

**REPORT TO: ECONOMIC DEVELOPMENT AND INFRASTRUCTURE
SERVICES COMMITTEE ON 8 MARCH 2016**

**SUBJECT: REVENUE BUDGET 2016/2017 – ROADS MAINTENANCE AND
CAPITAL BUDGET 2016/2017 – RESURFACING, BRIDGES,
PASSING PLACES, LIGHTING COLUMN REPLACEMENT AND
LIGHTING IMPROVEMENTS**

**BY: CORPORATE DIRECTOR (ECONOMIC DEVELOPMENT,
PLANNING AND INFRASTRUCTURE)**

1. REASON FOR REPORT

- 1.1 To ask the Committee to approve detailed plans for the expenditure of funds allocated from the Revenue Budget 2016/2017 to roads maintenance and from the Capital Budget 2016/2017 to resurfacing/reconstruction, surface dressing, bridges, footways, drainage, passing places, lighting column replacement and lighting improvements.
- 1.2 This report is submitted to the Committee in terms of Section III E (1) and (17) of the Council's Scheme of Administration in relation to Capital and Revenue Budgets and relating to the functions of the Council as Roads Authority.

2. RECOMMENDATION

2.1 The Committee is asked:

- (i) to approve the detailed allocation of funds, from the Revenue Budget 2016/2017, to Roads Maintenance activities, as detailed in APPENDIX 1 of this report;
- (ii) to approve the detailed allocation of funds, from the Capital Budget 2016/2017, to the various roads asset groups and work types, as outlined in APPENDIX 1 of this report;
- (iii) to note that the detailed allocations at (i) and (ii) are subject to Policy and Resources Committee approving the projected capital underspends/overspends to be carried forward to 2016/17;
- (iv) to grant delegated authority to the Roads Maintenance Manager to proceed with necessary roads maintenance works whilst noting that the Roads Maintenance Manager will, as soon as possible, publish a main list of schemes, which can be funded from the budget provision recommended in this report, and a reserve list of desirable schemes, which cannot presently be

funded, along with a list of projects to be funded from the Capital allocation; and

- (v) to note that the list of schemes will be drawn up in accordance with the principles and objectives detailed in this report, in the Roads Asset Management Plan and in the Capital Plan.

3. **BACKGROUND**

- 3.1 Reference is made to the allocation of revenue funds for 2016/2017 at the special meeting of The Moray Council on 17 February 2016 (para 3 of the minute refers).
- 3.2 At the time of considering this report, the allocation of capital funds to roads maintenance had not been agreed. The Council will consider the capital plan on the 30th March 2016. Any changes to the assumptions made in **Appendix 1** will be reported back to this Committee. Meanwhile this will allow staff to continue planning the programme of work for 2016/17.
- 3.3 It has not been possible to prepare detailed lists of proposed maintenance works in the various categories to accompany this report. Detailed lists will be circulated to Members and published on the Council's web site at a later date.

4. **PROGRESS DURING 2015/2016**

General

- 4.1 The table in **APPENDIX 1** includes a summary of estimated outturn expenditure for 2015/2016 and proposals for 2016/2017.
- 4.2 It is estimated that capital budgets will be underspent by 10% although this is, in part, dependant on the extent to which winter weather diverts in-house resources away from planned works. This is due to underspends on allocations to drainage and other works, footway works and LED lighting replacements which are explained in the relevant sections below.

Asset Value

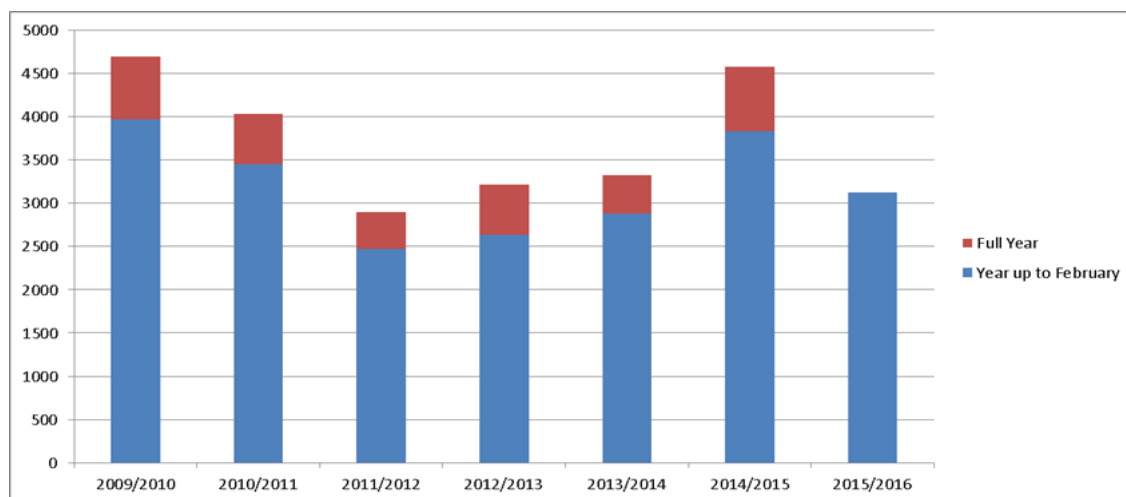
- 4.3 Roads asset values at the end of 2014/15 are shown in the table below:

