

Asset Management Plan

Appendix 1.4

Bridges and Major Culverts 2009

1. Introduction

This plan covers the management of Council bridges and major culverts throughout the Shire.

Bridges and structures on local roads which cross Goulburn Murray Water drains and channels are the responsibility of GMW.

2. Levels of Service

To provide safe use of these structures, in a cost effective manner, these structures are inspected as follows

- Level 1 inspection to check for waterway obstructions, deck drainage and obvious damage to the deck and railing is carried out every 12 months
- Level 2 inspection to assess the overall condition of the bridge (and determine whether a level 3 inspection is required) is carried out every 3 years
- Level 3 inspection to assess current carrying capacity of bridge elements is carried out as required by the Level 2 Inspection

Maintenance works are programmed as required

- to prevent accelerated deterioration of the structure
- to repair any defect which poses a high risk to the public

Capital works are carried out when funds are available to restore the original service level of the structure eg

- remedial works to restore or improve the original load capacity of the structure
- upgrade or replace the structure if the existing structure is no longer serviceable or provides a level of service below the required level of service

3. Future Demand

Population growth and economic growth within the Shire may lead to a demand for the upgrade of some existing structures. Aging of existing structures may lead to their renewal. Capital funds will be allocated on structures only after an assessment has been made of the required level of service and alternative routes.

4. Asset Portfolio

Council is responsible for 63 bridges and major culverts, made up as follows

		Load Restricted	Not Load Restricted
Link Road	Long life	0	13
Link Road	Short life	0	0
Collector Road	Long life	0	17
Collector Road	Short life	4	0
Access Road	Long life	0	12
Access Road	Short life	6	1
Farm Access Track	Long Life	0	0
Pedestrian	Long life	0	6
Pedestrian	Short life	0	4

Asset Types

Long life structures consist of concrete and steel and concrete components. They are relatively modern structures and have an estimated life of 200 years. Short life structures consist of timber components, built generally before the 1950's with an estimated life of 80 years.

Asset Value, Life

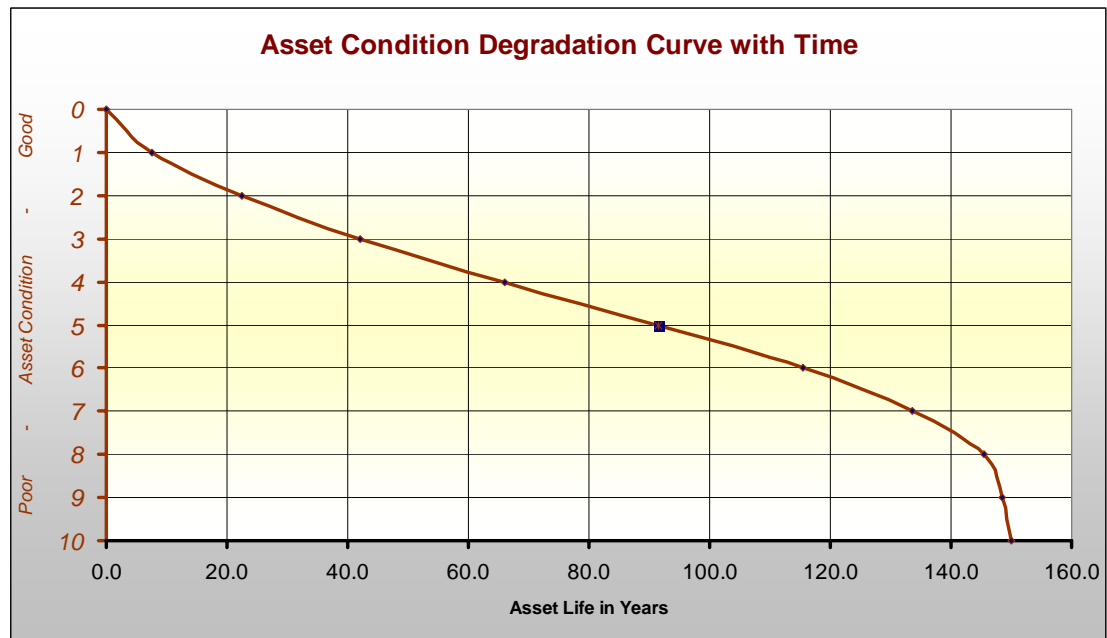
The value and life of these assets are shown below

