SOUTH LANARKSHIRE COUNCIL

Report

Agenda Item

11

Report to:	**Enterprise Services Committee**
Date of Meeting:	**17 May 2016**
Report by:	**Executive Director (Community and Enterprise Resources)**

Subject:	**Roads Asset Management Plan – 2016 Update**

1. Purpose of Report

1.1. The purpose of the report is to:-

- advise Committee with regard to the Roads Asset Management Plan (RAMP) 2016 update.

2. Recommendation(s)

2.1. The Committee is asked to approve the following recommendation(s):-

(1) that the contents of the report be noted.

3. Background

3.1. The principles of asset management have developed at both a national and local level over recent decades to ensure that a sound understanding is available of investment needs and to provide a basis for associated investment decisions.

3.2. Within the Council, the Corporate Asset Management Plan (AMP) is reviewed annually and being the Council's single largest asset group, the RAMP is a key component of the corporate document.

3.3. The development of RAMPs across Scotland provides an excellent example of collaborative working across all thirty two councils. An initial four year project, in which all Councils participated, was completed in 2013. The good progress achieved is now being developed further via a successor project in which all Scottish councils are again participating, as well as twenty two Welsh authorities.

3.4. The main purpose of developing the RAMP is to:-

- ensure we have a sound knowledge of the extent and condition of our main asset groups
- understand where any knowledge gaps exist and consider how these might be addressed
- understand the level of current investment on each asset group and the associated condition trend

3.5. The road asset consists of the following main asset groups.

Asset Type	Asset Description and Components
Carriageway	The part of the road used by vehicles. This asset group includes drainage systems, lay-bys, bus lanes, traffic calming and verges.
Footway, Footpaths and Cycleways	Footway – used by pedestrians adjacent to the carriageway Footpaths – used by pedestrians remote from the carriageway Cycleways – used by both pedestrians and cyclists Pedestrianised Areas
Structures	Primarily bridges and culverts with a span greater than 0.9 metres and retaining walls
Street Lighting	Includes lamps, columns, ducts, cabling, control pillars, illuminated road signs and bollards and festive lighting
Traffic Management Systems	Signalised junctions and pedestrian crossings, detection equipment, ducts and cabling

4. Carriageway Asset

4.1. The Council is responsible for a total of 2295 kilometres (1426 miles) of carriageway. The Council's carriageway network is divided into four classifications, A, B, C and Unclassified.

4.2. Inventory records are accurate for the lengths of road, however, the widths of the road are estimated based on classification of the road. Over time, these widths will be collected and added into our network management system and will aid with quantification and refinement of the valuation of the carriageway asset.

4.3. The carriageway asset Gross Replacement Cost of the recorded asset as derived utilising the Asset Valuation tool developed by Society of Chief Officers of Transportation in Scotland (SCOTS), is £2.65 billion.

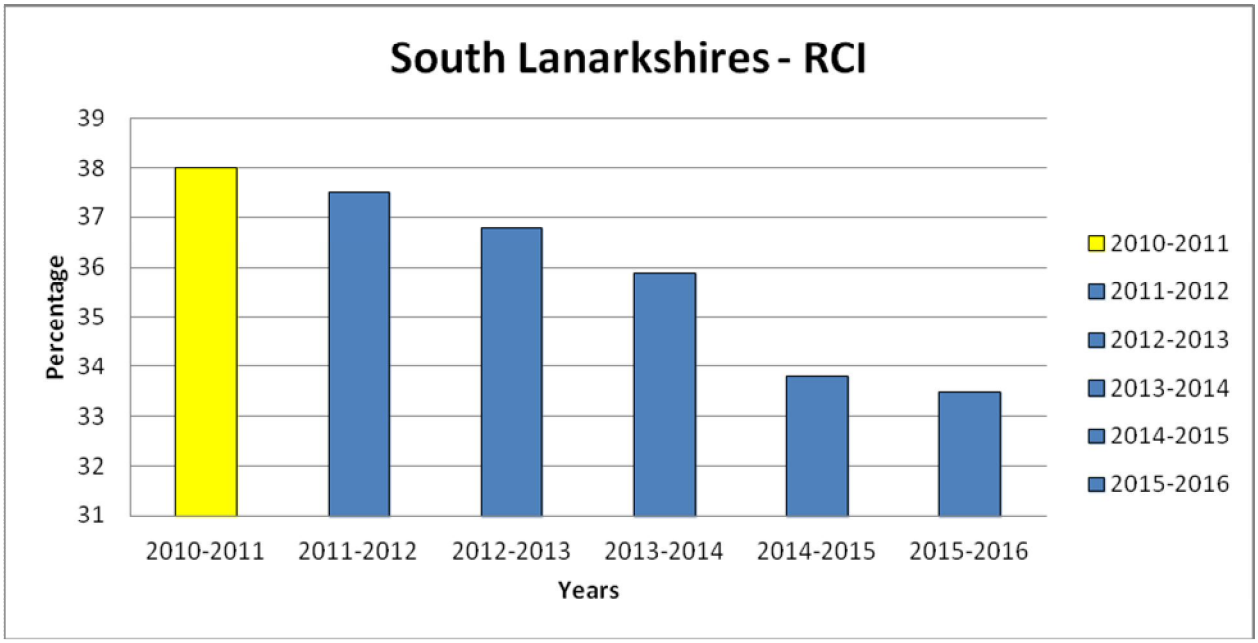
4.4. Safety inspections are now carried out in accordance with the Guidance Document for Road Safety Inspections and Defect Categorisations. This manual takes cognisance of the guidance contained within Well-Maintained Highways, the national Code of Practice for Highway Maintenance Management and has been adopted by a number of authorities in the West of Scotland. These safety inspections are carried out on a monthly, three monthly or annual basis depending on the carriageways hierarchy.

