Infrastructure
Asset Management Plan

Part C – Bridges

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A thriving community working together to create a sustainable and vibrant future

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1 Overview

The Asset Management Plan (AMP) encompasses all the assets under Council's control and connects the investment of community wealth with service outcomes. The Bridge Asset Management Plan aims to enable the provision of agreed levels of service throughout the entire bridge asset lifecycle within financial, resource and risk constraints.

The AMP should not be confused with the Road Management Plan (RMP) which is a statutory plan under the Road Management Act 2004 that sets out inspection and hazard maintenance regimes for assets within Council road reserves.

1.1 Alignment with Council Plan

The development of AMPs incorporating service level assessments for all asset classes is a key strategic direction in the Council Plan 2017-21 (pg. 27). Table 1 below outlines the organisational Strategic Objectives and Strategies directly addressed by this AMP.

Table 1 – Alignment with Council Plan Strategic Objectives

Strategic Objective	Strategies
Improved Health and Wellbeing	Improve health through the use of our public spaces and trails
Well Managed Assets for Now and into the Future	Improve streetscapes and town entrances Review, maintain, renew and expand the assets of our community
An Innovative and Sustainable Organisation	Facilitate and support a transparent and innovative culture Maintain financial sustainability to deliver the Council Plan

1.2 Relevant Council Strategies

The Asset Management Strategy was adopted by Council in October 2015.

1.3 Relevant Legislation

Key requirements relating to the management of bridges considered in the development of this AMP can be found in the following legislation and regulatory frameworks:

- Disability Discrimination Act (DDA) 1992
- Local Government Act 1989
- Local Government Act 2020
- Local Government Finance and reporting Regulations 2004
- National Asset Management Framework Legislation 2010
- Native Title Act 1993
- Occupational Health and Safety Act 2004
- Occupational Health and Safety Regulations 2007
- Planning and Environment Act 1987
- Road Management Act 2004
- Road Safety Act 1986

- Road Safety Regulations 2009
- Transport Act 1983
- Victorian Local Government Act 2020
- Workplace Health & Safety Act 2011

2 Review Date

This AMP will be reviewed and updated periodically (minimum 5 yearly) taking into account changes to the Council plan and budget.

Review date 30 April 2025.

3 Stakeholders

Council Stakeholders in the lifecycle management of bridges are detailed in Table 2 below.

Table 2 – Council Stakeholders in the Lifecycle Management of Bridges

Owner	Director Infrastructure and Development
Client	Executive Manager Infrastructure
Planning Renewal	Engineering Coordinator
Design	Engineering Coordinator
Construction	Engineering Coordinator
Operation	Works Coordinator
Maintenance	Works Coordinator
Asset Accounting	Asset Management Coordinator
Acquisition Disposal	Director Infrastructure and Development

4 Asset planning

4.1 Asset Composition and Value

There are 241 bridges in Council's asset register, each designated with a hierarchy based on criticality. Council's bridges hold significant economic value with a total replacement cost of approximately $67.3M as of 2018. The breakdown of Council managed bridges according to hierarchy alongside value is shown in Table 3 below. Network growth in recent years has been negligible.

Table 3 – Bridge Hierarchy and Value

Criticality	Count (as of March 2020)	Replacement Cost (as of 2018)	Accumulated Depreciation (as of 2018)	Written Down Value (as of 2018)
Bridge	115	$46,424,511	$10,253,378	$36,171,133
Major Culvert	113	$20,486,381	$3,595,378	$16,891,003
Foot Bridge	13	$2,062,793	$570,671	$1,492,122
Total	241	$68,973,685	$14,419,427	$54,554,258

Five of the above bridges are marked as currently abandoned. Two of these bridges, BR003296 – Vaughan Tarilta Rd and BR003182 – Gaffney Street Foot Bridge, are planned for renewal in Council's Capital Works Plan in 2021/22 and 2023/24 respectively. The other bridges are described below in Table 4 and will be considered for potential disposal or renewal.

Table 4 – Abandoned Bridges without Investment Strategies

Asset ID	Bridge Name	Comment in Asset Register
BR003096	Archibolds Bridge	Very old timber Br. Repairs not warranted. Replace with culvert.
BR003154	Emberton Station Lane	Triple span bridge over old railway cutting - Could be filled in.
BR003235	Morgans Rd	Bridge over old railway cutting could be filled in. rep. with culvert.

Typical useful lives and unit rates for Council bridges are shown below in Table 5 but may vary slightly based on material and bridge type. The average annual depreciation of Council's bridges is approximately $628,544.

Table 5 – Useful Lives and Unit Rates

Bridge Component Grouping	Useful Life	Unit Rate Replacement Cost (m2) as of 2018
Substructure	120 Years	$1431.50
Superstructure	120 Years	$2249.00
Surface	60 Years	$409.00

The next condition audit is scheduled for 2023. Revaluation will occur at this time if it is not deemed necessary to be completed earlier.

Boundary Agreements

There are five bridges in the asset register that are subject to boundary agreements and primarily managed by other Councils. These bridges are listed below in Table 6 and have been excluded from financial forecasting in Section 6.3.

Table 6 – Bridges not Managed by Council

Asset ID	Asset Name	Asset Type	Responsibility
BR003242	Mullins Rd	B - Bridge	Central Goldfields Shire Council
BR003262	Rodborough Rd	MC - Major Culvert	Central Goldfields Shire Council
BR003314	Yandoit Ck Rd	MC - Major Culvert	Hepburn Shire Council
BR003315	Yandoit Ck Rd	MC - Major Culvert	Hepburn Shire Council
BR003194	Greenings Rd	B - Bridge	Shared - Shared Responsibility with Loddon Shire Council. Loddon to cover administrative and maintenance costs, while Mount Alexander Shire to contribute 25% towards capital upgrade and or renewal works.

4.2 Condition

Council routinely undertakes VicRoads Level 2 inspections of its bridge network to determine maintenance requirements and inform future investment decisions. Assessments were most recently undertaken in 2018 and 2014. These inspections involved rating individual bridge components on a 1-5 condition scale.

General definitions for each condition rating are provided in Table 7 below.