Asset Group	Gross Replacement Cost £'000	Depreciated Replacement Cost £'000	Confidence in asset data
Carriageway	£1,280,308	£1,123,615	90%
Footway	£86,328	£59,658	40%
Structures	£108,475	£104,258	85%
Street Lighting	£48,664	£28,073	85%
Street Furniture	£15,310	£7,442	25%
Traffic Management Systems	£1,592	£954	90%
Land	£178,731	£178,731	65%
Total	£1,719,408	£1,502,731	-

- 4.4 The difference between gross replacement cost and depreciated replacement cost is an indication of how much of the asset has been 'used up'. At the end of March 2014, 23.4% of the asset had been 'used up' compared to 24.1% at the end of March 2015. The Council is required to report these figures as part of the Whole Of Government Accounts.

Requests for Service

- 4.5 The table below shows the number of calls to the Council requesting a roads related service since 2009/10.



- 4.6 Contacts can be further broken down into categories as follows:

Category	2009/ 2010	2010/ 2011	2011/ 2012	2012/ 2013	2013/ 2014	2014/ 2015	2015/ 2016 To end Feb
Carriageway	807	808	606	830	779	893	657
Footway	109	117	144	148	153	227	154
Verge	15	15	20	26	52	67	76
Drainage	548	336	302	286	299	654	247
Barrier			3	3	5	9	12
Street Lighting	1295	1186	1176	1237	1538	1726	1547
Winter Maintenance	1483	1176	330	304	89	348	204
Structures	22	21	30	13	14	5	11
Traffic	81	77	104	112	176	276	213
Grand Total	4360	3736	2717	2961	3105	4206	3121

- 4.7 The numbers of calls seem to be closer to average so far this year reflecting this year's winter and that Moray was fortunate in respect of flooding. Cuts in the street lighting maintenance budget and resource issues continue to be reflected in a high number of defect reports.

Citizen's Panel Survey Results

- 4.8 A Citizen's Panel Survey was conducted in the late part of 2015 and is compared with earlier surveys.