	Long life structure	Short life structure
Value	\$1,550 / m2	\$1,550 / m2
Estimated Life	200 years	80 years

These have been set using local experience and benchmarking against figures from other municipalities. In particular, the estimated asset life is based on current maintenance practices.

Asset Degradation

The default degradation curves provided by the MAV Step program has been adopted as typical for these assets in Moira Shire. A copy of a typical graph is shown below.



Condition Assessment

Condition assessments (Level 2 Bridge Inspections) are carried out every three years, as per the asset condition assessment program (see Asset Management Strategy).

The condition of the structure is determined as follows

- 0 – virtually new with no defects
- 2 – only slight decline in visible condition
- 4 – good condition but with signs of deterioration evident
- 6 – fair to poor condition, with maintenance costs rising
- 8 – badly deformed, if no further capital works are done, the structure is likely to be closed to traffic within the next 2 years

6. Acquisition

New Structures

Where new structures are required as part of new subdivisions, they are built at the full cost of the developer. Council specifies the standards of construction for these structures and then checks the as constructed standards, to ensure that they will perform as required when they become Council assets.

7. Operations and Maintenance

Currently, Council spends \$25,000 pa (08/09 budget) on maintaining existing structures as a safe facility for the public to use, in accordance with the above risk management procedures and the works program described in the Road Management Plan.

8. Renewals and Upgrades

Capital works are carried out when funds are available to restore or improve the original service level of the structure eg

- remedial works to restore or improve the original load capacity of the structure
- upgrade or replace the structure if the existing structure is no longer serviceable or provides a level of service below the required level of service

Capital funds will be allocated on other structures only after an assessment has been made of the required level of service and alternative routes.

9. Disposal

Structures will be downgraded, i.e. load limits implemented or reduced, or temporarily closed following a detailed assessment of a structure (by a Level 2 or preferably a Level 3 bridge inspection).

Council may determine that a bridge is surplus to needs and hence dispose of the asset. This will only be done after an assessment has been made of the required level of service and alternative routes.

