal objective of Nudurr Drive extension from **Grampians Street, Palmerston** to **Gungahlin Drive** is to provide additional access to the suburbs of Crace and Palmerston and facilitate an improved road network in the area of Gungahlin.

Detailed Design had been completed in 2010, however on the conclusion of the works it was found that the area contained asbestos which would impact any future works. A detailed asbestos investigation was commissioned in 2016 to augment the 2010 detailed design. This proposal will review the previous study and ascertain the mitigation measures for asbestos, and accordingly plan for the future road extension.

The extension will not only ease the traffic congestion to access Gundaroo Drive but will also facilitate active travel with an on and off road cycling linkages.

Tharwa Drive

This proposal seeks to investigate the possibility of duplication between **Woodcock Drive** to **Pockett Avenue**. Tharwa Drive between Pocket Avenue and Woodcock Drive is currently a single carriageway with a single lane in each direction over a distance of 1.6 km. The increasing volume of traffic along Tharwa Drive is impacting the travel times and reducing the amenity in the area.

Currently in the morning peak, on this section of road, traffic moves slowly until it passes the Woodcock Drive roundabout at Lanyon Marketplace. This has an impact on Gordon, Banks, Conder and southern ACT rural residents.

Duplication of this section of road will improve traffic safety (by removing the risk of head on collisions) and will improve traffic flow in peak periods.

The improvement will further facilitate increased active travel and public transport access for the local communities and support the development and economic growth in the Lanyon Valley region. The duplication provides for the growth in service demand and improves road safety which is one of Roads ACT's core business functions.

William Slim Drive

The objective of this proposal is to seek the funding for the construction, in order to duplicate William Slim Drive from **Ginninderra Drive** through to the **Barton Highway**.

The completion of this corridor, through the duplication of William Slim Drive, will maximise the benefits of the investment already made in prior projects in Gungahlin and will commence the delivery of the Election Commitment (ECLAB055) to duplicate William Slim Drive during the current government term.

As development continues and our population continues to grow in the Districts of Gungahlin and Belconnen, the arterial road network connecting these areas has become more congested. This can easily be seen during peak traffic periods in the morning and afternoon, prompting community groups to commence advocating the duplication and upgrade of both Gundaroo Drive (currently in progress) and William Slim Drive.

The Gungahlin Community Council have reported on numerous occasions that there is ongoing growing concerns about the adequacy of the existing transport network, with criticism expressed about the short-term remedial upgrades, adding disruptions to the network and failing to allow for the needs of the expanding population.

With the new developments of Casey, Kenny, Bonner, Throsby and Moncrief, West Belconnen, Ginninderry and CSIRO Ginninderra as well as the new University of Canberra Public Hospital on Aikman Drive, there will be a need to improve the existing transport network within the coming years to support the expected growth.

Roads ACT within their Strategic Asset Management Plan has identified this duplication works as one of the top 10 Major Capital Works Projects.

3.2 Benefits

3.2.1. Benefits to be delivered

The identified projects will fulfil KPIs as follows:

Key Performance Indicators (KPIs):

- Increased transport capacity
 - measure of total traffic volumes per hour through traffic surveys taken both pre and post implementation
- Improved safety for road users
 - measured through a reduction of total accidents
- Improved travel times
 - measured by capturing Bluetooth travel time data
- Improve stormwater drainage
 - measure of stormwater complaints pre and post implementation (particularly for William Slim Drive)
- Improved bus facilities to improve travel times
 - measure of average vehicle travel times pre and post implementation

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- measure of traffic speed through location pre and post implementation
- customer surveys

The potential economic benefits of the projects are:

- changes to in-vehicle journey time
- changes to vehicle operating cost (based on kilometres travelled)
- a reduction in crash costs
- Environmental externalities (also based on kilometres travelled)
- increases land values and reduced flood damage claims

Table 2: Specific project benefits

Projects	Benefits
Nudurr Drive Extension	• This missing link has been identified as part of a critical future network improvement works; • This missing link will provide improved access for Crace and Palmerston, including possibly improve network running for the Transport Canberra bus network with the provision of future stops; • An Asbestos Management Plan will help clearly identify and develop management processes during the construction and post implementation. This will include possible removal processes as well as viable disposal options. • Improved active travel and public transport links
Tharwa Drive Duplication	• Traffic separated by a centre median provides greater safety for motorists travelling at 80km per hour. • Increased vehicle capacity in the morning peak will reduce travel times for commuter traffic exiting the Lanyon Valley. • Improved active travel and public transport outcomes

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William Slim Drive Duplication	• Increased road capacity • Improved safety for road users • Improved travel times, measured by capturing Bluetooth travel time data • Improved public transport route and services to the community • Reduced travel time and improved road network efficiency • Improved flood protection to adjacent/nearby residents, particularly McKellar
---------------------------------------	--

3.2.2. Importance of the benefits for Government

The duplication of William Slim Drive ensures that the road network and the drainage system meets the demand and levels of service for safety and capacity that the Government policies provide.

This proposal is guided by six purposes as outlined in Department of Infrastructure, Regional Development and Cities (DIRD) 2017-18 Corporate Plan:

- Keeping transport secure
- Supporting economic growth through transport
- Making travel safer
- Increasing transport access
- Supporting regional development and local communities
- Providing good governance in the territories

Roads ACT's Strategic Asset Management Plan has identified the duplication of these roads from the top priorities of major capital works projects.

This project aligns with the following Government policies:

The Canberra Plan

A Strong and Dynamic Economy (Page 70) Building Infrastructure for the Future – “The ACT Government is committed to a sustained program of new capital works and maintenance of existing infrastructure across the Territory”

High Quality Services (Page 101) Road Infrastructure – “Well maintained infrastructure is crucial to support a strong and dynamic economy ...”