Figure 19: Rating of general condition of council roads assets over time

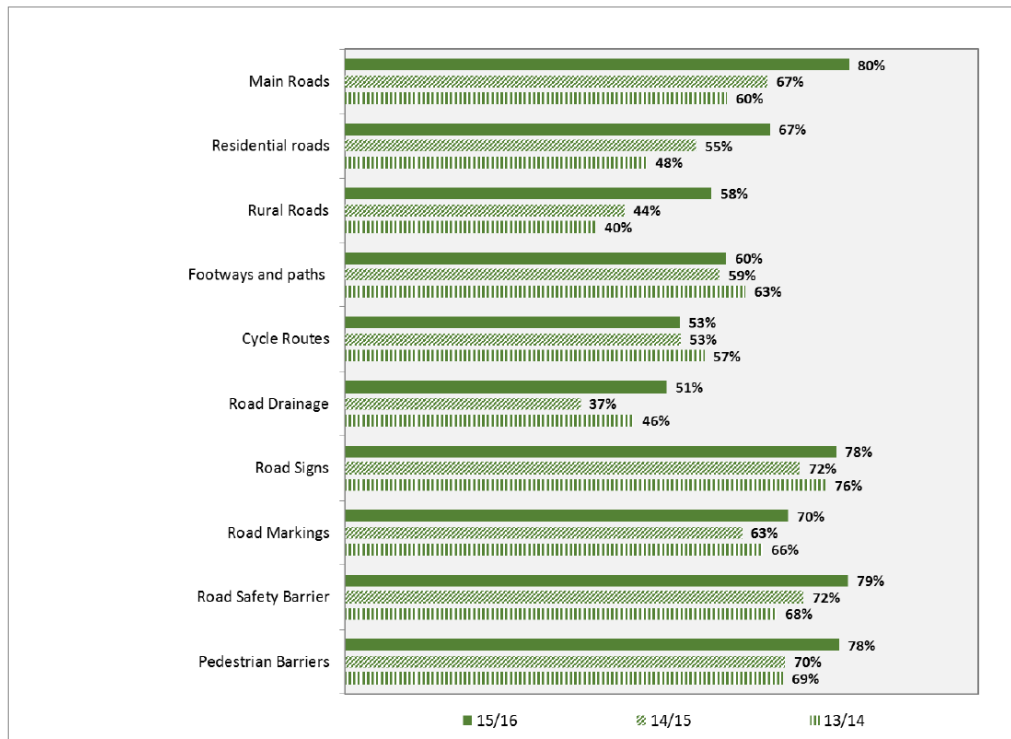


Figure 15: Rating of maintenance of