

MOLONEY ASSET MANAGEMENT SYSTEMS



SUMMARY OF CAPITAL ASSET MODULE SET UP AND OPERATIONS



FOR THE MANAGEMENT OF LOCAL GOVERNMENT INFRASTRUCTURE

ASSETS Aug 2018

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1.0 Introduction

Local Government Authorities are responsible for a vast array of infrastructure and other assets. The Moloney Asset Management System has been designed to record, report upon and value all local authority assets. This document is intended as a brief introduction to the set up of the Moloney system and to assist with the location of information within the system for new users.

There are a number of individual asset modules within the system that are capable of housing the capital related details of all council assets. The Moloney modules were created in Microsoft Excel.

2.0 The Asset Modules and Directory Set up Excel version

The Moloney asset management system is comprised of the following eight modules.

- Roads
- Traffic Management Devices
- Bridges
- Storm Water
- Waste Water (Reticulation)
- Water Supply (Reticulation)
- General Assets
- Modelling – Renewal Gap Modelling

All modules other than the modelling module have a backup file associated with them that retains a full copy of all of the variable data within the module. Both the program file and the Backup file must be located within the same directory for the program file to be able to locate the backup file when required.

Because of the large extent of data and reports associated with the road assets this module is split into eleven excel files. All files must be located within the one directory.

Figure No1 below is an illustration of the recommended directory set up. The assets route directory can have any name and may also be located anywhere on the computer. There should be a clear delineation between the "Current Assets" (the up to date data sets) and any working or saved valuation data sets (Under "Archived or working asset sets).