The Government Infrastructure Plan

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A vibrant City with great neighbourhoods (Page 21) – “is endowed with quality urban design and infrastructure to meet the needs of its growing number of residents.”

Roads ACT Strategic Asset Management Plan

Section 4, Levels of Service for Roads (Page 6) – “ACT motorists have access to safe, comfortable, economic, attractive, and reliable travel with sufficient capacity roads to reach their destinations”.

Road Safety Strategy & Action Plan

The Governments vision of “Vision Zero” of no road fatalities is achieved.

Foreword (Page 4) – “The ACT Government is committed to reducing the deaths and injuries on our roads.”

Safe Roads and Roadsides (Page 17) – “Implement safe system solutions, and best practice engineering technology, covering both new and existing roads”

Active Travel

Active Travel Summary (First Page) – “The ACT Government’s vision for active travel is to make Canberra Australia’s cycling capital ... ”

Active Travel Summary (Last Page) – “Principles for Active Travel include: Plan, Deliver, Encourage and Manage. Deliver – Build appropriate infrastructure for ... cycling needs”

Moving Canberra – Integrated Transport Strategy

Achieve our vision for a future transport system that is sustainable, integrated, reliable and future-proof. It considers global trends and ensures Canberra is ready to lead and respond to new and emerging technologies and markets

Infrastructure Investment Plan – “Assists in focussing transport investment priority to support growth and optimise associated network operational efficiency whilst at the same time respecting the needs of the places they pass through”

3.3 Options Analysis

3.3.1. Strategic Solutions Analysis

Strategically, there are minimal options to address safety and congestion concerns along these roads. These are important, strategic road corridors and alternative routes are too far to provide a realistic alternative.

William Slim Drive provides the primary road connection from the major growth centres of Gungahlin and Belconnen. Additionally, this corridor provides direct access to a main arterial route out of Canberra (the Barton Highway) and also links to the new University of Canberra Public Hospital (located on Aikman Drive) from Gungahlin. This road corridor will continue to act as a main distribution route for many years to come. The road works will also provide flood protection to the 1 in 100 year average annual recurrence interval.

Nudurr Drive extension provides an additional access to the suburb of Crace and Palmerston and ease the traffic congestion for egress out of Crace/Palmerston which will complete the road network in that area of Gungahlin.

Due to the high value of these routes, only three strategic options were investigated.

Do Nothing Option:

The proposed works are considered necessary road network improvements.

Not undertaking these works would mean that congestion along these corridors will increase, and affect public safety and increase travel times for both private and public transport. Increased travel times will detract from the use of the public transport system due to buses being 'stuck' or delayed in traffic congestion.

In case of William Slim Drive, the benefits from previous projects (including the signalisation of the roundabout of William Slim Drive / Barton Highway and the duplication of Gundaroo Drive) will not be fully realised.

Disadvantages of not undertaking these works are that it will compromise the integrity of the ACT road network creating a bottleneck into the city and beyond as well as restricting traffic flows especially at peak periods.

Undertaking the works: Preferred Option

Undertaking the works will improve safety, reduce congestion and improve travel times along the road corridors – including the wider, regional transport network

Undertake these works in future years:

The rate of development in Gungahlin, Woden Valley, Tuggeranong and Belconnen will undoubtedly result in traffic congestion above current levels. Risk to public safety would increase and community concerns would further rise. Costs associated with undertaking these works in future years will be substantially higher.

In case of William Slim Drive, If the works are not carried out, then the efficiencies of the upgraded Gundaroo Drive will be compromised.

It is anticipated that due to the planned growth within the Gungahlin, Woden Valley, Tuggeranong and Belconnen and the current pressures if these projects are not delivered may negatively impact on the Land Release Programs within these areas.

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3.3.2. Recommended Strategic Solution

The recommended strategic solution is to construct William Slim Drive and undertake Feasibility Studies on the other roads as described in this Business Case. The projects will further support rapid bus services and encourage patronage, as well as promoting Active Travel through the provision of on-road cycle lanes and an off-road shared path facilities.

3.3.3. Project Solutions Analysis

William Slim Drive:

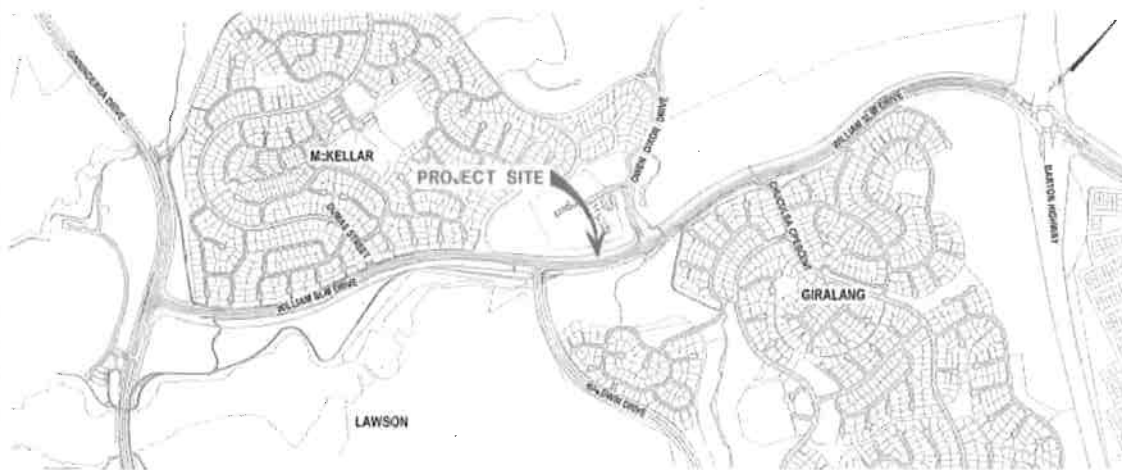


Figure 1: William Slim Drive Duplication

A number of project solutions were investigated in detail by AECOM during the initial stages of the project (Preliminary Sketch Plan stage, October 2012). The options investigated were a macro assessment of the whole road corridor (Gundaroo Drive and William Slim Drive) and provided an overall economic approach to the corridor.