Table 7 – General Definitions of Condition Ratings (1-5)

Score	Condition	Description
1	Excellent	Asset is 'as new' condition with no defects or signs of use. Scheduled routine maintenance is required.
2	Good	Asset is in sound condition with occasional defects and minor signs of use. Scheduled routine maintenance is required. Occasional unplanned maintenance is required.
3	Fair	Asset is in acceptable condition with obvious signs of use and defects occurring regularly. Scheduled routine maintenance is required. Unplanned maintenance is required. Early asset renewal may be warranted for the highest priority assets.
4	Poor	Asset is in a degraded condition which is reducing the level of service it is providing. Increased scheduled routine maintenance is required. High levels of unplanned maintenance are required. Planned asset renewal is required for all but the lowest priority assets.
5	End of Life	Asset is no longer providing a service and may be unsafe. Scheduled routine maintenance is no longer required as it provides no benefit. Unplanned maintenance is required to manage risk exposure. Asset should be closed and or demolished.

The condition distribution of bridge components across Council's network over the last two condition audits is shown below in Figure 1. The improvement in condition between 2014 and 2019 suggests that most of the assets that are in condition 4 and 5 have been renewed over the last five years.

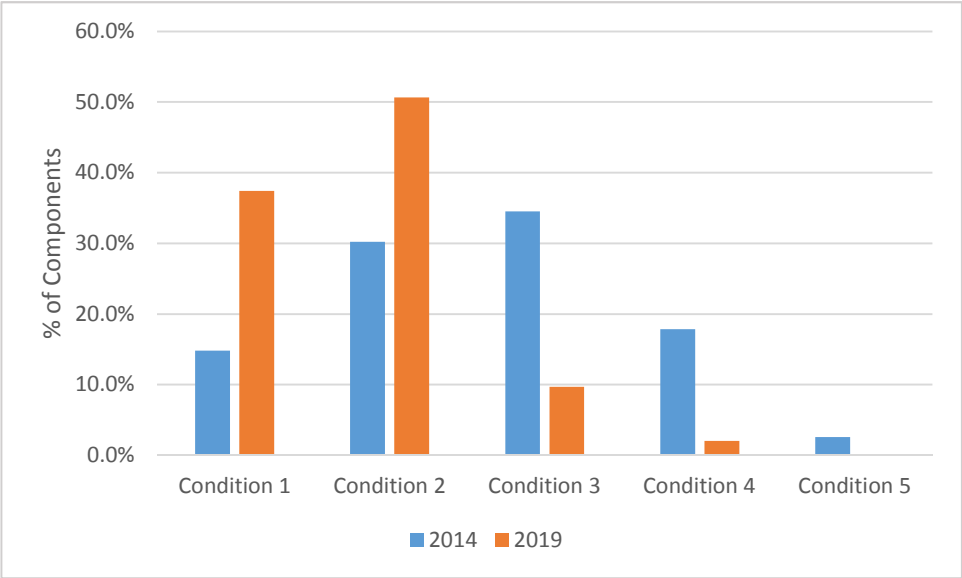

Figure 1 – Bridge Component Condition Distribution

Component conditions are grouped within Council's asset register. Each bridge is given a condition rating for Substructure, Superstructure and Surface. These ratings are determined using a weighted average of associated components based on their relative criticality. The component groupings have been used in Council's forecasting software Assetic Predictor, which is detailed further in Section 6.2.

Figure 2 below shows the distribution of component group conditions as they have been entered in Predictor.

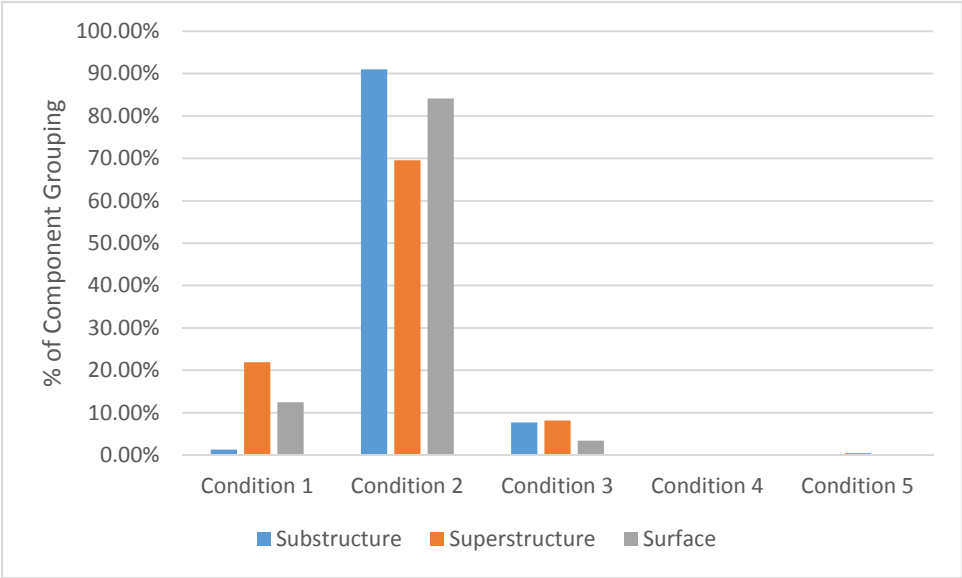

Figure 2 - Bridge Component Grouping Condition Distribution

4.3 Asset Capacity and Functionality

Asset capacity is the ability of infrastructure to meet demand. Capacity data informs demand management, upgrade, expansion and renewal and or disposal strategies. Section 5 discusses the drivers of demand currently impacting Council's bridge network.

Capacity

Assessment of bridge capacity is primarily related to trafficable width and load capacities. Council undertook an audit of current load limits in 2018, with results detailed below in Table 9.

Table 8 – Current Bridge Load Limits

Current Load Limit (tonnes)	Number of Bridges
30	9
25	13
20	13
15	7
12	2
10	4
2	5
Total number of assets	**53**

Council will investigate the suitability of the above load ratings in accordance with expert findings from the last audit. Once desired capacities have been identified, bridges deemed insufficient in this regard can be prioritised for upgrade.

Trafficable widths are also recorded in Council's asset register. Section 4.4 describes Council's proposed levels of service for trafficable widths.