Recommended Folder Set up

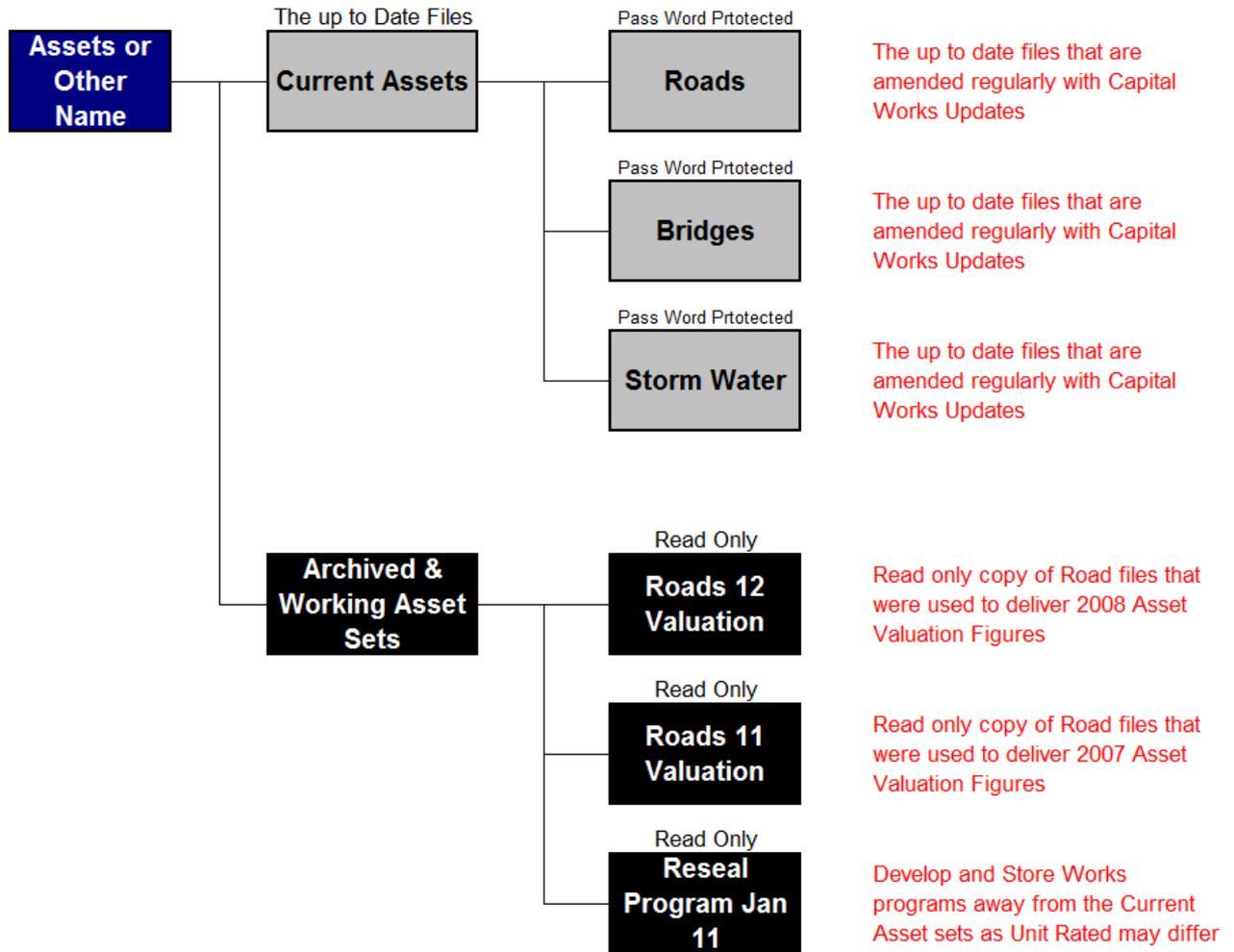


Figure No1 Recommended Asset Directory Set up

Older data sets and others that you may be working on should be housed away from the "Current Asset Details" to avoid any confusion.

3.0 The Roads Module - Set-up

There are 11 basic excel files that are used within the roads module. The module houses all of the details relating to the following road sub – asset groups.

- Footpaths
- Kerbs
- Sealed Pavements
- Unsealed Pavements
- Sealed Surfaces
- Street Furniture
- Street Trees

The above 7 road sub assets all have their own file within the roads directory. However these files contain no permanent data and draw their data from the St-Data2.xlas file