The only section of the corridor which warranted individual investigation was the Gundaroo Drive / William Slim Drive / Barton Highway roundabout.

This was due to this intersection being rated as the ACT's number one accident Black Spot intersection for a number of years. The improvement at the roundabout has been funded and completed in prior years and has been proven to provide significant benefits to the community.

Key parameters and assumptions used for the evaluation were:

- A project appraisal period of 32 years (including construction period) to reflect the assumption that increasing traffic volumes will erode the benefits of the project after 30 years

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- The two hour peak traffic volume is expanded to an annual volume using an expansion factor of 2,250; and
- Traffic volumes from 2021 and 2031 strategic traffic modelling can be extrapolated to all project years according to a linear profile. After 2031 it is assumed that annual growth is half the rate between 2021 and 2031
- The options evaluation included:
 - **Option 1)** William Slim Drive duplicated, Gundaroo Drive duplicated to Mirrabai Drive, and Nudurr Drive extended to Gungahlin Drive
 - **Option 2)** William Slim Drive duplicated only
 - **Option 3)** Gundaroo Drive duplicated only
 - **Option 4)** Nudurr Drive extended to Gungahlin Drive only
 - **Option 5)** William Slim Drive duplicated (between Baldwin Drive and Barton Hwy), Gundaroo Drive duplicated (between Barton Hwy and Nudurr Drive) and Nudurr Drive extended to Gungahlin Drive
- The economic evaluation results indicated that all options were economically viable. Option 1 performed the best when the options were ranked by NPV and Option 2 performed best when the options were ranked by the BCR.
- The sensitivity analysis suggested that the ranking of the options by BCR were generally insensitive to changes in the variables tested. The BCR of options 4 and 5 dropped below 1.0 upon the application of a discount rate of 11%.

Due to the success of the analysis, the improvements along the corridor were prioritised to be delivered over a number of different years. The prioritisation process included addressing safety issues first, then congestion and this also generally aligned with delivering projects that delivered the best cost/benefit ratios first.

This proposal is the final stage to improvements along this important road corridor, and will assist in maximising the benefits from the previous stages. Once complete, the main arterial corridor linking Gungahlin and Belconnen Town Centres will be fully duplicated providing improved connectivity to the benefit of the Canberra community.

There is a small risk, that the utility diversions / relocations agreed four years ago may no longer be sufficient to satisfy the relevant Utility Companies. This is being investigated through consultation which is currently being undertaken, to confirm that the previous designs / relocations remain correct and agreed.

The main risk in this area, relates to the gas main running beside William Slim Drive and the potential additional costs / time required to undertake any additional works over and above what

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has already been approved. Whilst any changes to an approved design are unlikely, it is prudent to confirm before works commence.

Nudurr Drive Extension:



Figure 2: Nudurr Drive Extension

Nudurr Drive follows an alignment south of the suburb of Palmerston and extends from Grampians Street roundabout through to Gungahlin Drive at its eastern extent.

During previous investigations on Nudurr Drive, some issues were observed and needed to be finalised prior to construction.

Several issues are, however, outstanding and will need to be finalised prior to construction. These issues include:

- Asbestos Management Plan – develop to ascertain the asbestos contained area which could impact any future works.
- The potentially unsuitable subgrade area on the corner of Block 789 Gungahlin which is subject to further investigation to determine the exact nature and extent of unsuitable subgrade. The proposed design may require redesign in the area affected by this unsuitable material subject to recommended subgrade treatment this could affect the vertical alignment of the road, stormwater and earthworks quantities.
- Insufficient clearance is available between the overhead TransACT trunk optic fibre cable and the carriageway at the Nudurr Drive/Gungahlin Drive intersection. Discussions with TransACT need to resolve this issue prior to construction.
- Location of relocated off-lead dog walking area and timing of construction to be confirmed. Could be included as a Separable Portion of this contract or constructed independently, including signage notifying users of closure of the existing area.
- A road safety audit of the final design is yet to be undertaken.
- Approval of the Development Application is required prior to construction.

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- Consideration given to Project Separable Portions. Possible Separable Portions include;

Separable Portion 1: New dog off-lead area

Separable Portion 2: Construction of Nudurr Drive Extension including all civil works, excluding landscaping

Separable Portion 3: Nudurr Drive Extension landscaping with initial 13 week consolidation period

Separable Portion 4: Nudurr Drive Extension landscaping with additional 39 week consolidation period to assist native grass establishment, bitumen straw mulch reapplication and weed control.

Tharwa Drive:

The project solutions will be determined after carrying out the feasibility studies, traffic modelling and preliminary design, which will identify and collect factual data to respond to the concerns of the community including: reviewing current and predicted traffic volumes, analysing crash data, reviewing speed limits and existing road geometry as well as determining when the construction works maybe required.

These sections are of a particular concern.

For Tharwa Drive :

- Between Woodcock Drive – Pockett Avenue

The Study will also include traffic modelling to understand traffic flows along these roads, and what (if any) improvements could be undertaken to ease congestion and improve safety along Tharwa Drive.

These proposals once complete will enable better access within the Tuggeranong region. It is envisaged that the duplication works will further improve transport network integration, efficiency and road safety on these roads.

3.3.4. Base Case

A 'do nothing' option was investigated at the Strategic Level and it was found that the works are considered necessary road network service works.