Functionality

Asset functionality, otherwise known as fitness for purpose, is an asset's ability to meet service requirements and is usually defined using levels of service. Assets that are not currently fit for purpose are candidates for upgrade. Future assessment of bridge functionality is enabled through the definition of levels of service below.

Prioritisation principles

Council resources are limited, and works must therefore be prioritised. This occurs through consideration of:

- Council Strategies and Plans.
- Condition assessment.
- Maintainability (for existing assets).
- A combination of asset classification, physical location, frequency of use etc, which provide a risk profile for the asset.

4.4 Levels of Service

Levels of service are the link between organisational goals and asset management objectives as well as detailed operational objectives. In effect, they define the target performance standards for assets of a given type.

The development and implementation of levels of service requires an on-going continuous improvement. Council does not currently possess the information required to assess its current

performance for some proposed indicators. Improvement plan actions in Section 7 have been created to address these gaps in knowledge.

Community Levels of Service

Community levels of service focus on measuring how the customer receives the service offered by assets and is primarily measured via community feedback and requests logged in Council's customer request management system.

Draft community levels of service are detailed below in Table 9. Consultations with key stakeholders will be required before they can be finalised.

Table 9 – Draft Community Levels of Service for Bridges

Service Attribute	Objective	Target Performance	Current Performance
Quality	Bridges meet the community's expectations.	The number of customer service requests relating to bridges is less than 15.	Number of requests increased in 2018 = 18, and 2019 = 11.
Quality	Bridges are free from hazards and are in a condition appropriate for use.	Number of customer service requests relating to reported bridge hazards.	TBD
Function	Complaints and requests are handled in a timely manner.	95% of customer service requests logged, investigated and customer notified of the outcome within 5 days.	TBD
Safety	Council's bridges are kept safe for users.	Annual reduction in the number of valid safety reports relating to bridges.	TBD

Technical Levels of Service

Technical levels of service focus on technical criteria that demonstrates effective organisational performance and is measured primarily through inspections and undertaken in accordance with the Road Management Act (2004) and the VicRoads Road Structures Inspection Manual (2018). Technical levels of service are defined below in Table 10.

Table 10 – Technical Levels of Service for Bridges

Service Attribute	Objective	Target Performance	Current Performance
Capacity	Bridge widths are suitable for intended usage.	Desired trafficable width of vehicle bridges along link, collector and strategic roads at least equal to approaches. Desired trafficable width of footbridges along trails or high pedestrian footpaths at least equal to approaches (subject to heritage restriction).	50% of footbridges with width of at least 1.8m. Performance against other desired width characteristics TBD.
Function	Bridge materials and design are suitable for intended usage.	New bridges are constructed according to current standards and regulations, and with due consideration for climate change (notwithstanding heritage requirements).	TBD
Quality	Bridges are maintained adequately.	At least 80% of work orders are completed on time	TBD
Quality	Council can make informed evidence-based decisions about its bridges.	Bridge condition assessments are undertaken at least every five years.	Bridge condition assessments are undertaken every five years.
Quality	Bridge conditions are maintained to agreed targets.	90% of bridge components in condition 3 or better.	97.8% of components in condition 3 or better (based on 2018 level 2 audit).
Safety	Road Management Plan obligations are met.	100% Inspections undertaken on time and hazards rectified on time.	TBD
Safety	Bridges are safe for users.	New barriers/guardrails to meet AS5100.1.	TBD - barrier assessments to be undertaken at the next audit.

5 Future Demand

5.1 Demand Drivers

Network demand can be influenced by factors such as population change, changes in demographics, technological changes, environmental awareness and new assets.

5.2 Demand Forecasts

Demand factor trends and impacts on service delivery are summarised in Table 11 below.

Table 11 – Demand Forecasts and Impact on Services

Demand factor	Present position	Projection	Impact on services
Population	19,514 in 2018, up from 17,585 in 2008 (11% increase). [1]	Increase of approximately 1.4% per year[2]	Slightly increased bridge utilisation and potentially growth in network resulting long-term in greater increased renewal liability.
Demographics – Ageing Population	32% of the population aged 60 or greater[2]	Population age expected to rise[2]	Increased need for consideration of bridge accessibility.
Community Expectations	N/A	Increasing	Community expectations relating to transparency and justification of expenditure within local governments are increasing, resulting in a greater need for decisions to be evidence-based.
Legislation	N/A	N/A	The Local Government Act 2020 mandates 10-year asset plans.
Engineering Standards	N/A	N/A	Introduction of new design standards over time mean older assets generally do not meet modern service standards (e.g. increasing design load).

5.3 Changes in Technology

Council is regularly monitoring new technologies that may be available to reduce lifecycle costs through the Level 2 inspection process and the engagement of consultants to produce bridge designs.

Technological factors also need to be assessed in determining the scoping requirements for maintenance works, renewal, upgrade and new. There will be changes to asset management technology, in particular, the monitoring and data collection roles. These upgrades in technology may require consideration of modifications to service levels as and when appropriate.

5.4 Demand Management Plan

Council is not facing any immediate issues concerning demand for its bridges at the network level. However, population growth means there will be increased demand in the long-term. Opportunities for managing demand will be developed in future revisions of this AMP.

[1] Mount Alexander Urban Growth Strategy Background Paper, February 2016 (*https://www.mountalexander.vic.gov.au/Files/Strategic_Planning/Mount_Alexander_Urban_Growth_Strategy_-_Background_Paper.pdf)*

[2] *https://www.communityprofile.com.au/mountalexander/population/age#!bar-chart;i=0*

6 Financial Sustainability Strategy

6.1 Maintenance

Council has an operational budget for preventative and reactive maintenance of its bridges. Preventative maintenance is determined through Level 2 inspections, while reactive maintenance is triggered by Level 1 and Level 2 inspections as well as customer requests.

Table 12 below details Council's current future budget allocations for bridge maintenance alongside recommended expenditure (based on the most recent Level 2 audit). Note that some discretionary budget is needed to resolve unforeseeable maintenance issues.