3.1 The Roads Module - Excel Files

The 10 standard road module files are listed below

1. St Data2
2. Footpath_2
3. Kerb_2
4. Pave_2
5. UsPave_2
6. Seal_2
7. Stfurn_2
8. Trees_2.xas
9. Backup

Roads Module Data Flow and file dependency

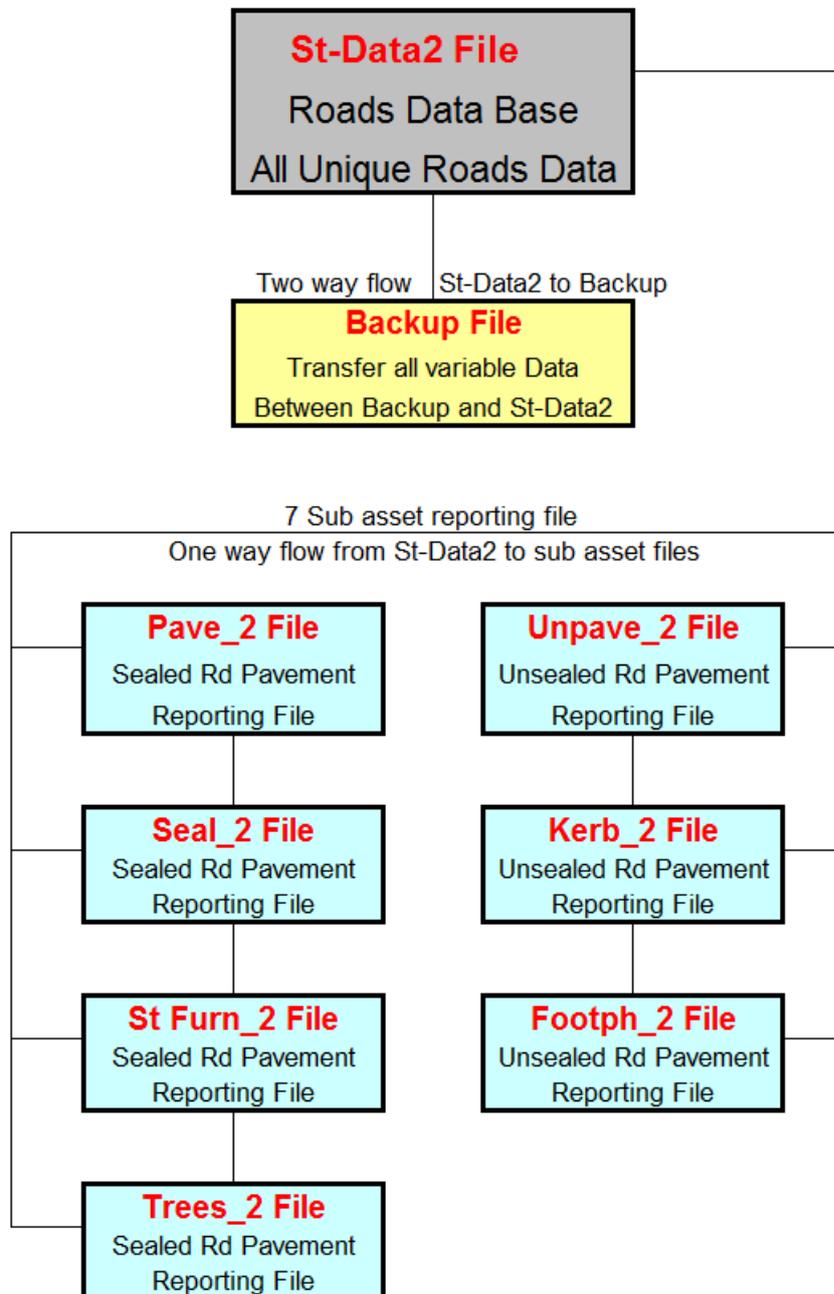


Figure No2 Roads Module Excel file set up

St-Data2 This File is the database for the roads module. All original data including the asset unit rates are stored within this file. All amendments to the roads data must be made within this file. Once amendments have been made they can be carried forward to other dependent files within the module from the “RUN” sheet of the St-Data2 file.

Sub Asset files (2 – 8 above). The seven road sub asset files contain detailed information relating to each sub asset. All asset valuations are undertaken within the sub

asset files with the overall results returned to the “RUN” sheet of the St-Data2 file for record purposes.

The sub asset file is where you would look for detailed information relating to an asset group. For example if you wanted to establish a footpath replacement program or footpath isolated failure repair program the Footpath_2 file is where you would go.

The sub asset files are all set up in a similar manner with the following sheet structure.

Notes on File Notes to assist with the use of the file

Valuation Sheet Sheet detailing the accounting Valuations for the assets on a segment-by-segment basis

Condition Sheet Sheet aimed at presenting the capital renewal cost of the assets in a priority order with the costing structure based upon the proposed next capital renewal treatment, which may differ from the existing asset treatment.

Isolated Failures This sheet is present within all sub asset groups other than Trees, Sealed Surfaces and Street Furniture. However within Street furniture the Risk Items sheet tends to serve the same purpose. The sheet is designed to priorities all of the small isolated asset failures that were identified during the survey of assets and to list them for attention. For example the worst footpath failures would be at the top of the isolated failures sheet within the Footpath_2 file.

Condition Graph All sub asset files other than trees have a sheet that provides you with a present condition distribution graph of the asset base. It illustrates the amount of the asset within each condition rating from 0 – 10.

Backup File The Backup file is provided so that you can send all variable data from the StData2 file for safe keeping. From the StData2 file you can send your variable data to backup. You can also bring the variable data back to St Data2 from the Backup file. This facility is also useful when you wish to update to a new St Data2 program file.

4.0 The Bridges Module – Excel Files

The excel files within the Bridge module are as follows.

Bridges4
BackupBr

Bridges4 This is the single excel file that contains all of the bridge data. There are no other program files within the excel bridges module other than the BackupBr file which is used as a holding file for your back data.

BackupBr The backup file associated with the bridges module. You do not need to open the file it is accessed as required from the Bridges4 file drop down menu. The file is used to both backup your data set and to bring back a data set to the Bridges4 file.

5.0 The Storm Water Module – Excel Files

There are only two excel files within the storm water module. The first is the **StormWater** file which is the program file for the module the other is the **StormW Backup** File which is the data backup file for the module.

Effectively there is only one file for the module that you need access and that is the **StormWater** File. This file contains all original data as well as all program reports.

6.0 The Waster Water Asset Module

There are only two excel files within the Waste water module. The first is the **WasteWater** file which is the program file for the module the other is the **WasteW Backup** File which is the data backup file for the module.