4.5. In addition to these inspections, regulatory inspections to deliver our obligations under the New Roads and Street Works Act 1991 (NRSWA) and the Transport Scotland Act 2005 are also carried out.

4.6. Annually, the Scottish Roads Maintenance Condition Survey (SRMCS) is undertaken on our road network by SCOTS nominated contractor WDM Ltd. This survey tackles 100% of our A class carriageways in one direction, with the other direction being surveyed the following year. 50% of our B and C class roads are surveyed with the whole of the B and C class network being surveyed over a four year period. Only 10% of our Unclassified road network is completed each year. This survey produces our Road Condition Index (RCI) based on the percentages above and applied to the whole of the network. The survey identifies for each 10 metre section of road whether it falls into the red category (requires maintenance) amber (should be considered for maintenance) or green (serviceable). The RCI is published each year as a national performance indicator.

4.7. In 2015, SCOTS requested that the backlog was recalculated by WDM Ltd, based on the latest SRMCS survey data at the time. The backlog calculation for carriageway maintenance was £125 million in 2015. This is the sum of money required to be invested in a single year to bring the road network back to a serviceable standard. This backlog figure has reduced from £137million in 2013. Clearly, this is to be welcomed.

4.8. The condition of our carriageways has improved from an RCI of 38.0 in 2010/2011 to 33.5 in 2015/2016 as shown in the table below.



4.9. Our position in Scotland RCI ranking has improved from 19th in 13/14 to 14th in 15/16.

4.10 An independent assessment was undertaken by WDM Ltd to calculate the Steady State cost for our network in 2009 and again in 2015. The steady state is the amount of investment required to maintain the road network in its current condition. In 2009, our steady state was £11.2m, while in 2015, the steady state figure was £16m. This means our current level of investment is now below the amount needed to maintain the network in its current condition. This increase in the steady figure is largely due to increasing road maintenance material cost.

5. Footway Asset

5.1. Inventory records indicate that the Council is responsible for a total of 2375 kilometres (1475 miles) of footway. The majority of the Council's footway network is contained within the urban area.

5.2. Inventory records for footways are limited and the length of footway network is an estimated length based on there being two footways on each length of carriageway within the urban area. All of the footways have been estimated as having a two metre width.

5.3. The footway asset Gross Replacement Cost of the recorded asset is estimated at £496.9million.

5.4. Inspection arrangements and maintenance categories are similar to those for carriageways.

5.5. Unfortunately, there is not a national condition survey for footways similar to that which is undertaken for carriageways. Instead, priorities for resurfacing are established via the local knowledge of our inspectors taking into account, in particular, the condition of a footway and its level of use.

5.6. We do not currently have a reliable assessment of the extent of the maintenance backlog on footways so the first steps have been taken to enhance backlog information. A total sample survey of 32% of our estimated footway length was undertaken in calendar years 2014 and 2015 which indicated that 11.4% of our footways should be considered for maintenance purposes. Further sample conditions surveys will be carried out each year to build upon, and update, this knowledge base.