Table 12 – Recommended Future Maintenance Expenditure against Current Budget (Present Value)

Financial Year	Recommended Preventative Bridge Maintenance	Recommended Reactive Bridge Maintenance	Total Recommended Maintenance Expenditure	Current Long-Term Budget
20/21	$114,268	$168,148	$282,416	$65,819
21/22	$366,632	$176,936	$543,568	$65,819
22/23	$300,930	$139,047	$439,977	$65,819
23/24	$319,200	$106,293	$425,493	$65,819
24/25	$250,964	$70,097	$321,061	$65,819
25/26	$394,394	$152,236	$546,630	$65,819
26/27	$99,008	$76,069	$175,077	$65,819
27/28	$122,556	$6,734	$129,290	$65,819
28/29	$142,800	$2,541	$145,341	$65,819
29/30	$129,780	$518	$130,298	$65,819

Maintenance requirements in later years may change based on the outcomes of Council's next condition audit scheduled for 2023.

6.2 Capital

Capital Works Plan

Council's adopted Financial Sustainability Strategy (FSS) allocates funding to bridges specifying the value of works to be undertaken for new, renewal, upgrade and expansion.

The FSS is based on the Capital Works Plan, which is shown below in Table 13.

Table 13 – Current Capital Works Plan

Project	Bridge ID	2020/21	2021/22	2022/23	2023/24	2024/25
Major Culverts (Rural)	N/A	$400,000			$50,000	$200,000
D & C Rural Bridge	N/A	$400,000				
Vaughan Tarilta	BR003296		$600,000			
Burgoyne Street	BR003123			$950,000		
Gaffney Street Footbridge	BR003182		$50,000		$400,000	
Middletons Bridge	BR003150		$50,000		$600,000	
Greenhill Ave Footbridge	BR003191			$50,000		$400,000
Mitchells Lane	BR003233			$30,000		$300,000
Total FSS		$800,000	$700,000	$1,030,000	$1,050,000	$900,000

Renewal Program

In addition to the capital budget allocation in the FSS, Council also has a works program for component renewals as a result of the 2018 audit. Annual cost estimates are shown below in Table 14. Note this program will be updated in 2023/24 following the next Level 2 network inspection.

Table 14 –Recommended Component Renewal Expenditure (as per 2018 audit)

Financial Year	Recommended Component Renewal Expenditure
20/21	$55,941
21/22	$61,954
22/23	$144,507
23/24	$15,475
24/25	$77,651
25/26	$22,120
26/27	$34,020
27/28	$8,260
28/29	$1,960

6.3 Financial Forecasting

Council forecasts the financial requirements of its infrastructure assets using the modelling software Assetic Predictor. The software enables Council to evaluate the long-term impact of funding scenarios on its infrastructure

Bridge renewal funding requirements were modelled with each asset split into three component groupings: substructure, superstructure and surface. Bridges were considered candidates for renewal upon reaching Condition 4.

Council's current budget allocation (present value $800,000 per year) in addition to the recommended component renewals discussed above were programmed in the model. A 25-year simulation was run with future expenditure kept at current rates. Figure 4 and Figure 3 below show the current funding strategy and resultant network condition distribution over time.