Effectively there is only one file for the module that you need access and that is the **Waste Water** File. This file contains all original data as well as all program reports.

7.0 The Water Supply Asset Module

There are only two excel files within the Water Supply module. The first is the **Water Supply** file which is the program file for the module the other is the **Backup Water** File which is the data backup file for the module.

Effectively there is only one file for the module that you need access and that is the **Water Supply** File. This file contains all original data as well as all program reports.

8.0 The General Asset Module

The general asset module was specifically developed to handle all of council's assets that did not fit within any one of the above 5 Moloney modules. The module covers a wide range of assets and as such the reporting is far more limited than you would find in any of the above asset specific modules. It is essentially a module designed to value a range of different assets and to store details relating to those assets.

The module separates assets into a "Base Asset Group" then a "Sub Asset Group". There is also the provision to record the functional group and Sub group for the assets. So for example a car could have the following classifications within the module.

Base Asset Group	Plant
Sub Asset Group	Car
Functional Group	Technical Services
Sub Functional Group	Parks and Gardens

The General Asset module has been set up with the capacity for 3 different valuation methods. You must nominate which of the 3 methods you want to apply to each of the asset entries. The three valuation methods are.

CAA	Cash at Acquisition
CV	Certified Valuation
UR	Unit rate

The **CAA** or cash at acquisition method adopts the actual cash price of the asset at the time of acquisition as the basis of the valuation for the whole life of the asset. This method is particularly useful for assets that are held for a short term such as motorcars.

The **CV** or certified valuation method is where a valuer places a value on an asset and that value may be reviewed at regular intervals in the future. The classic example here is the land and buildings asset groups.

The **UR** or unit rate of valuation method is where assets are valued at a set rate per unit of asset. The unit rate may be reviewed annually or at any interval and then applied to the asset base. The method may be used for stock items that are used regularly by council.

The general asset module also has the facility to allow you to store and set different column headings for selected asset classes. That is you may have a set of field headings for your fleet assets that are quite different to those of your building assets.

9.0 The Modelling Module

The Modelling module consists of three file.

1. Input Pro Forma - Used to assemble the modelling data
2. Model All - Does all of the calculations
3. Asset Graphs - Displays the modelling results

9.1 Input Pro Forma File

This file provides you with a means of inputting the data necessary for the modelling process. There are a series of work sheets that will assist you in formatting your data for entry into the model. All Moloney asset management modules have a dedicated input process into the model via the "Import Filtered Data" file.

Conquest software solutions also have a direct input facility to our modelling module but other systems can use the worksheets within the system to manage the data input.

9.2 The Model All File

This is the engine room of the model and does all of the mathematical calculations. There are many functions within the file but in summary there are four main areas of operation.

1. Predicts future renewal demand to keep all assets below a selected intervention level
2. Predicts future asset condition based on a planned renewal spend
3. Deliver renewal gap reporting
4. Creates a recommended funding scenario based on a desired future condition at a selected future time.

Modelling operations are undertaken and refined within Model All but results are normally viewed within the Asset Graphs file.

9.3 Asset Graphs File

The Asset Graphs file was designed to display the results coming out of the Model All file in a more user friendly manner.

The full system has the capacity to model 40 different individual data sets and to display the results within 10 reporting groups within Asset Graphs. Model All can handle only 20 data sets, so the system runs two lots of 20 data sets from Input Pro Forma through Model All and then finally on for display within Asset Graphs.

9.4 The Modelling Outputs within Asset Graphs

Any asset that is built or otherwise acquired, that then decays with time and requires renewal or replacement at some point can have it's performance analysed through the Moloney model.

Results can be viewed at three levels.

1. Individual asset set level
2. Asset Group Level - a series of up to 20 asset sets
3. Whole of organization level - up to 10 of the above groups

The graphical examples within this section relate to a council that has modelled all of it's infrastructure assets. The individual asset set in Figure 3 below relates to Concrete

pathways, the group level is all of the full pathways group and finally the whole of council level contains all of their infrastructure assets.

Note in figure 3 that the planned \$800,000 pa is predicted to maintain a zero level of over intervention assets for the next 7-years but then demand is predicted to outstrip the renewal spend.