council roads assets over time

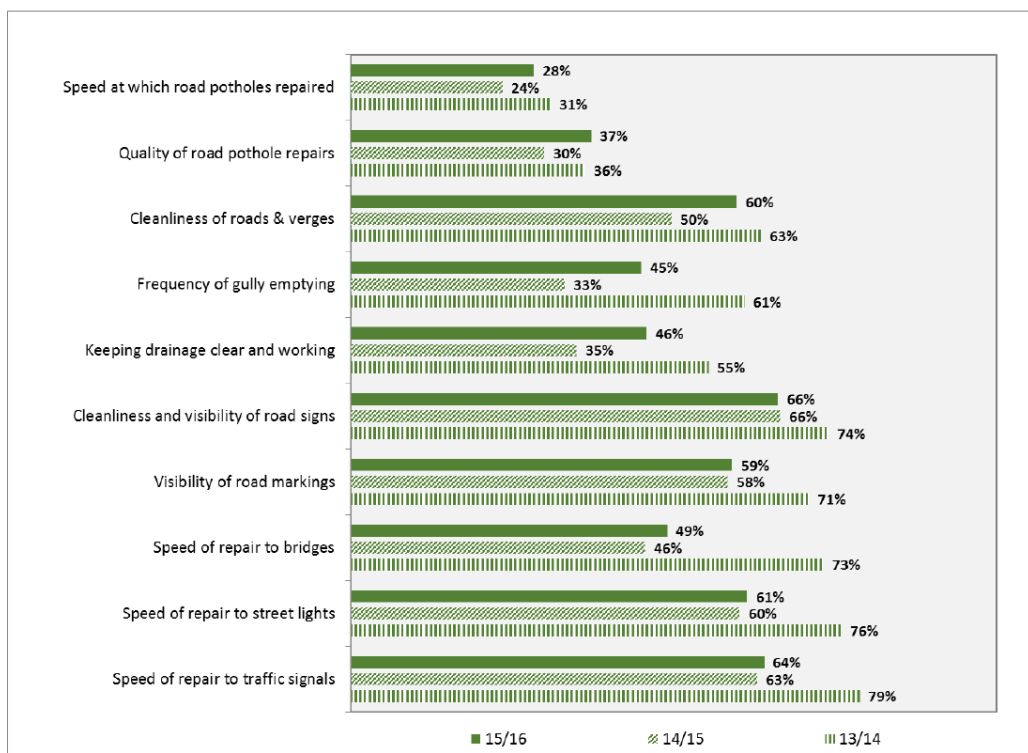
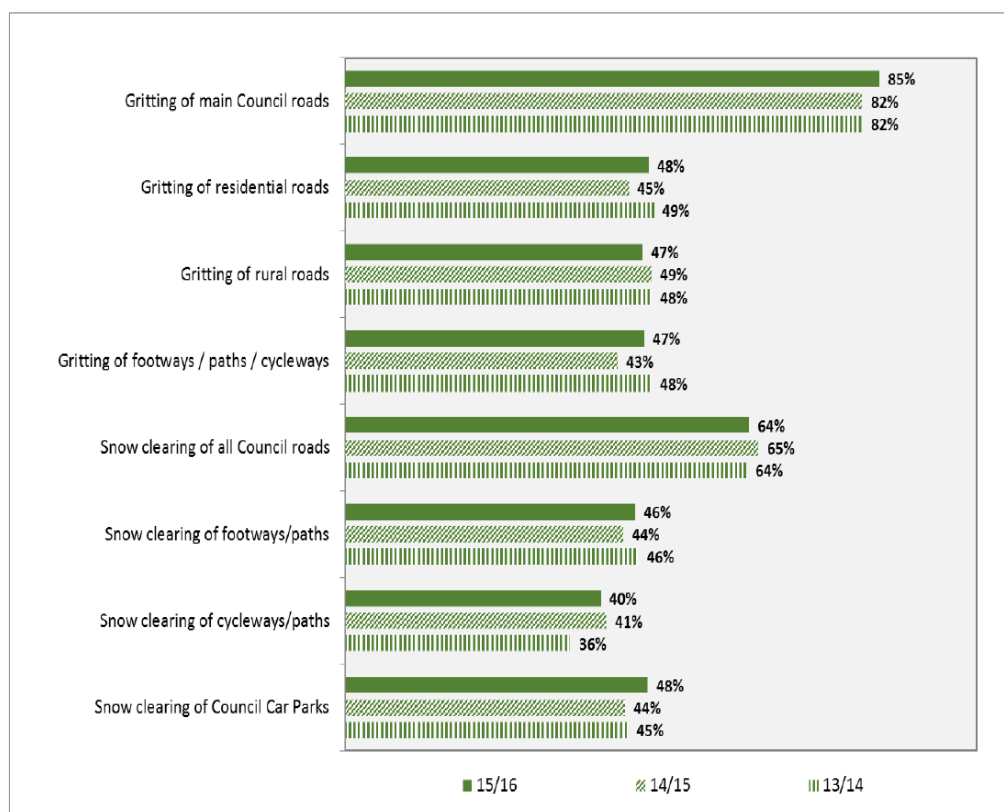
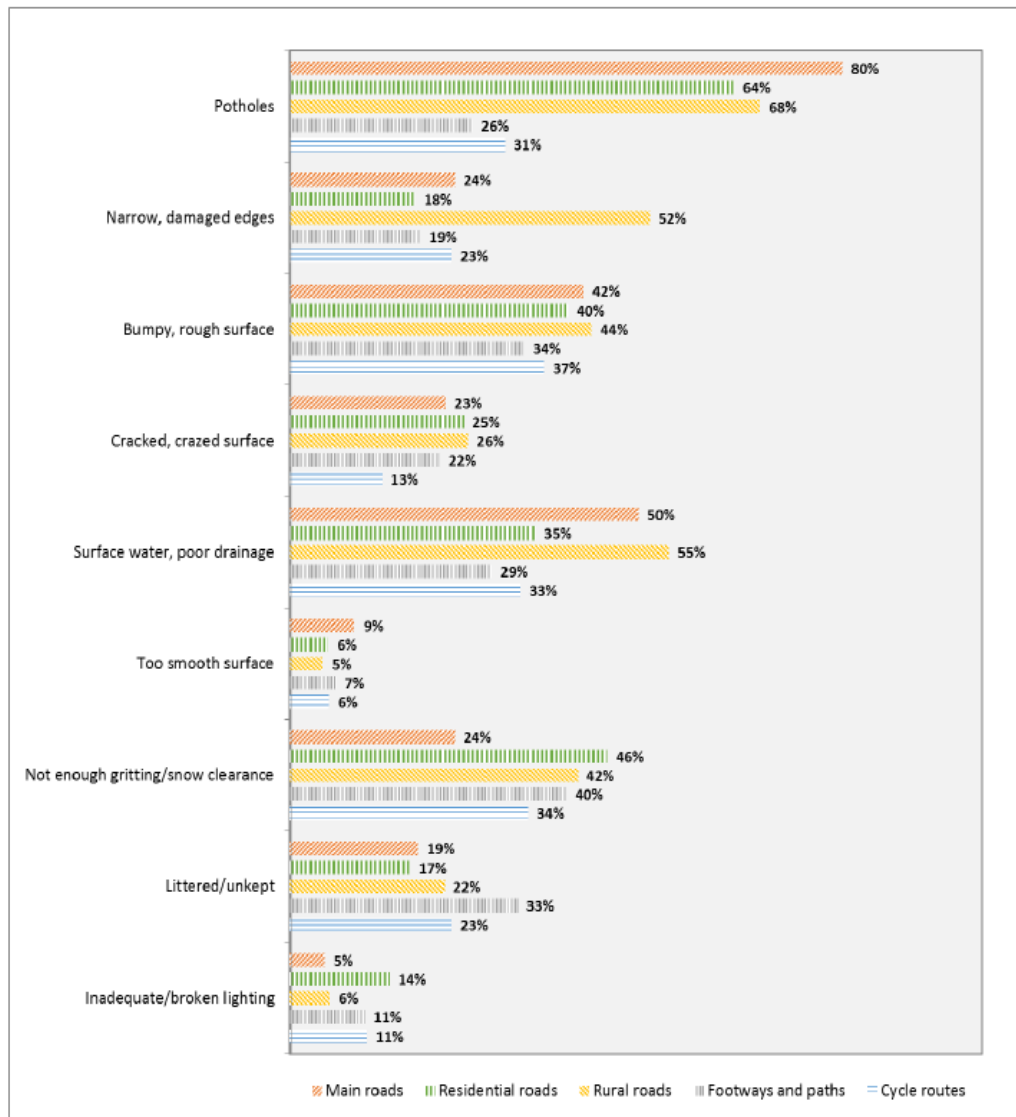