6. Lighting Asset

6.1. The Council has 58,348 lighting columns, 64,272 luminaires, 2,157 Control Pillars and an estimated 1,859 kilometres (1155 miles) of cabling.

6.2. Inventory records for lighting columns, luminaires and control pillars are accurate. Inventory of the cabling network, and knowledge of its condition, is poor, most of it being hidden underground.

6.3. Although no backlog model has been developed as yet, the percentage of lighting columns exceeding their design life is 40.7% giving the Council the second oldest lighting column stock in Scotland. The cost to replace all of these columns at current rates would be £43.963 million.

6.4. The trend in columns beyond their design life is a generally static over the last five years.

6.5. On the 11 March 2015, the Executive Committee approved investment of £19.56m for the conversion of our existing street lighting to LED and further investment to replace 7,029 of our oldest lighting columns over a 5 year period. At the end of the programme, the % of columns over 40 years old will reduce from 48.3% to 28%. This represents an opportunity to significantly improve our street lighting asset.

6.6. During the first year of the Lighting Investment programme, the Council installed over 31,000 LED's and over 2,500 lighting columns.

7. Structures Asset

7.1. The Council is responsible for a total of 742 structures which includes road bridges, footbridges, culverts and major retaining walls.

7.2. Good records are held for the majority of these assets; however, there are currently limited records held by the Council in respect of road related retaining walls.

7.3. The current Gross Replacement Cost of the Structures asset is estimated at £235m.

7.4. Bridge inspections are carried out in accordance with the guidance and recommendations of the Code of Practice "Management of Highway Structures" published by the UK Roads Liaison Group. General Inspections are carried out every two years and Principal Inspections every six years on all structures with a span in excess of 0.9m. More frequent Special Inspections are carried out on structures where more specific monitoring of condition is appropriate (e.g. where assessments have indicated potential capacity issues).

7.5. Routine repairs that are identified during the bridge inspection process are prioritised taking into account the severity of the defect or issue identified.

7.6. There are 103 steel bridges within the structures asset. Properly specified and applied protective paint systems are expensive but serve to prolong the life span of steel structures and can substantially extend intervals between maintenance and repair operations. The introduction of a formalised maintenance painting regime for our steel bridges would be of significant benefit. Currently, this work is tackled on an ad-hoc basis as funding permits.

7.7. Current investment for 2015/2016 is £0.65m per annum. This is broadly similar to previous years.

7.8. In addition to the inspection process discussed above, a national assessment programme, carried out to determine the suitability (i.e. strength) of the bridge stock for the introduction of 40 / 44 tonne vehicles onto the road network, revealed 123 bridges to be sub-standard. A comprehensive bridge strengthening programme has, in recent years, seen excellent progress in addressing the Council's weak bridges. Of the 123 bridges which failed the assessment, only 14 remain to be addressed.

7.9. The bridge assessment process included a risk analysis of vehicle containment characteristics at each bridge location. The results of the analysis revealed that, in terms of risk and containment, parapets on 8% of the Council's bridge stock require to be upgraded. A programme to improve vehicle containment capability at these structures has been initiated, but progress has been slow as a consequence of funding availability. As it stands, 28 structures have been identified as high priority for improvement measures. However, if current funding levels continue to be provided, and depending on the nature and priority afforded to other commitments arising, the completion of one containment improvement scheme per year is anticipated. Again, in terms of risk and containment, the need for upgrading works at the remaining 92% of bridges is currently considered low. It should be recognised that some of these parapets do have containment issues, but the level of risk is low given the site characteristics.

7.10. The condition of all highway structures is determined following a General or Principal Inspection and rated in accordance with the ADEPT Bridge Condition Index (BCI) Guidance. BCI values are generated from ratings apportioned to the severity and extent of defects recorded during a bridge inspection and can be interpreted broadly as the percentage condition score of a bridge or a group of bridges. Separate BCI figures are derived to account for the condition of all structural elements of a bridge (BCI_{av}) and for the condition of those elements defined as being of very high importance (BCI_{crit}). The condition indicators for the entire bridge stock as a single group over the past six years are as follows:

Year	BCI_{av}	BCI_{crit}
2010-11	86.18	73.28
2011-12	86.03	73.47
2012-13	85.67	74.62
2013-14	85.68	74.60
2014-15	84.91	75.72
2015-16	84.49	75.14

7.11. It may be observed in the second column of the above table that the trend for the overall condition of all elements of the asset is slightly downward, indicating a slightly deteriorating picture. The condition indicator for critical components is more positive with an overall slightly upward trend due to the priority given to effecting structural repairs which will maintain the serviceability of bridges. There was, however, a slight decrease in the indicator value for critical components in 2015/2016.