Not undertaking these works would mean that congestion along these corridors would impact further the Barton Highway, Gungahlin Drive and William Slim Drive in the North, and Erindale Drive / Drakeford Drive in the South. This may significantly increase travel times, as well as detract from the use of the public transport system due to increased travel times. More so, road safety levels may decrease which is seen as a critical factor on Tharwa Drive.

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By undertaking the various project options analysis, outlined above, this business case is considered to provide a 'do minimum' solution that meets all the criteria (safety, congestion, etc.) and provides the best value for money.

This proposal is being presented 'just in time' to deliver improvements required to meet the demands of the road network.

3.3.5. Recommended Project Solution

The recommended strategic solution is to construct the William Slim Drive duplication.

It is anticipated that the positive benefits delivered through the signalisation of the Gundaroo Drive/Barton Highway intersection and the duplication of Gundaroo Drive will not be fully realised unless William Slim Drive is duplicated.

This project will support the new Black Rapid bus service and encourage patronage, as well as promoting Active Travel through the provision of on-road cycle lanes and an off-road shared path facilities.

3.4 Review 2 (Treasury): Needs Analysis

Treasury directorate to sign off that a case for the project is present in the business case.

Review 2 (Treasury) Officer Name: _____

Signature: _____

Date: _____

4. Cost & Contingency

4.1 Preliminary Cost Estimate

(Capital Cost only)

Project Cost Breakdown - Better Roads – Delivering Election Commitments	
<i>William Slim Drive Duplication (Staged construction package)</i>	
Feasibility	0.000

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Design	0.000
Superintendency	2.021
Design & Supervision	0.000
Contingency (approx. 10%)	4.474
Construction	33.139
Procurement Fees (Contract Management) ¹	1.784
Insurance Fees	0.436
GC21 Contract Fees ⁵	0.677
Other (Project Management) ⁴	2.220
Total	\$44.530m
<i>Tharwa & Nudurr Drive (Feasibility Study, Traffic Modelling, Asbestos Management Plan & Design)</i>	
Feasibility	0.284
Design	0.552
Superintendency	0.000
Design & Supervision	0.000
Contingency	0.000
Construction	0.000
Procurement Fees (Contract Management) ¹	0.037
Insurance Fees	0.000
GC21 Contract Fees ⁵	0.000
Other (Project Management) ⁴	0.047
Total	\$0.920m

Total Project Cost (1 + 2) = \$45.450m

4.2 Contingency

4.2.1. Project Contingency

There is a project contingency within the William Slim Drive duplication for any unforeseen utility issues.

4.2.2. Delivery Model Contingency

N/A

4.3 Budget / Funding Strategy

The project total is exclusive of PIR costs. If required by Treasury this will need to be included in addition to the total project costs.

No additional recurrent funding is required other than maintenance funding in the future.

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This project will not directly impact on other Directorate's financially.

5. Economic Analysis

5.1 Cost Benefit Analysis (or 5.3 Cost Effectiveness Analysis)

Based upon a large number of studies on previously delivered projects, it can be estimated that the general benefits (on average) of road duplication projects and increasing capacity by providing additional lanes are around 3:1

Road works	BCR	Remarks
William Slim Drive Duplication	3.86	A Cost Benefit Ratio has been completed for this project, by AECOM in 2012
Nudurr Drive Extension	-	To be determined from this proposal
Tharwa Drive Duplication	-	To be determined from this proposal

In general terms, road duplication projects generally have an average BCR of around 2.7

Full BCRs for projects will be submitted once available, or will be provided as part of the Corridor Management Study currently being undertaken

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5.2 Wider Economic Benefits

Not Applicable – Tier 2 Project

6. Delivery Model Analysis

6.1 Outline of Key Risks

Tharwa Drive duplication, and Nudurr Drive extension :

For these roads; feasibility study, traffic modelling and design will be carried out to identify and collect factual data to respond the concerns of the community including: reviewing current and predicted traffic volumes, analysing crash data, reviewing speed limits and existing road geometry as well as determining when the construction works maybe required.

No major risks have been identified at this stage. Risk analysis will be generated from this study and results will be reflected or outlined in the final design report.

William Slim Drive :

The detailed design, development application and Document Readiness (DR) documentation was completed in 2013. Currently, a review of the Development Application is underway to ensure that works can commence within the timeframe set out in this proposal. As part of the 2018/19 approved budget, contract documentation will be prepared as well as:

- Construction Environmental Management Plan (CEMP), including an Erosion and Sediment Control Plan (ESCP). The CEMP must be approved by the Environmental Protection Agency (EPA) prior to the commencement of any construction activities.
- Waterways Works Licence, for any works impacting on Ginninderra Creek (such as the construction of the new bridge and levee bank). A pollution control concept plan will be developed for the final design.

A Safety & Value Management Workshop was undertaken (as per the normal detailed design process) as part of the detailed design stage. A Risk Analysis table was generated as an outcome of the workshop. The full Risk Analysis can be found within the DR report and is summarised in Appendix D.

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No major risks have been identified at this stage, and given the advanced status of this proposal it is considered unlikely that major risks will arise.

Low, manageable risks have been identified (those usually associated with road construction projects) and will be managed throughout the process. Where applicable, these have been included within the cost estimate (as project contingency) calculations.

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6.2 Commercial Principles

Time to market

For William Slim Drive duplication - due to the advanced stage of this project, in that it is on the shelf ready for Construction, the time to market is suitable for a rapid procurement process in order to deliver the Construction and Superintendency stages of this project.

Flexibility

In case of William Slim Drive duplication - due to the advanced stage of this project there is high flexibility to accommodate variation within the works. This has been managed throughout the previous design processes. However, there are risks associated with any civil construction project that warrants the early consideration of variations and an allowance for contingencies. Please refer to Section 4.2.1 for further details.