Figure 17: Rating of winter maintenance over time



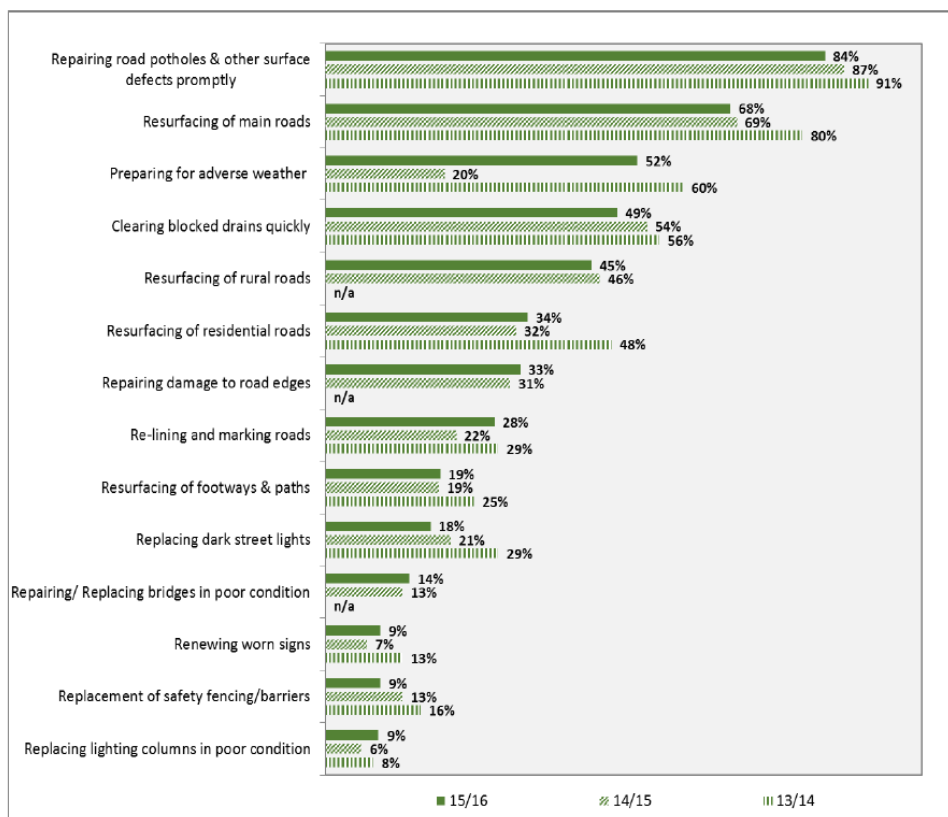
4.9 The Citizen's Panel were least satisfied with the general condition of road drainage assets, with the speed of pothole repairs and with snow clearing of cycleways and paths (remote).