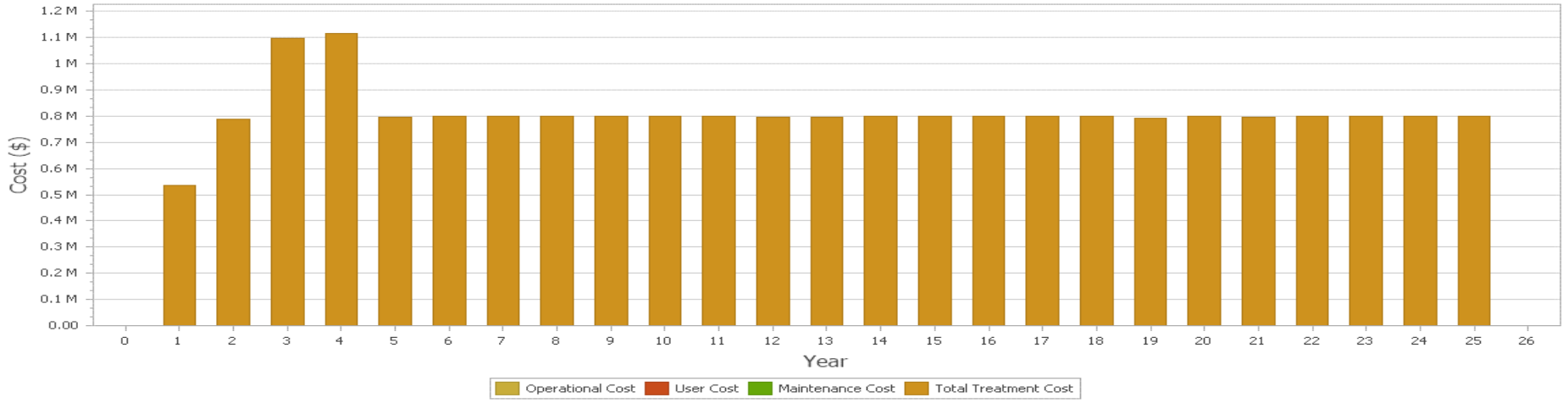

Figure 4 – Current Funding Strategy

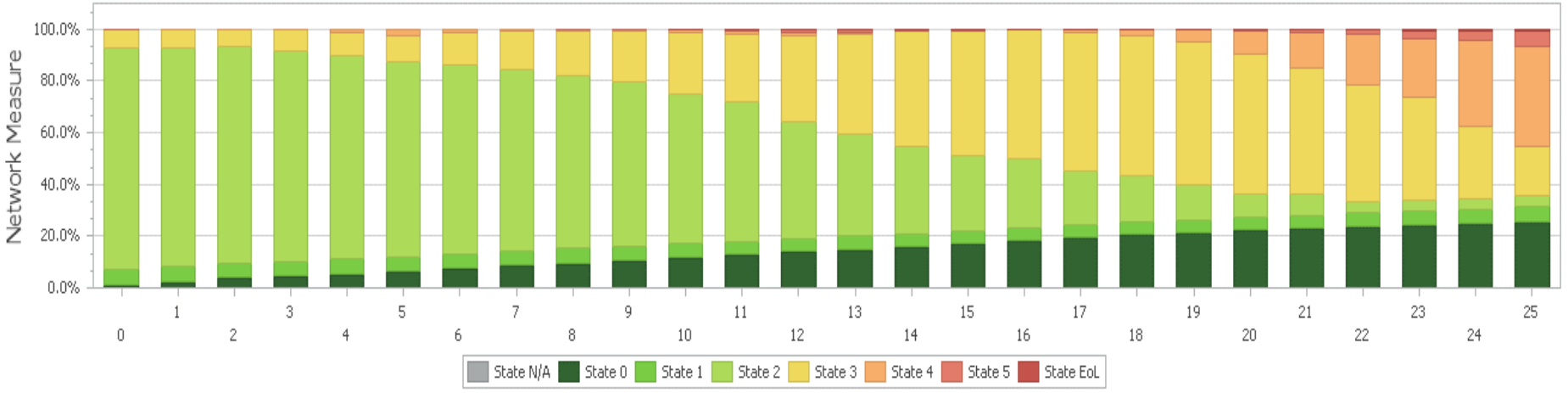

Figure 3 – Network Condition over time with Current Funding

Council's planned capital expenditure is sufficient to ensure bridges meet community standards in the medium-term. Future condition assessments will verify the need to increase expenditure in the long-term. Attachment 1 contains an indicative renewal works program for the recommended funding strategy. It will be considered in accordance with the prioritisation principles during the development of an annual works program.

Improved Use of Predictor

The modelling contained in this section will be improved as Council documents its business processes and gains access to additional knowledge.

In future iterations of this AMP, the use of Assetic Predictor could be improved by:

- Incorporating maintenance costs to improve lifecycle modelling
- Modelling at the component level (requires collection of component useful lives and replacement costs in the next audit)
- Using levels of service as indicators to determine when treatments other than like-for-like renewal are more appropriate
- Ensuring the Capital Works Plan is linked to asset identification numbers and expenditure types.
- Further embedding Council's prioritisation principles in the model to improve works programs.

6.4 Renewal Backlog

The renewal backlog defines how much it would cost to renew all assets that exceed Council's condition service level. It will increase when annual expenditure is insufficient and decrease when annual requirements are exceeded.

Bridges in condition 4 or above are considered renewal backlog in accordance with the levels of service established in Section 4.6.

Figure 5 below depicts a 10-year forecast of renewal backlog under Council's current funding strategy.

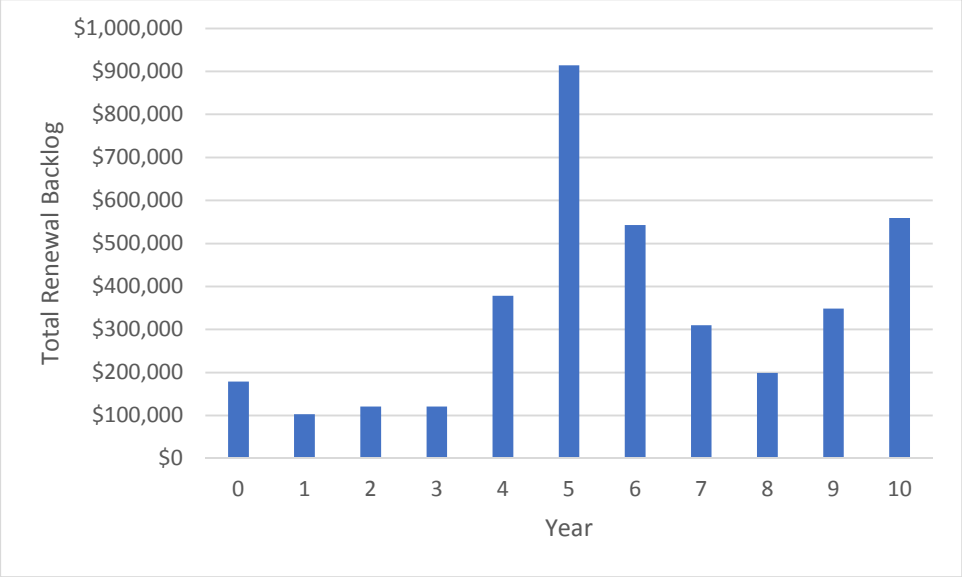

Figure 5 - Bridge Renewal Backlog Forecast based on Current Funding

This backlog represents a minor proportion of Council's $69M bridge network and is not consistently increasing. A small amount of backlog is acceptable under Council's condition level of service for 90% of bridges to achieve condition 3 or greater.

Council will regularly monitor renewal backlog forecasts which may change through modelling updates and the acquisition of new data.

6.5 Funding Strategy

Recommended Capital Funding

Council's current Capital Works Plan comprising approximately $800,000 of works each year is adequate in the medium-term. However, it should be amended to incorporate the component replacement schedule provided by the 2018 condition audit detailed in Table 14.

Table 15 below provides the recommended annual expenditure on capital works.

Table 15 – Recommended Capital Budget Allocation (Present Value)

Financial Year	Current Capital Works Plan (* indicates projection)	Recommended Component Renewal Budget (2018 audit)	Total Recommended Capital Budget
20/21	$800,000	$55,941	$855,941
21/22	$700,000	$61,954	$761,954
22/23	$1,030,000	$144,507	$1,174,507
23/24	$1,050,000	$15,475	$1,065,475
24/25	$900,000	$77,651	$977,651
25/26	$800,000*	$22,120	$822,120
26/27	$800,000*	$34,020	$834,020
27/28	$800,000*	$8,260	$808,260

28/29	$800,000*	$1,960	$801,960
29/30	$800,000*	$0	$800,000

The five-year capital works plan will be regularly reviewed as new knowledge is obtained. The development of levels of service enables Council to better assess the performance of its bridges and identify those most in need of renewal or upgrade. Undertaking Level 3 inspections as recommended may also result in changes to project priorities.

Council is currently undertaking a holistic review of asset renewal funding which will inform the FSS. The review aims to determine how Council's limited finances can be distributed between asset classes to best meet level of service aspirations.