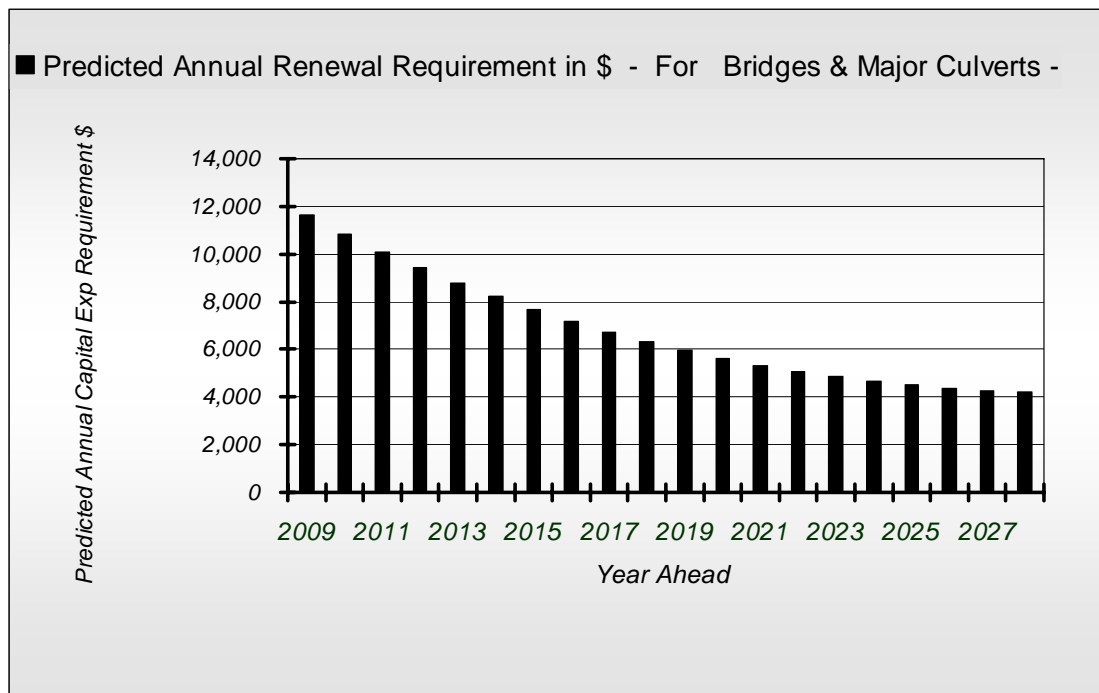
10. Financial Summary

A forecast of the renewal requirement on Council's structures has been made, based on

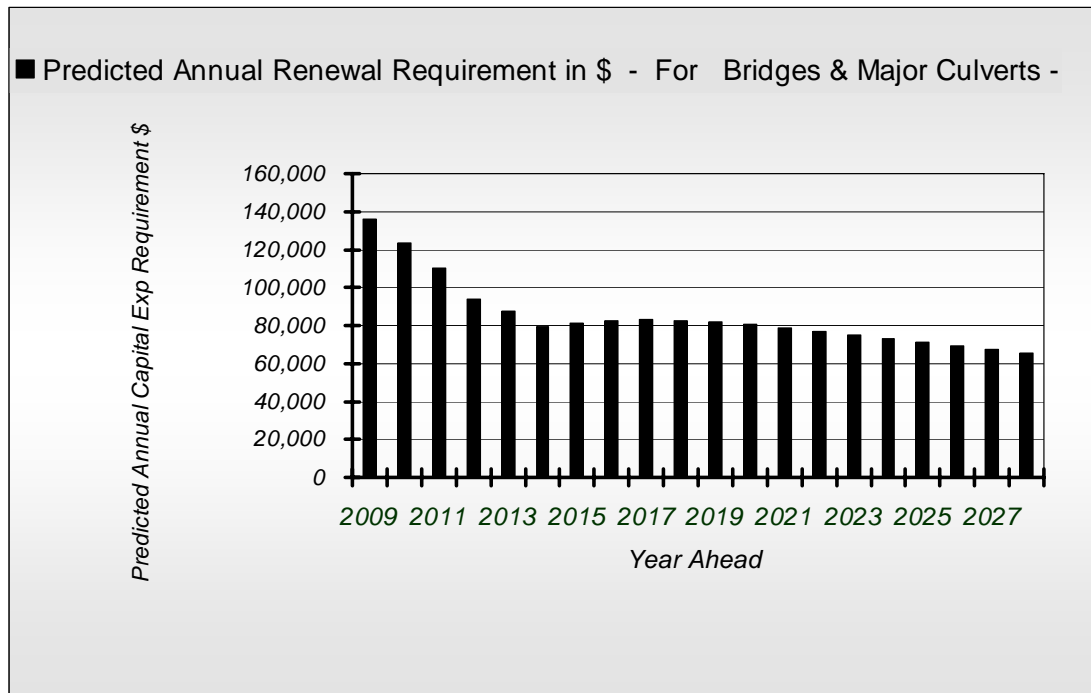
- Current life expectancy (current maintenance practices)
- Existing condition profile

The forecast is shown graphically below.

Long Life Structures



Short Life Structures



11. Monitoring & Improvement Program

The service levels adopted in this AMP are based on current levels of service. Community consultation will occur to establish current expectations and this AMP will be reviewed as scheduled in the Asset Management Plan Strategy (to be finalised).