Figure 20: Biggest concerns for each type of roads/footways/cycle routes



4.10 In terms of specific condition, the Citizen's Panel were again concerned about potholes, poor drainage and bumpy, rough surfaces with narrow edge damaged roads a concern on rural roads.

Figure 22: Importance of roads maintenance services



- 4.11 It is clear which aspects of roads maintenance are the panel's top priorities for maintenance.

Carriageway Condition and Backlog

- 4.12 The Scottish Road Maintenance Condition Survey (SRMCS) is undertaken annually and determines the condition of carriageways as a Road Condition Indicator:

Percentage roads that should be considered for maintenance treatment on :-	2008 / 2010	2009 / 2011	2010 / 2012	2011/ 2013	2012 / 2014	2013 / 2015	2014 /2016	2014/16 Scottish Average
A Class roads	22.0 %	23.5 %	22.6 %	22.3 %	19.3 %	20.0 %	24.5 %	29.0%
B Class roads	20.3 %	22.5 %	21.3 %	18.9 %	15.9 %	17.7 %	22.5 %	34.8%
C Class roads	21.6 %	23.3 %	23.5 %	23.3 %	21.5 %	22.2 %	23.9 %	34.7%
Unclassified	32.1 %	30.5 %	30.1 %	31.3 %	32.1 %	33.1 %	32.7 %	40.2%
All roads	26.4 %	26.6 %	26.1 %	26.1 %	25.2 %	26.3 %	27.9 %	36.7%

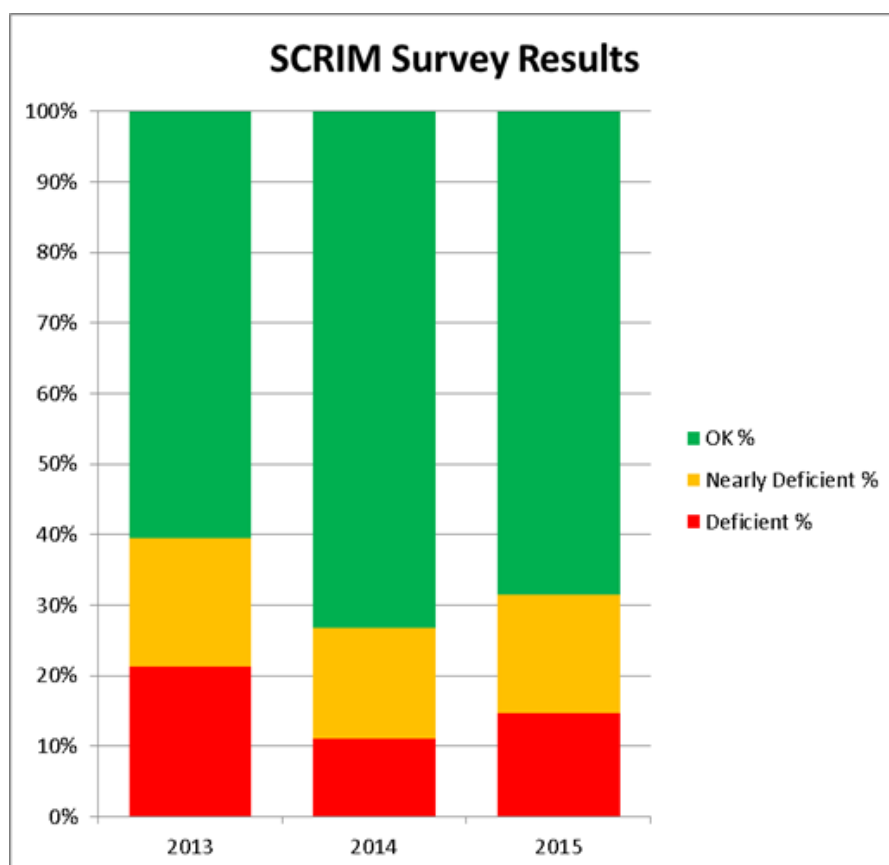
- 4.13 Overall, the condition of Moray's carriageway network has worsened (classified roads) with unclassified roads showing a slight improvement. However, the Scottish average condition has changed in the opposite direction with an overall improvement but with unclassified roads showing a slight deterioration.
- 4.14 The Society of Chief Officers of Transportation in Scotland (SCOTS) commissioned work to calculate backlog and steady state figures based on the above SRMCS results. Headline backlog is the estimated cost of bringing the carriageway network back to a defined green condition in one year.