Innovation and Incentive

Due to the advanced stage of this project, there is little scope to allow for innovation and incentives as this would allow deviating from the existing design and in turn is likely to increase costs through abortive design work. It should be noted that during the previous design processes, all aspects of innovation were utilised to accommodate an outcome that was satisfactory of addressing the problem within Roads ACT's parameters.

Risk Transfer

Due to the current advanced progress of this project there is medium to high ability to transfer risk directly to the contractor.

6.3 Delivery Model Assessment

For Tharwa Drive duplication, and for Nudurr Drive extension works, the project is in its infancy, thus feasibility study, traffic modelling and early design should be undertaken to determine the most viable options. The findings would then determine the next stage of the delivery actions.

For William Slim Drive Duplication: Due to the advanced progress of this project (Detailed Design complete and Development Application under review) the most viable option is Construct Only.

If this project was not as advanced the project would be suitable for Design and Construct Delivery Model. Other models are not conducive to the current process of the management of the assets post completion of the project.

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Other options are viable however this will result in negation of previous expenditure of resources during the feasibility, preliminary, final design and document readiness stages already completed.

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6.4 Recommended Delivery Model

For William Slim Drive duplication, due to the advanced progress of this project (Detailed Design and Development Application approval completed) the most viable option is Construct Only.

There are little implications for procurement as this model is conducive to current Civil Industry market procurement trends within the ACT. Impacts to procurement are subject to market availability for resources and current or potential work loads of industry. This is typical for Construct Civil Projects and is managed within existing procurement processes.

The delivery model is likely to be an Open Tender using either GC21 or AS2124 contract types for Construction and Superintendency Services. Following the advice provided in the Early Project Overview (EPO) Feedback, the use of the GC21 Contract has been selected in preference to AS2124. The costs for the Independent Valuer, Quantity Surveyor and PAP associated costs have been included within the revised budget calculations.

6.5 Review 3 (IFCW): Delivery Model Selection

IFCW directorate to sign off that the delivery model selected is appropriate for the project risk profile and value.

Review 3 (IFCW) Officer Name: _____

Signature: _____

Date: _____

7. Financial Analysis (PPP and DCMO only)

7.1 Financing Assumptions

Noting that this is a Tier 2 Project, and this section is not applicable, it is worth noting that the nature of this project is not conducive to a PPP/DCMO delivery model.

7.2 PPP/DCMO Payment Stream

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Not applicable, see Section 7.1 above.

7.3 Incremental Procurement/Transaction Costs

Not applicable, see Section 7.1 above.

7.4 Public Sector Comparator

Not applicable, see Section 7.1 above.

7.5 Review 4 (Treasury): Financial (PPP/DCMO only)

☐ Not applicable

Treasury to sign off that the financial analysis has been prepared by an appropriately skilled advisor (IFCW Panel) and that there are no unacceptable assumptions in the analysis (only applicable for PPP/DCMO delivery models).