Recommended Maintenance Funding

It is recommended that Council ensure its maintenance budget is adequate to undertake the reactive treatments recommended through the condition audit process. If this maintenance is not adequately funded there is likely to be significant increases in lifecycle costs and risk.

Recommended maintenance budget allocations are detailed below in Table 16. These figures will be updated in 2023/24 following the next Level 2 network inspection.

Table 16 – Recommended Maintenance Budget Allocation (Present Value)

Financial Year	Total Recommended Maintenance Budget (* indicates projection)
20/21	$168,148
21/22	$176,936
22/23	$139,047
23/24	$106,293
24/25	$70,097
25/26	$152,236
26/27	$76,069
27/28	$75,000*
28/29	$75,000*
29/30	$75,000*

It is acknowledged that some additional funding will be required to manage reactive maintenance from Level 1 inspections and customer complaints. However, these costs may be balanced by a portion of recommended maintenance being found unnecessary through deeper investigation.

Further analysis in Predictor is required to demonstrate the long-term relationship between renewal expenditure and maintenance costs.

7 Improvement Plan

Council will continue to seek improvement in the management of its bridges. A five-year improvement plan is detailed below in Table 17.

Table 17 – Improvement Plan

Action	Responsibility	Action Year(s)
Investigate future options for abandoned bridges.	EC	1
Update FSS to include a budget for replacement of components and reactive maintenance activities as per 2018 Level 2 audit works program.	EMCS/EMI	1
Establish a standard for linemarking on single lane bridges.	WC	1
Conduct further investigation including Level 3 inspections based on recommendations from 2018 audit.	EC	1-2
Implement levels of service and address current knowledge gaps.	WC	1-5
Review the signage at bridges with load limits and determine desired minimum load capacities based on bridge hierarchy.	EC	2-3
Improve the use of Predictor by using levels of service to assess asset functionality and capacity so that treatments other than like-for-like renewal can be programmed. Also incorporate maintenance forecasting into the model.	AMSC	3-4
Improve condition rating consistency between audits and obtain details on the replacement cost and useful life of each bridge component.	AMSC	3-4

Attachment 1 – Predictor 10-Year Indicative Works Program

The Predictor 10-Year works program is indicative in nature and will be refined/ used as a guide during the development of annual works programs. Later years will be less accurate because they are based on assumed deterioration.

The indicative works program will change with the acquisition of new condition data or revision of modelling assumptions. The actual works program will consider all of Council's priorities, not just those built into the Predictor model.

Note Year 1 refers to 2020-21.

For more detail please refer to the 2018 JJ Ryan works program.

Year	Asset ID	Hierarchy	Asset Name	Treatment Name	Est Cost ($)	OSI
1	BR016261	B - Bridge	White Quartz Rd Bridge	Surface Renewal - Major	35,700	4
1	BR003098	MC - Major Culvert	Baringhup Rd	Superstructure Renewal - Major	178,993	6
1	BR003098	MC - Major Culvert	Baringhup Rd	Surface Renewal - Major	25,080	4
1	BR003107	MC - Major Culvert	Bendigo Sutton Grange Rd	Substructure Renewal - Major	74,724	4
1	BR003107	MC - Major Culvert	Bendigo Sutton Grange Rd	Surface Renewal - Major	11,190	4
1	BR003184	FB - Foot Bridge	Sunderlands Bridge	Superstructure Renewal - Major	138,394	4
1	BR003230	B - Bridge	Todds Bridge	Superstructure Renewal - Minor	2,940	3
1	BR003230	B - Bridge	Todds Bridge	Surface Renewal - Major	51,073	4
1	BR003248	B - Bridge	Newstead Guildford Rd	Superstructure Renewal - Minor	840	2
1	BR003256	B - Bridge	Quails Lane	Superstructure Renewal - Major	12,180	3
1	BR003269	B - Bridge	Siddles Rd	Superstructure Renewal - Minor	560	2
1	BR003269	B - Bridge	Siddles Rd	Surface Renewal - Major	2,310	2
1	BR003299	B - Bridge	Warren St	Substructure Renewal - Minor	1,411	2
2	BR016261	B - Bridge	White Quartz Rd Bridge	Superstructure Renewal - Major	20,580	3
2	BR003097	B - Bridge	Baringhup Eddington Rd	Superstructure Renewal - Minor	1,120	2
2	BR003159	B - Bridge	Fishermans Rd	Superstructure Renewal - Minor	560	2
2	BR003162	B - Bridge	Fogartys Gap Rd	Superstructure Renewal - Minor	10,500	2
2	BR003168	B - Bridge	Froomes Rd Castlemaine	Substructure Renewal - Major	110,855	4
2	BR003181	MC - Major Culvert	Gaffney St Castlemaine	Superstructure Renewal - Minor	1,120	2
2	BR003183	B - Bridge	Sherrifs Bridge	Substructure Renewal - Minor	980	2
2	BR003183	B - Bridge	Sherrifs Bridge	Superstructure Renewal - Minor	2,100	2
2	BR003259	B - Bridge	Richards Rd Castlemaine	Superstructure Renewal - Minor	560	2
2	BR003267	B - Bridge	Shillidays Bridge	Surface Renewal - Major	18,061	4
2	BR003272	MC - Major Culvert	Smith's Lane	Substructure Renewal - Major	13,976	2
2	BR003297	MC - Major Culvert	Walker St Cast.	Superstructure Renewal - Minor	2,688	2
2	BR003317	MC - Major Culvert	Yandoit Sandon Rd	Substructure Renewal - Minor	4,410	2
2	BR003296	B - Bridge	Vaughan Tarilta Rd	Substructure Renewal - Major	200,000	3
2	BR003296	B - Bridge	Vaughan Tarilta Rd	Superstructure Renewal - Major	200,000	3
2	BR003296	B - Bridge	Vaughan Tarilta Rd	Surface Renewal - Major	200,000	5
3	BR003105	MC - Major Culvert	Piltchers Bridge	Surface Renewal - Major	5,130	2
3	BR003123	MC - Major Culvert	Burgoyne Rd	Substructure Renewal - Major	316,667	2