Year	2009	2011	2013	2015
Headline backlog £000's	33,669	41,214	51,904	44,138

- 4.15 The backlog figure is produced every 2 years. Given that our road condition has worsened, officers would expect this figure to increase.
- 4.16 The estimated cost to maintain carriageway condition at current (2015) condition was £7,621k per annum which is in line with calculations done specifically for Moray. It is this figure that should be compared with the current capital allocation to carriageway treatments of £2,042k per annum.

Resistance to Wet Skidding

- 4.17 Skid resistance was measured for most A and B class roads for the last three years and are a factor in determining the programme of carriageway maintenance. The graph below shows an improving trend.

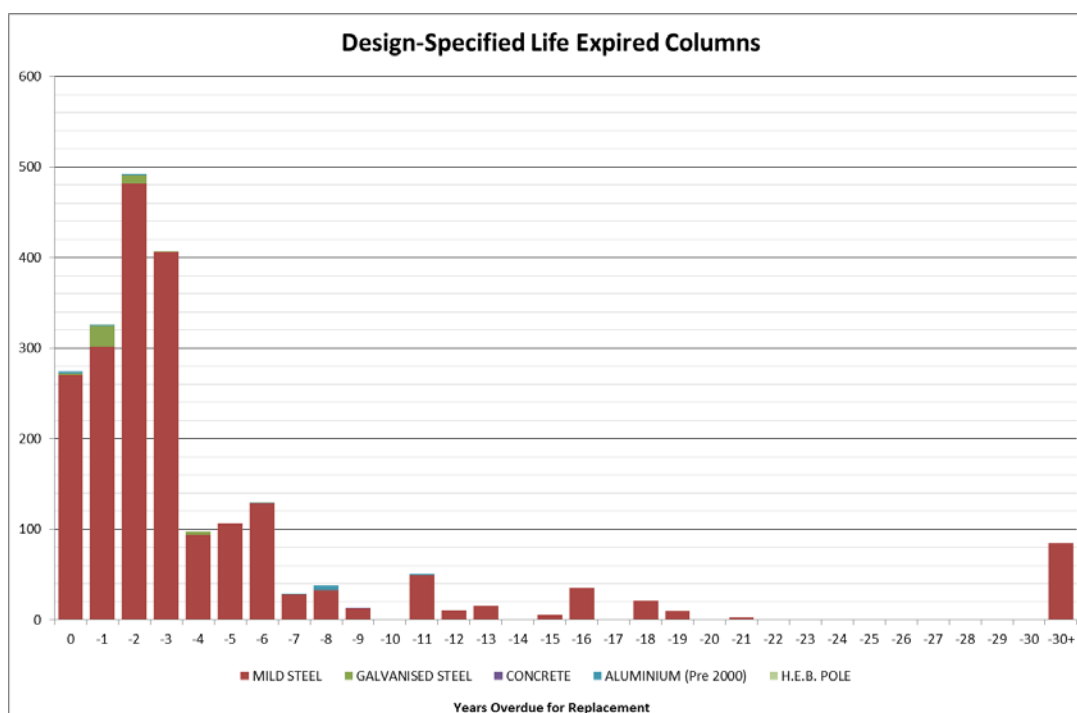


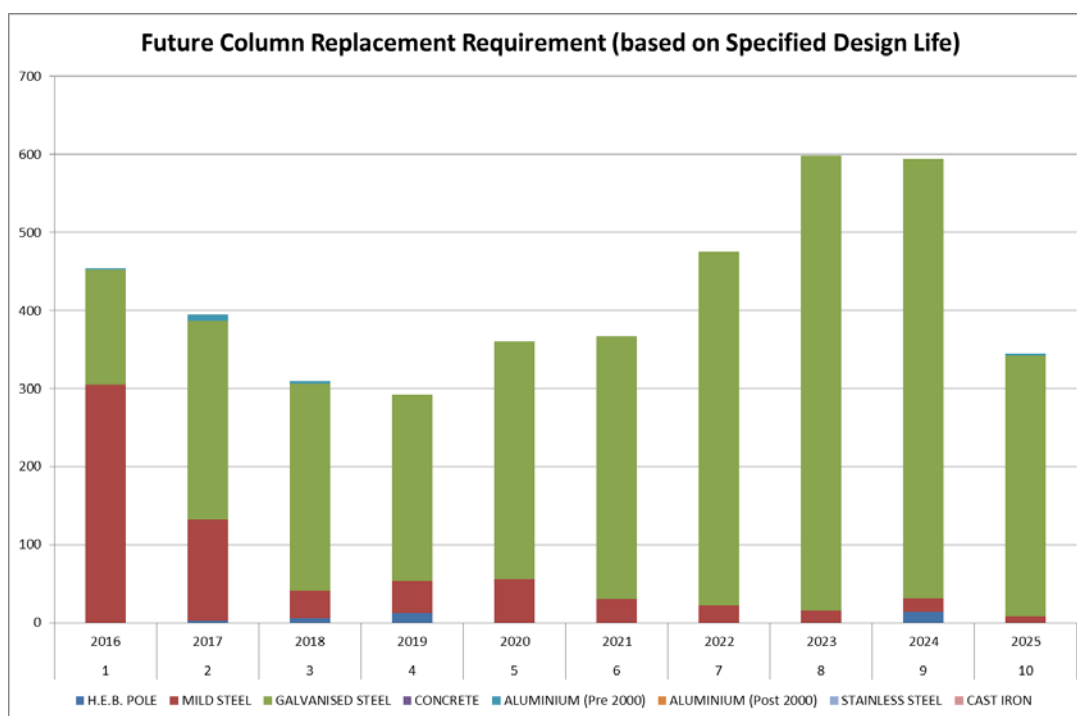
Structures

- 4.18 The Council's road bridges are in relatively good condition (average condition indicator 87.13). However, we have an above average percentage of bridges with unacceptable weight, height or width restrictions (11 bridges). In 2015/16 the annual budget was 11.3% of the estimate to repair all identified works. This excludes the cost of removing unacceptable restrictions. Because 2016/17 budgets will be similar, the condition of our bridges will deteriorate.
- 4.19 The £50k allocation reported in Appendix 1 is a revenue budget for carrying out routine maintenance that cannot be capitalised.
- 4.20 One area where our knowledge is poor is in regard to the extent and condition of retaining structures. Work is ongoing to identify these assets and record them in our database. To date we have recorded 146 retaining walls.

Street Lighting

- 4.21 Ideally, street lighting should provide an even light (a uniformity that is not too bright in areas and not too dark in other areas), that only lights up the intended areas and is sufficient for the level of traffic (residential road via main road, for example). The opportunity is taken to bring lighting up to this standard in schemes that involve column replacement but there is no specific programme that targets streets where lighting is not to an appropriate current standard.
- 4.22 The graphs below shows the number of street lighting columns that have exceeded their specified design life (2,147 columns from a total of 17,166 columns), and future column replacement forecasts excluding those columns that are already over design life.





- 4.23 Electrical testing of street lighting assets continues on a six year cycle. Much of the 2015/16 programme of street lighting replacement was driven by identified cable issues, for example King Street, Greyfriars Street and Moray Street in Elgin.
- 4.24 The draft program for next year proposes 27 schemes to replace life expired columns, where 22 of these will also deal with associated cable issues.
- 4.25 £600k was allocated in 2015/16 to start replacing less energy efficient lanterns with LED source lighting as part of a spend to save project. The work on site is relatively straight forward however, to make sure that the quality of street lighting after replacement is satisfactory (using existing columns) each area has to be designed so the correct LED lighting is ordered. Unfortunately, the street lighting section were without both design technicians for a period of several months which delayed the start of this work resulting in an underspend. The team are back to full strength and working to get this significant project delivered within the 5 year timescale.
- 4.26 The table below shows increase in number of lamps, carbon footprint, cost of electricity, etc. since 2009/10. In terms of kWh per lamp, this is starting to decrease and will do so at an increasing rate over the next 5 years as the programme to install LED lanterns accelerates.

Year	Total Lamps	Total kWh	Total CO ₂ (tonnes)	Total Cost (£)	kWh per Lamp
2009-2010	18,272	5,802,586	3,139	609,000	317.57
2010-2011	18,389	5,819,943	3,148	568,000	316.49
2011-2012	18,569	6,230,159	3,370	574,000	335.51
2012-2013	18,813	6,131,015	3,316	636,000	325.89
2013-2014	19,010	6,296,373	3,406	601,000	331.21
2014-2015	19,103	6,310,058	3,363	639,000	330.32
2015-2016	19,372	6,272,243	3,280	650,000	323.78

Drainage and Other Assets

4.27 Outturn expenditure with this asset group is estimated to be:

	Income	Expenditure
Capital allocation	606,000	
Planned Works		575,000
Emergency works (land slips due to flooding)		35,000
50% grant from Scottish Timber Transport Group	85,463	
Total	691,463	610,000

- 4.28 Funding from the Scottish Timber Transport Group was allocated to cover 50% of the cost of drainage works planned on preferred routes for timber extraction.
- 4.29 This budget was allocated across 77 schemes, with most of the work done through the autumn and winter and therefore affected by the demands of providing a winter maintenance service. Having allowed the number of roadworkers to fall to 80 from an establishment figure of 90 (following cuts in revenue and capital budgets) means that stopping to provide a winter service is more disruptive to ongoing planned works.
- 4.30 Moray avoided the flooding that badly affected our neighbours in Aberdeenshire and City in January 2016. We did have roads closed due to landslips but these were quickly opened - at Auchindoun, the A920 Dufftown to Huntly road was closed overnight on the 7th January but cleared and re-opened on the 8th January. There was a small landslip on the Trochail Road which has now been repaired. Emergency works to deal with these cost £35k.

- 4.31 Staff has since discovered a landslip on the A941 Cabrach road near Laggan Farm, at the base of a retaining wall supporting the road. A preliminary estimate to stabilise the retaining wall foundation is £55k subject to a structural analysis of the situation.

Footways

- 4.32 There is a forecast underspend of £91k against a £511k budget for these works due to resource issues. A report to Policy and Resources Committee on the 9 June 2015 (para 9 of the minute refers) noted that 'An underspend of £117,000 was incurred in the footways resurfacing budget due to resource issues and approval is requested to carry forward £117,000. This carry forward would be into 2015/16 in the first instance but it may be that the programme of work requires to be profiled over 2015/16 and 2016/17'.
- 4.33 Where such work is required, footways that are subject to planned street lighting works and would otherwise have trench reinstatements are planned to be fully resurfaced from the footways budget. Unfortunately technical staff shortages in street lighting (see para 4.25 above) have impacted on these planned works.