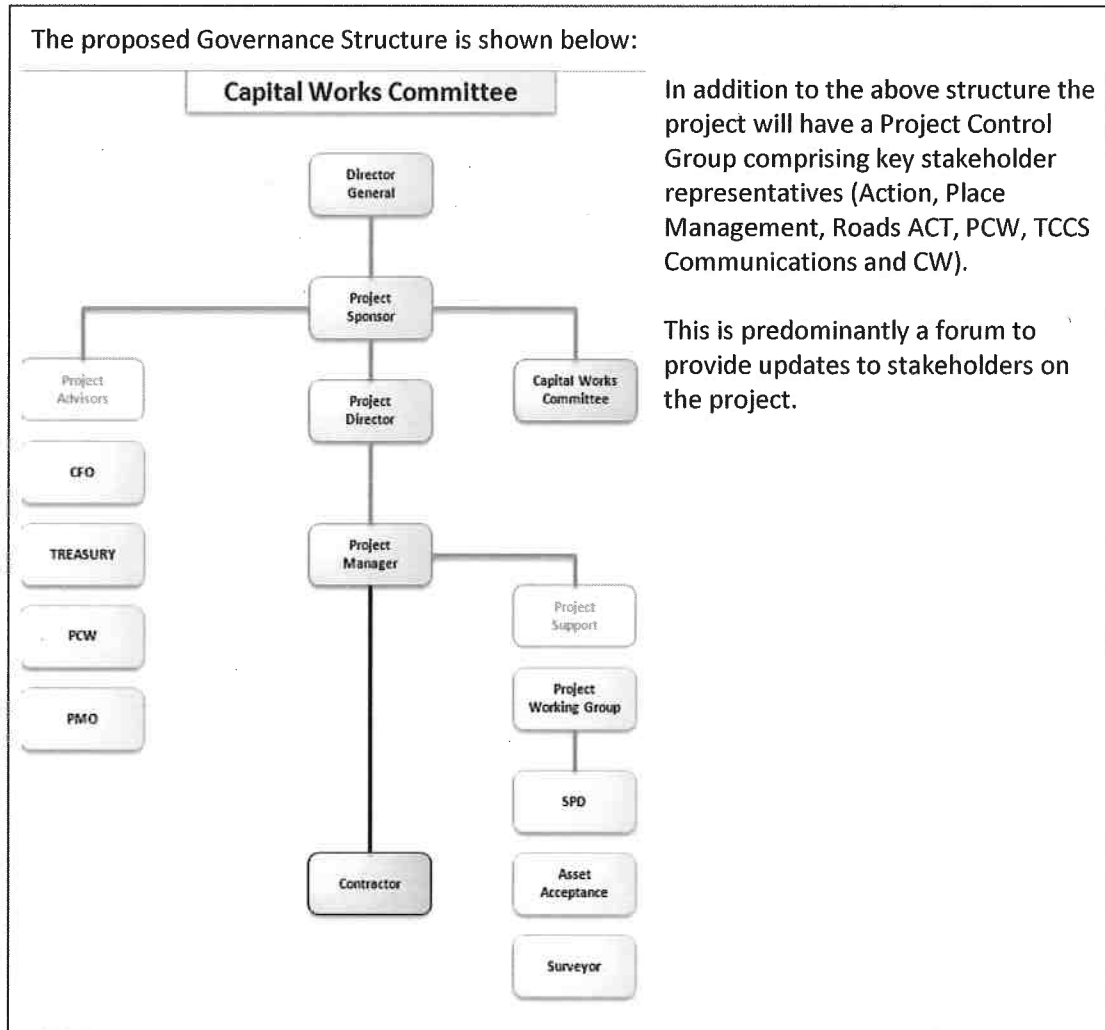
Review 4 (Treasury) Officer Name: _____

Signature: _____

Date: _____

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8. Project Governance



9. Stakeholder Engagement Plan

9.1 Stakeholder Identification

Not Applicable – Tier 2 Project

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9.2 Stakeholder Involvement & Interest

Not Applicable – Tier 2 Project

9.3 Stakeholder Engagement Plan

Not Applicable – Tier 2 Project

10. Advisor Engagement Plan

10.1 Proposed Advisors Roles

10.1.1. Legal

Not applicable as this is a Tier 2 Project. Detail provided for further information. The Government Solicitors Office may be required if large utility diversions are required (similar to the gas main relocation on Gundaroo Drive – Stage 2). This is considered unlikely.

10.1.2. Commercial Procurement

Not applicable as this is a Tier 2 Project. Detail provided for further information. This project will utilise the services of IFCW during the procurement process.

10.1.3. Commercial Financial

Not applicable as this is a Tier 2 Project.

10.1.4. Technical Design & Engineering

Not applicable as this is a Tier 2 Project. Detail provided for further information. This project would engage the services of a Civil Consultant, to assist with Requests for Information and provide other technical advice during the delivery of the project.

10.1.5. Other Specialists

Not applicable as this is a Tier 2 Project. Detail provided for further information. This project is likely to be delivered in the form of a GC21 contract, in which case a Principal Authorised Person will be appointed.
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10.1.6. Stakeholder Management and Communication

Not applicable as this is a Tier 2 Project.

10.1.7. Project Management

Not applicable as this is a Tier 2 Project.

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11. Timeline

11.1 Project Timetable

11.1.1. Outline

Project Programs have been created and attached at **Appendix E**

11.1.2. Proposed float

A proposed float of 1-2 months has been allocated within the proposed initial programme.

11.1.3. Project constraints and/or deadlines

Similar to the duplication of Gundaroo Drive, the majority of this duplication can be undertaken 'offline' (i.e. adjacent to the existing road in the verge) which will minimise disruption to traffic.

Works will be required to tie the new road into the existing road network, and this will require temporary traffic management for short durations of the project.

As such, the William Slim Drive duplication works can take place whilst the duplication of Gundaroo Drive is finishing. This requires careful timing of the two projects, to minimise works on existing carriageways and minimise disruption to traffic.

It is likely that speed limits will be required for the duration of the works, with the existing 80kph speed limit reduced to 60kph for the duration of the works.

11.1.4. Project decision points

Not applicable

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12. Appendices

- Appendix A – Functional Brief/Output Specification
- Appendix B – Investment Logic Map
- Appendix C – Cost Estimate
- Appendix D – Risk Register
- Appendix E – Project Programme

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Appendix A – Functional Brief/Output Specification

Please refer to the attached Project Plan

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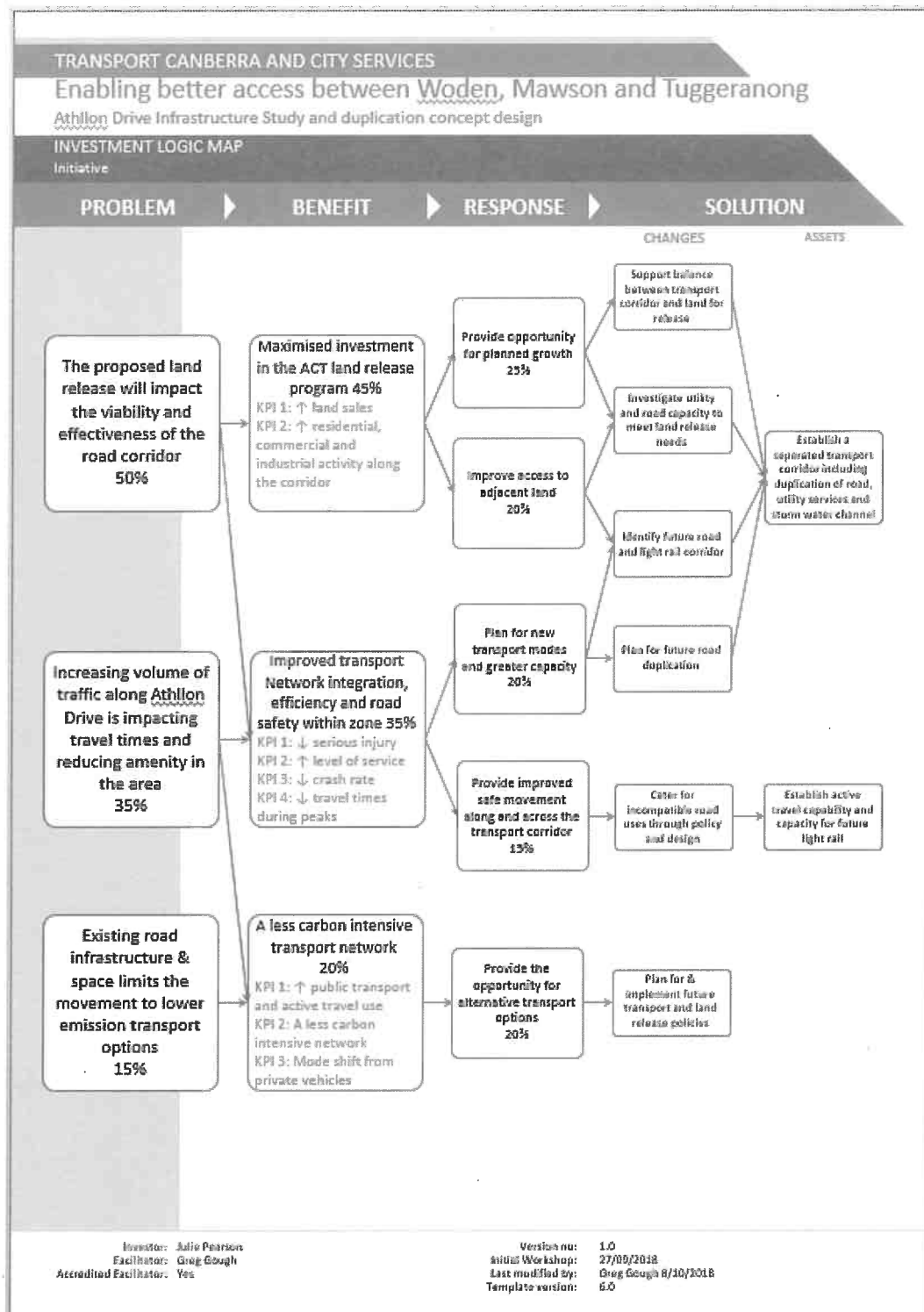
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Appendix B – Investment Logic Map