Year	Asset ID	Hierarchy	Asset Name	Treatment Name	Est Cost ($)	OSI
3	BR003123	MC - Major Culvert	Burgoyne Rd	Superstructure Renewal - Major	316,667	1
3	BR003123	MC - Major Culvert	Burgoyne Rd	Surface Renewal - Major	316,667	1
3	BR003135	MC - Major Culvert	Coliban Park Rd	Substructure Renewal - Major	9,317	2
3	BR003140	B - Bridge	Coopers Rd	Superstructure Renewal - Minor	560	2
3	BR003146	B - Bridge	Deep Creek Rd	Superstructure Renewal - Major	42,420	2
3	BR003151	B - Bridge	Eagles Rd	Superstructure Renewal - Minor	1,960	4
3	BR003243	B - Bridge	James Creek Bridge	Superstructure Renewal - Major	42,000	2
3	BR003274	B - Bridge	Chewton Cemetery Bridge	Superstructure Renewal - Minor	1,120	2
3	BR003312	MC - Major Culvert	Woodbrook Rd	Substructure Renewal - Major	44,319	4
4	BR003104	B - Bridge	Barkers Ck School Rd	Superstructure Renewal - Minor	3,640	2
4	BR003119	B - Bridge	Bradford Hills Rd	Superstructure Renewal - Minor	840	2
4	BR003150	B - Bridge	Middletons Bridge - Drummond Vaughan Rd	Substructure Renewal - Major	216,667	4
4	BR003150	B - Bridge	Middletons Bridge - Drummond Vaughan Rd	Superstructure Renewal - Major	216,667	3
4	BR003150	B - Bridge	Middletons Bridge - Drummond Vaughan Rd	Surface Renewal - Major	216,667	4
4	BR003233	B - Bridge	Curly Bridge	Surface Renewal - Major	7,215	2
4	BR003273	MC - Major Culvert	South Perkins Reef Rd	Superstructure Renewal - Major	3,780	3
4	BR003182	FB - Foot Bridge	Gaffney St Castlemaine	Substructure Renewal - Major	150,000	4
4	BR003182	FB - Foot Bridge	Gaffney St Castlemaine	Superstructure Renewal - Major	150,000	3
4	BR003182	FB - Foot Bridge	Gaffney St Castlemaine	Surface Renewal - Major	150,000	4
5	BR003151	B - Bridge	Eagles Rd	Substructure Renewal - Major	48,914	4
5	BR003191	FB - Foot Bridge	Ten Foot Hill F/B	Substructure Renewal - Major	150,000	3
5	BR003191	FB - Foot Bridge	Ten Foot Hill F/B	Superstructure Renewal - Major	150,000	3
5	BR003191	FB - Foot Bridge	Ten Foot Hill F/B	Surface Renewal - Major	150,000	4
5	BR003210	B - Bridge	Lyell St Taradale	Superstructure Renewal - Major	10,500	3
5	BR003231	MC - Major Culvert	Metcalfe Taradale Rd	Substructure Renewal - Major	39,200	2
5	BR003233	B - Bridge	Curly Bridge	Substructure Renewal - Major	110,000	2
5	BR003233	B - Bridge	Curly Bridge	Superstructure Renewal - Major	110,000	3
5	BR003281	MC - Major Culvert	Sutton Grange Redesdale Rd	Substructure Renewal - Major	27,951	2
6	BR016261	B - Bridge	White Quartz Rd Bridge	Substructure Renewal - Major	45,021	4
6	BR003117	B - Bridge	Hodges Bridge	Superstructure Renewal - Major	382,245	4
6	BR003126	B - Bridge	Campbell Ck Fryers Rd	Superstructure Renewal - Major	64,246	4
6	BR003177	B - Bridge	Fryers Taradale Rd (Old Coach Rd)	Surface Renewal - Major	4,008	4
6	BR003178	B - Bridge	Fryers Taradale Rd (Old Coach Rd)	Superstructure Renewal - Major	39,771	4
6	BR003202	MC - Major Culvert	Jennings Hill Rd	Superstructure Renewal - Minor	1,960	2
6	BR003221	B - Bridge	Red Gum Bridge	Superstructure Renewal - Minor	2,940	2
6	BR003260	B - Bridge	Rilens Rd	Substructure Renewal - Major	82,254	4
6	BR003267	B - Bridge	Shillidays Bridge	Superstructure Renewal - Major	17,220	4
6	BR003295	B - Bridge	Vaughan Springs Rd	Substructure Renewal - Major	156,941	4
6	BR036085	FB - Foot Bridge	Gordon Bridge	Surface Renewal - Major	1,099	4
7	BR005024	FB - Foot Bridge	Campbells Creek Bike Path Footbridge	Surface Renewal - Major	7,658	4
7	BR003125	B - Bridge	Campbell Ck Fryers Rd	Superstructure Renewal - Major	53,538	4