7.12. The assembly of a register of road related retaining walls within South Lanarkshire was commenced in 2014/2015. The retaining wall asset will be of significant magnitude and the formation of the database which will contain several thousand items is a long term commitment for the Council. The code of practice suggests that all road related retaining walls should be subject to the same inspection regime as is currently carried out on bridges and culverts (see section 7.4).

8. Traffic Signals

8.1. The Council is responsible for 212 sets of traffic signals and controlled pedestrian crossings. The numbers and different types of installations are listed below: -

- 102 Traffic Signals
- 71 Puffins
- 21 Pelicans
- 18 Toucans

8.2. Many of the traffic signals in South Lanarkshire are old, utilise older computer technology and are energy inefficient. In recent years, the Council has initiated a programme to replace older traffic signals and pedestrian crossings with modern ones. The replacement of an average traffic signal junction costs in the region of £120k and a pedestrian crossing around £40k. Based upon the existing level of Council funding, we are able to renew one traffic signal junction per year or 2 pedestrian crossings. External funding does allow other infrastructure to be renewed but this is a changing situation. These new installations both maximise the safety benefits to all road users and improve the flow of traffic using modern computer control systems such as Microprocessor Optimised Vehicle Actuation (MOVA) and Split Cycle Offset Optimisation Technique (SCOOT).

8.3. We typically receive and respond to over 1000 traffic signal faults annually.

8.4. The gross replacement value of the all traffic signal apparatus is currently estimated at a value of £13.4 million.

8.5. In 2015/2016, funding of around £920k will be directed towards investment in traffic signal infrastructure but this is not guaranteed to any extent in future years and relies significantly on external funding.

8.6. At present, the Council is attempting to work to a 15 year lifecycle plan. Any plan longer than this would result in reliability issues arising and, over recent years, some installations have simply failed, resulting in emergency replacement works being undertaken. The Council currently has 19 sets of traffic signals and 23 pedestrian crossings that are 15 years old or older. This is an increase of 3 signalised junctions and 8 pedestrian crossings compared to the previous year. The age of the equipment is increasing quicker than replacement equipment is being installed, therefore, the trend for the overall condition of the asset continues to decrease annually.

9. Summary of Roads Assets

9.1. Carriageway asset is in an improving condition as a result of the significant additional investment. Inventory of carriageway asset is good in terms of length of carriageway, however, additional investment will be required beyond 2019 if this progress is to be maintained and recent improvements protected. In addition, it should be noted that investment levels have now fallen below “steady state” requirements.

9.2. Footway asset inventory is limited both in terms of the asset itself and its condition. From the information we have, 11.4% of our network requires to be considered for maintenance. The most recent Household Survey makes it clear that the condition of our footway network is a matter of public concern.

9.3. The lighting asset is aged in terms of columns with an inefficient energy configuration. However, the lighting investment already approved will reduce energy use by half and replace 7000 of the oldest lighting columns representing significant progress.

9.4. Bridge condition is generally reasonable and static. Good progress has been made in dealing with bridges assessed as being inadequate for current loading standards, however, greater investment is required in repainting major steel bridges and attention is also required to the many bridges with sub-standard parapets.

9.5. The condition of traffic signal equipment is deteriorating as the current replacement programme is not sufficient to upgrade the number of installations that are greater than 15 years in age.

10. Employee Implications

10.1. There are no employee implications associated with this report.

11. Financial Implications

11.1. There are no financial implications associated with this report. However, capital funding bids will be made as opportunities arise to seek to maintain or improve condition of key assets.

12. Other Implications

12.1. There are no implications in terms of sustainability or risk in relation to the information contained within this report.

13. Equality Impact Arrangements and Consultation Arrangements

13.1. This report does not introduce a new policy, function or strategy or recommend a change to an existing policy, function or strategy and therefore, no impact assessment is required.

Michael McGlynn
Executive Director (Community and Enterprise Resources)

26 April 2016

Link(s) to Council Objectives/Values

- Improve road network and influence improvements in public transport

Previous References

Report to Executive Committee on 11 March 2015

List of Background Papers

None

Contact for Further Information

If you would like to inspect the background papers or want further information, please contact: - Gordon Mackay, Head of Roads and Transportation Services

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