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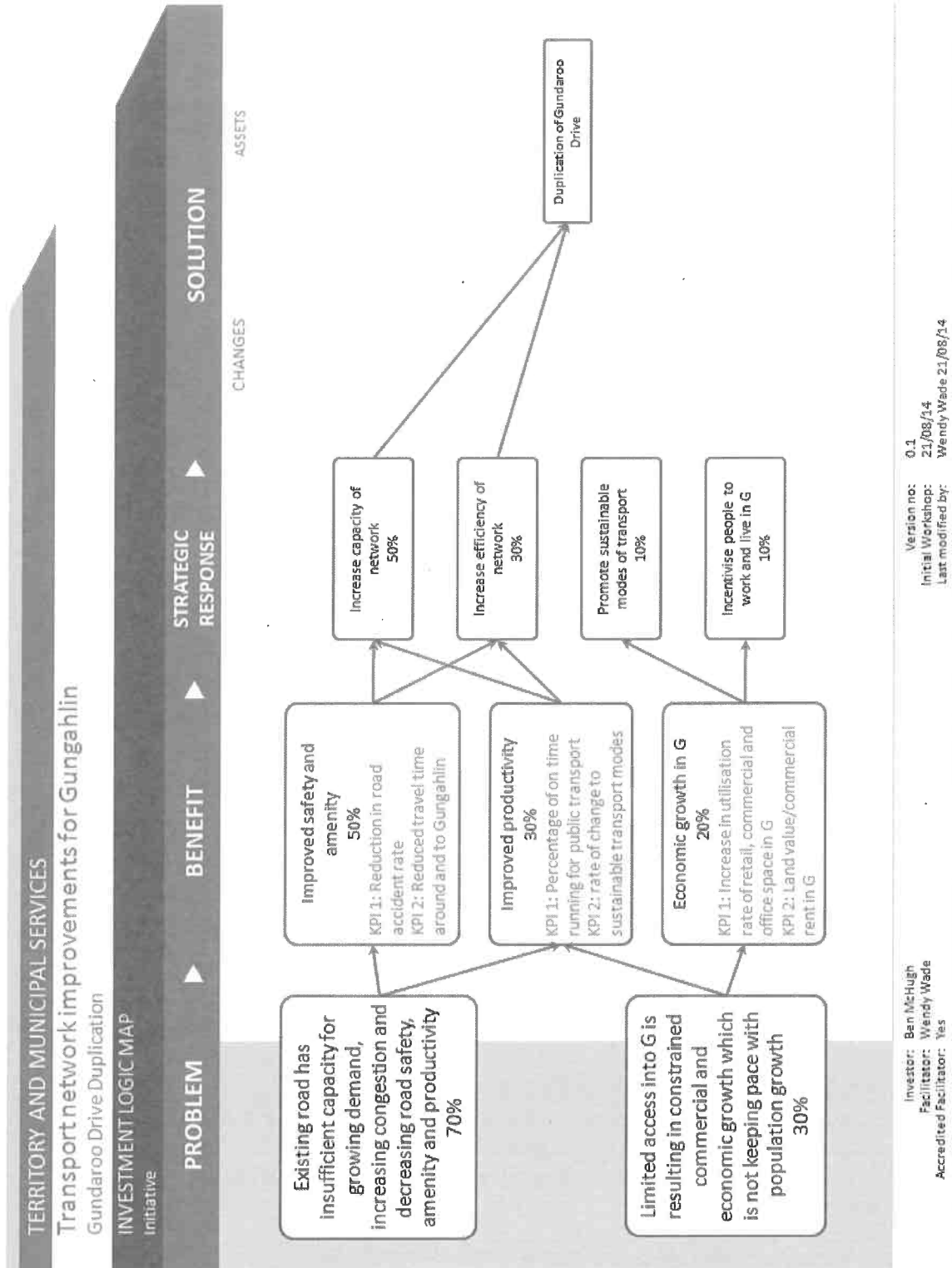