Figure No 4 shows the renewal demand to treat all over intervention assets and illustrates the value within each of the four individual pathway asset sets. Note the total is the same as the grey bars within Figure 3

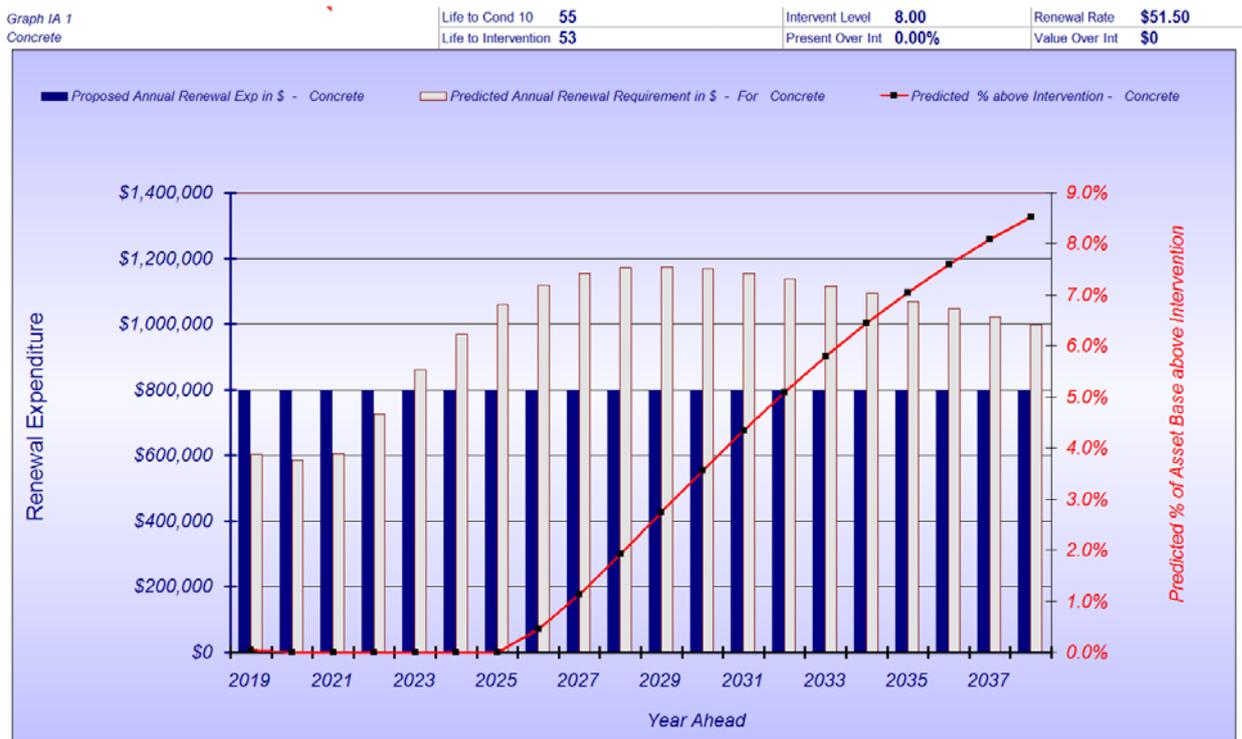


Figure No 3 Individual modelling results for concrete pathways only

Graph 2 Asset Group Displayed: - Pathway Group Present % of Over Intervention Assets 0.02% Present Value of Over Intervention Assets \$9,290