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7	BR003177	B - Bridge	Fryers Taradale Rd (Old Coach Rd)	Superstructure Renewal - Major	30,863	4
7	BR003209	B - Bridge	Lyell St Taradale	Superstructure Renewal - Major	34,020	3
7	BR003249	B - Bridge	North St Bridge	Superstructure Renewal - Major	249,020	4
7	BR003320	B - Bridge	Yapeen Muckleford Rd	Substructure Renewal - Major	422,819	4
8	BR003107	MC - Major Culvert	Bendigo Sutton Grange Rd	Superstructure Renewal - Major	117,424	4
8	BR003119	B - Bridge	Bradford Hills Rd	Surface Renewal - Major	22,953	4
8	BR003144	MC - Major Culvert	Davis Rd	Substructure Renewal - Major	41,800	4
8	BR003151	B - Bridge	Eagles Rd	Superstructure Renewal - Major	76,865	4
8	BR003156	B - Bridge	Byrnes Bridge	Superstructure Renewal - Minor	1,120	2
8	BR003162	B - Bridge	Fogartys Gap Rd	Surface Renewal - Major	24,753	4
8	BR003175	B - Bridge	Fryers Taradale Rd (Old Coach Rd)	Surface Renewal - Major	7,853	4
8	BR003178	B - Bridge	Fryers Taradale Rd (Old Coach Rd)	Surface Renewal - Major	4,589	4
8	BR003212	MC - Major Culvert	Mary St Castlemaine	Superstructure Renewal - Minor	7,140	2
8	BR003230	B - Bridge	Todds Bridge	Substructure Renewal - Major	187,692	4
8	BR003241	MC - Major Culvert	Muckleford School Rd	Substructure Renewal - Major	32,066	4
8	BR003248	B - Bridge	Newstead Guildford Rd	Substructure Renewal - Major	36,990	4
8	BR003260	B - Bridge	Rilens Rd	Surface Renewal - Major	22,250	4
8	BR003267	B - Bridge	Shillidays Bridge	Substructure Renewal - Major	74,209	4
8	BR003271	MC - Major Culvert	Simmons Rd	Surface Renewal - Major	16,687	4
8	BR003284	MC - Major Culvert	Troys Rd	Substructure Renewal - Major	33,669	5
8	BR003286	B - Bridge	Vaughan Tarilta Rd	Substructure Renewal - Major	79,050	4
8	BR003309	FB - Foot Bridge	King Billy Bridge	Surface Renewal - Major	6,391	4
8	BR036087	B - Bridge	Carnochans Back Rd	Surface Renewal - Major	2,382	4
8	BR036088	MC - Major Culvert	Llewellyn Rd	Surface Renewal - Major	4,008	4
9	BR003099	B - Bridge	Baringhup Rd	Surface Renewal - Major	196,729	4
9	BR003106	MC - Major Culvert	Bendigo Sutton Grange Rd	Superstructure Renewal - Minor	1,960	2
9	BR003116	B - Bridge	Boundary Rd	Superstructure Renewal - Major	115,174	4
9	BR003137	B - Bridge	Zeal Bridge	Surface Renewal - Major	50,062	4
9	BR003139	MC - Major Culvert	Coolstore Rd	Surface Renewal - Major	19,141	4
9	BR003151	B - Bridge	Eagles Rd	Surface Renewal - Major	12,515	4
9	BR003161	B - Bridge	Fogartys Gap Rd	Surface Renewal - Major	26,340	4
9	BR003164	MC - Major Culvert	Fords Rd	Surface Renewal - Major	1,521	4
9	BR003200	MC - Major Culvert	Hokins Rd	Surface Renewal - Major	8,834	4
9	BR003205	B - Bridge	Kemps Bridge Rd	Surface Renewal - Major	96,589	4
9	BR003217	B - Bridge	Rogersons Bridge	Surface Renewal - Major	94,794	4
9	BR003234	MC - Major Culvert	Mitchell St Bridge	Surface Renewal - Major	6,773	4
9	BR003248	B - Bridge	Newstead Guildford Rd	Surface Renewal - Major	10,151	4
9	BR003275	B - Bridge	Spring Ck Rd	Surface Renewal - Major	110,524	4
9	BR003298	B - Bridge	Woodman Bridge	Surface Renewal - Major	47,902	4
10	BR003100	B - Bridge	Baringhup Rd	Surface Renewal - Major	20,753	4
10	BR003115	B - Bridge	Boundary Rd	Surface Renewal - Major	4,859	4
10	BR003130	B - Bridge	Cemetery Rd Camp. Ck	Surface Renewal - Major	93,976	4

Year	Asset ID	Hierarchy	Asset Name	Treatment Name	Est Cost ($)	OSI
10	BR003132	B - Bridge	Cemetery Rd Newstead - Slees Bridge	Surface Renewal - Major	17,080	4
10	BR003145	B - Bridge	Cricket Ground Bridge	Surface Renewal - Major	20,709	4
10	BR003148	MC - Major Culvert	Drummond Vaughan Rd	Surface Renewal - Major	4,417	4
10	BR003157	B - Bridge	Faraday Sutton Grange Rd	Surface Renewal - Major	32,393	4
10	BR003174	B - Bridge	Fryers Taradale Rd (Old Coach Rd)	Surface Renewal - Major	5,751	4
10	BR003197	B - Bridge	High St Fryerstown	Surface Renewal - Major	16,436	4
10	BR003198	B - Bridge	High St Fryerstown	Surface Renewal - Major	8,687	4
10	BR003211	MC - Major Culvert	Maldon Shelbourne Rd	Surface Renewal - Major	13,906	4
10	BR003212	MC - Major Culvert	Mary St Castlemaine	Surface Renewal - Major	16,933	4
10	BR003216	B - Bridge	Finnings Bridge	Surface Renewal - Major	51,559	4
10	BR003219	MC - Major Culvert	Metcalfe Elphinstone Rd	Surface Renewal - Major	13,399	4
10	BR003220	MC - Major Culvert	Metcalfe Elphinstone Rd	Surface Renewal - Major	6,994	4
10	BR003221	B - Bridge	Red Gum Bridge	Surface Renewal - Major	266,873	4
10	BR003223	MC - Major Culvert	Metcalfe Kyneton Rd	Surface Renewal - Major	17,865	4
10	BR003226	MC - Major Culvert	Metcalfe Malmsbury Rd	Surface Renewal - Major	13,546	4
10	BR003231	MC - Major Culvert	Metcalfe Taradale Rd	Surface Renewal - Major	4,785	4
10	BR003240	MC - Major Culvert	Muckleford North Rd	Surface Renewal - Major	11,166	4
10	BR003270	MC - Major Culvert	Simmons Rd	Surface Renewal - Major	9,203	4
10	BR003277	MC - Major Culvert	Sutton Grange Redesdale Rd	Surface Renewal - Major	5,669	4
10	BR003279	MC - Major Culvert	Sutton Grange Redesdale Rd	Surface Renewal - Major	6,184	4
10	BR003293	MC - Major Culvert	Vaughan Springs Rd	Surface Renewal - Major	5,669	4
10	BR003295	B - Bridge	Vaughan Springs Rd	Surface Renewal - Major	42,781	4
10	BR003301	B - Bridge	Clarks Bridge	Surface Renewal - Major	58,749	4
10	BR003304	MC - Major Culvert	Wedge Gully Rd (Archbolds La)	Surface Renewal - Major	6,442	4
10	BR003319	B - Bridge	Yapeen Muckleford Rd	Surface Renewal - Major	22,778	4