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Appendix C – Cost Estimates

Project Cost Breakdown - Better Roads – Delivering Election Commitments				
<i>William Slim Drive Duplication (Staged construction package)</i>				
Feasibility				0.000
Design				0.000
Superintendency				2.021
Design & Supervision				0.000
Contingency (approx. 10%)				4.474
Construction				33.139
Procurement Fees (Contract Management) ¹				1.784
Insurance Fees				0.436
GC21 Contract Fees ⁵				0.677
Other (Project Management) ⁴				2.220
Total				\$44.530m
<i>Tharwa & Nudurr Drive (Feasibility Study, Traffic Modelling, Asbestos Management Plan & Design)</i>				
Feasibility				0.284
Design				0.552
Superintendency				0.000
Design & Supervision				0.000
Contingency				0.000
Construction				0.000
Procurement Fees (Contract Management) ¹				0.037
Insurance Fees				0.000
GC21 Contract Fees ⁵				0.000
Other (Project Management) ⁴				0.047
Total				\$0.920m
Breakdown of Annual Costs:				
	2019-20	2020-21	2021-22	2022-23
Depreciation (not funded) ²	0.000	0.000	0.000	0.597
Maintenance ³	0.000	0.000	0.000	0.000
Operational ⁶	0.000	0.000	0.000	0.448
Other (Please specify)	0.000	0.000	0.000	0.000
Total	\$0.000m	\$0.000m	\$0.000m	\$1.044m

Notes:

¹ Mandatory fee payable to Shared Services Procurement (4%)

² Maintenance and ongoing operational costs are generally not applicable in the first year. For maintenance, funding should be phased in with zero the year after construction is completed (costs should generally be covered by warranty period), an amount equal to 1% of the construction costs in the following year, and 2% ongoing after that.

³ Depreciation was calculated based on useful life for Roads set at 75 years.

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⁴ Other fees include Capital Works Project Management fee (5%)

⁵ GC21 Contract Fees on Construction projects with a total value exceeding \$1m

⁶ Operational Fees can include maintenance of Green assets in the first year, Electricity Costs for Streetlights or Electricity & Communication Costs for Traffic Signals, Intersection Improvements and Intelligent Transport Systems

No significant disposal or replacement costs expected.

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Appendix D – Risk Register

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RISK	POTENTIAL PROJECT RISK (Some - Significant)	RISK MANAGEMENT PRIORITY	RISK MANAGEMENT STRATEGY
Budget Overruns	Significant	High	Prudent project management through competent planning and monitoring
Schedule Delays	Significant	High	Competent planning, scheduling and managing
Non Integration With Existing Systems/Facilities	Some	Medium	Consultation and communication with relevant agencies
Lack of Availability of Expertise, Equipment or Materials	Significant	High	Prudent selection of contract and project management
Industrial Disputes	Some	Low	Structure the contract in a manner to minimise the potential for disputes
Environmental Issues	Some	Low	Consultation with relevant agencies or community groups as appropriate
Brownfield site with collisions between cars and construction plant / workers due to high volumes of traffic passing through a confined site.	Some	High	Clearly document the standard of vehicle and pedestrian protection measures as a part of the concept TTM plans.
Large vehicles may collide with workers or other public traffic due to route being used by large vehicles including B-Doubles to service the Gungahlin Town Centre.	Some	High	Specify minimum lane widths and check heavy vehicle turning paths and provide Clearly document the standard of vehicle and pedestrian protection measures as a part of the concept TTM plans.
Electrocution or explosion due to high pressure 250mm steel gas main, HV feeds from the Mirrabai substation and other trunk services.	Some	High	Accurately locate services with hydraulic drilling. Safety Management workshop for the 250 mm diameter gas main to be undertaken. (priority action).
Injury to users of the existing underpasses due to materials falling on pedestrians or pedestrian/vehicle collisions if directed across Gundaroo Drive.	Some	High	Specify the use of appropriate protection systems.
Erosion and sediment control	Some	Medium	Conform to EPA guidelines in DA documentation

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Appendix E – Project Programme

A. William Slim Drive Duplication (Construction)

Key Milestones	Target Date	By Who
Issue Functional Brief	July 2019	Capital Works
Acceptance of Functional Brief	July 2019	Infrastructure, Finance & Capital Works
Constructability Review / Prepare Tender Documentation	August 2019	Infrastructure, Finance & Capital Works
Call Tenders	September 2019	Infrastructure, Finance & Capital Works
Close Tenders	October 2019	Infrastructure, Finance & Capital Works
Letter of Acceptance	October 2019	Infrastructure, Finance & Capital Works
Possession of Site/Start visit if required	October 2019	Principal Authorised Person
Physical start of Construction (Staged 1)	November 2019	Consultant(s)
25% completion	Program TBA	Consultant(s)
50% completion	Program TBA	Consultant (s)
75% completion	Program TBA	Consultant (s)
Updated Design & Construction Planning Completed	Program TBA	Consultant (s)
Post Implementation Review (completion of project expenditure)	Program TBA	Capital Works
Project Close	Program TBA	Capital Works

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B. Athllon Drive, Tharwa Drive and Nudurr Drive Extension (Feasibility, Traffic Modelling and Early Design)

Key Milestones	Target Date	By Who
Issue Functional Brief	July 2019	Capital Works
Acceptance of Functional Brief	July 2019	Infrastructure, Finance & Capital Works
Constructability Review / Prepare Tender Documentation	August 2019	Infrastructure, Finance & Capital Works
Call Tenders	September 2019	Infrastructure, Finance & Capital Works
Close Tenders	October 2019	Infrastructure, Finance & Capital Works
Letter of Acceptance	October 2019	Infrastructure, Finance & Capital Works
Possession of Site/Start visit if required	October 2019	Principal Authorised Person
Undertake feasibility studies with traffic modelling and early design works – Athllon Drive, Tharwa Drive and Nudurr Drive Extension	November 2019	Consultant(s)
Final report submission	April 2020	Consultant (s)
Post Implementation Review (completion of project expenditure)	May 2020	Capital Works
Project Close	June 2020	Capital Works

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