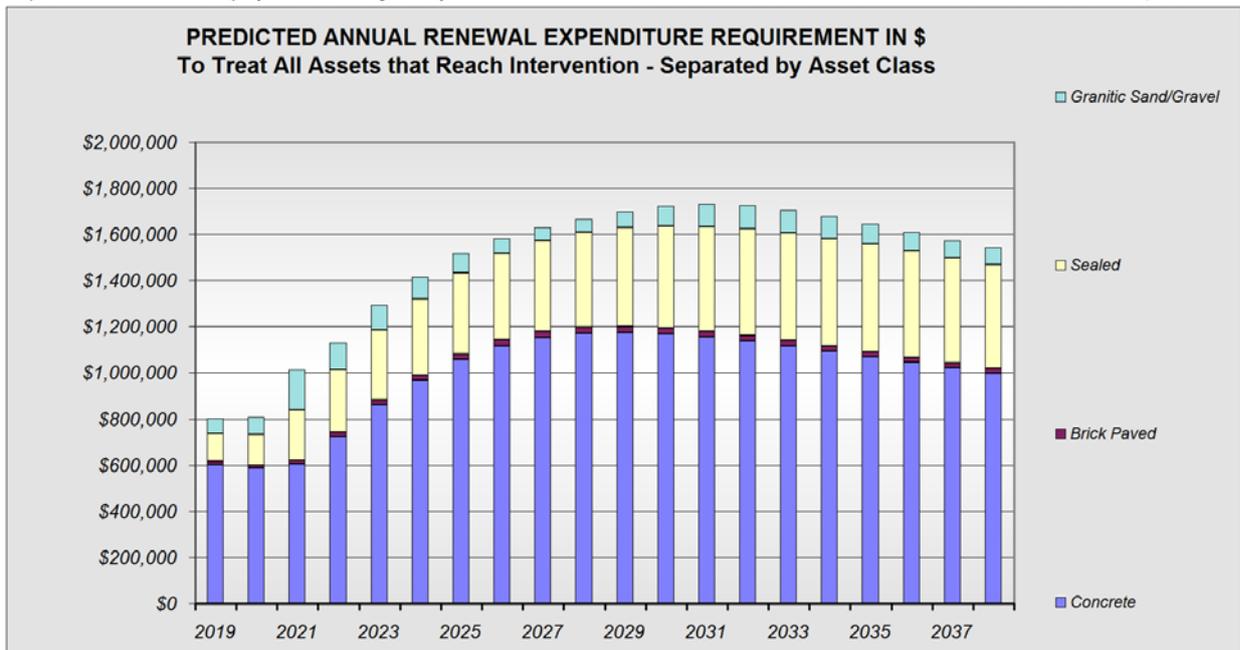


Figure No 4 Pathways Group modelling results for all pathways

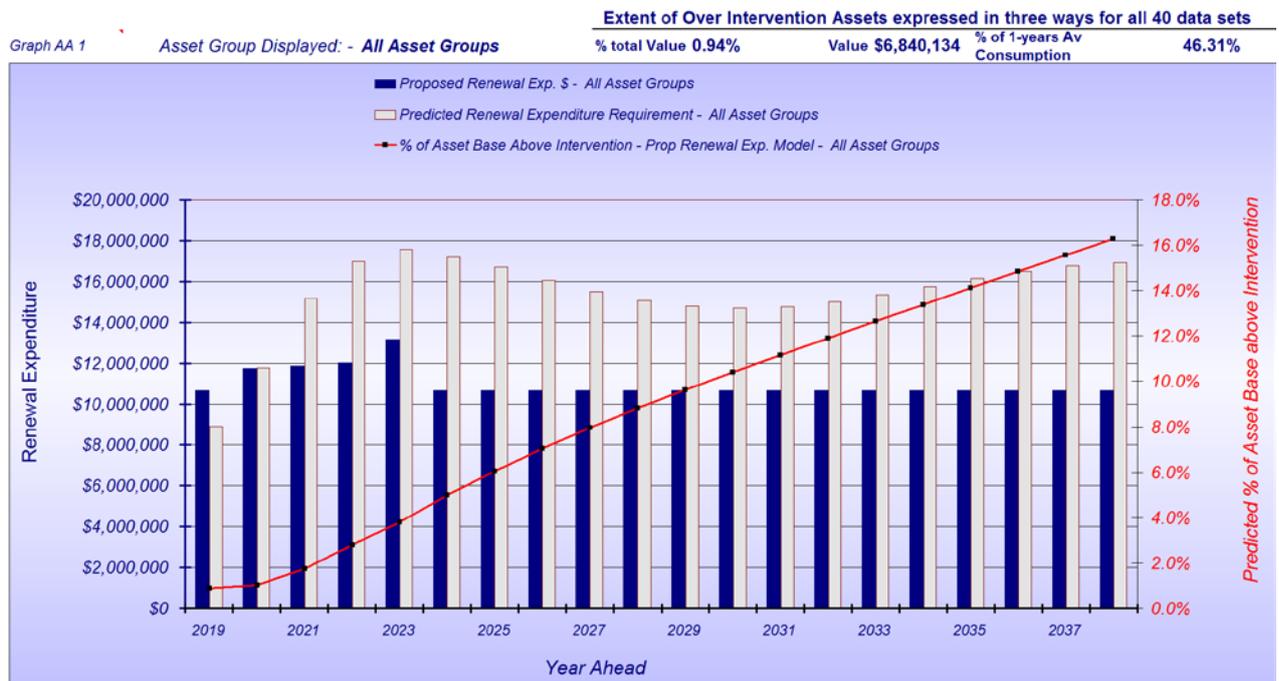


Figure No 5 Results at a whole of Organization level

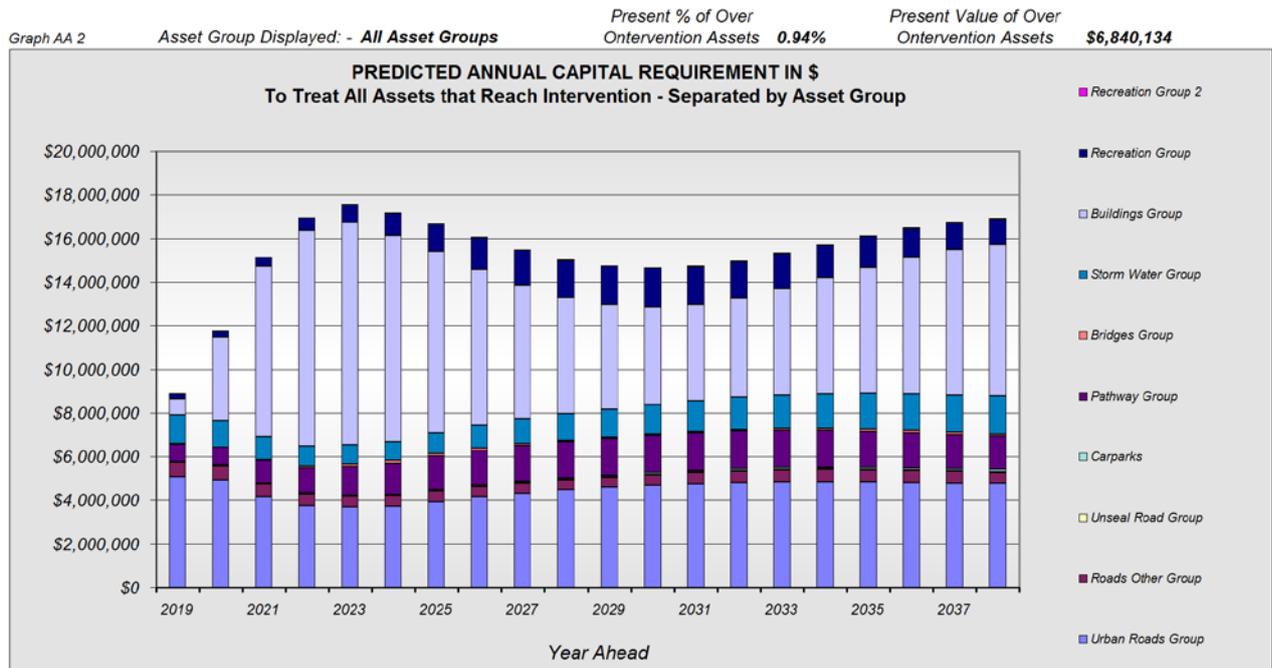


Figure No 6 Results at a whole of Organization level split into groups modelled

Figures 5 and + 6 present the same results as 3 + 4 but at a whole of Council level. The Modelling function is quite detailed and we have only scratched the surface here to show what it can deliver.

10.0 Summary

The Moloney Asset Management System is a highly detailed system specifically designed for Local Government. Its greatest strengths are that it is simple to use and that it sits within a Microsoft environment and so required very minimal training.

It is aimed at delivering the following information and details relating to the capital management of council infrastructure assets.

1. Capital works programs
2. Major maintenance programs
3. Asset valuations
4. Forward financial forecasting of ongoing renewal demand

These brief notes are intended as an introduction only and further details are available within the individual asset module manuals. However, in most cases the manual will only be used as a reference document, as there are extensive excel comments within all of the modules that should cover most situations.

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