Winter Maintenance and Other Emergencies

- 4.34 Moray's winter maintenance budget has remained much the same since 2006/07 whilst actual expenditure has risen as detailed below:

	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015
Winter Maintenance Expenditure £,000	1,774	2,065	2,586	3,679	3,249	2,145	2,688	1,567	1,990

- 4.35 Ignoring the least and most costly winters, the average cost of winter maintenance is £2,356k against a budget of £1,805k.
- 4.36 Other expenditure amounts to £40k for dealing with wind damage, oil spills, flooding, etc.
- 4.37 Dry salt was used from the salt barn in Elgin from just before Christmas 2014. Salt spread rates are defined for different winter conditions. For Elgin gritters, spread rates were reduced where appropriate taking into account that the salt is dry. Feedback from operatives continues to be very positive with the potential for blockages in gritters almost eliminated which is a further cost saving. The table below compares different treatments ordered per each route per occasion.

Year/grams per sq m	Salt 10	Salt 15	Salt 20	Salt 25	Salt 30	Mix 20	Mix 30	Mix 40	Sand 40	Total
2004-2005	27	558	700		120	239	142	687		2473
2005-2006	52	1288	835		49	192	272	395		3083
2006-2007		1055	1053		27	70	119	80		2404
2007-2008	2	1032	1406		678		128	91		3337
2008-2009		785	1482		423	9	564	9		3272
2009-2010		383	617		175	299	2203	27	72	3776
2010-2011		99	516		73	1941	755	2	36	3422
2011-2012	2	959	1113		143	12	43			2272
2012-2013		1656	1853		26	27	415			3977
2013-2014		1385	895			11	16			2307
2014-2015	244	1056	1183	8	115	25	60	0	0	2691
2015-2016 to 31/1/16	226	619	658			23	12			

- 4.38 Based on the Code of Practice, without the salt barn, 226 Elgin based treatments at 10g/sq m would have been 15g/sq m. Because there has been limited snow this year so far, no 30g/sq m treatments have been ordered.
- 4.39 At the time of writing this report, it is estimated that Winter Maintenance and Other Emergencies will be above budget at year end. Further statistics on salt use and number of winter treatments are provided in **APPENDIX 2**.

Roads Maintenance (Revenue)

- 4.40 It is estimated that revenue expenditure on roads maintenance will be 4% under budget, influenced by relatively benign weather and a focus on capital financed works.

5. CONSIDERATIONS

- 5.1 Apart from an allowance for wage increases, the budget for 2016/17 is the same as for 2015/16.
- 5.2 Especially as budgets decline, there is increased potential to question why one section of road has been identified for treatment against another section where no work is planned. The following describes the criteria for selecting works to be programmed.
- 5.3 In drawing up a programme of work various criteria are applied to produce a 'first pass' list of works. For example, the criteria shown below are for A class roads.
- Texture ≤ 0.4 (0.3 in urban areas) – consider surface dressing.
 - Texture ≤ 0.6 plus Whole Carriageway Cracking ≥ 0.15 - consider surface dressing.
 - Profile (3 metre) ≥ 10 plus Whole Carriageway Cracking ≥ 0.2 - consider moderate thickness overlay (surfacing).
 - Rut depth ≥ 20 – consider thick overlay (surfacing).

- Rut depth ≥ 20 plus Whole Carriageway Cracking ≥ 2.0 - consider reconstruction.
- 5.4 This information is then considered by technical teams, along with the resistance to wet skidding results described in Para 4.17 above. Using their detailed knowledge of the Moray roads network the teams will refine this into an affordable list of planned works for 2016/17 which aims to achieve best value within the resources available.
- 5.5 We are, however, continuing to see examples of carriageway surfaces that exhibit none of the above faults but the surface layer binder is no longer effectively binding the aggregate. These surfaces can quickly start to unravel (promoted by winter/wet weather) resulting in potholes.
- 5.6 There are a number of National Codes of Practice that have to be considered in determining standards applied to roads, bridges, street lighting and winter maintenance. There are some areas where this Council apply lesser standards and those were reported to Committee on the 11 March 2014 (para 13 of the minute refers). A review is being undertaken to update these Codes of Practice but has been delayed. The outcome of which will be reported to Committee in due course but there will be a change away from a prescriptive approach to dealing with hazards (e.g. potholes in a priority 1 carriageway deeper than 40mm should be treated as requiring an emergency repair) to a risk based approach that will consider likelihood and consequences so, for example, a defect away from the normal line of travel is less likely to cause a problem so will be a lesser priority to fix. This will require an examination of current practices and significant staff training.

6. **SUMMARY OF IMPLICATIONS**

(a) Moray 2023: A Plan for the Future/Service Plan

Several objectives of the Moray 2023 plan are influenced by the condition of the public roads network.

A Growing, Diverse and Sustainable Economy – the public road network is used by all sections of society, to access shops and services and to transport goods within and to and from Moray.

Adults living healthier, sustainable independent lives safeguarded from harm – encouraging active travel options of walking and cycling require well maintained and well lit facilities.

Safer Communities – road and footway hazards have the potential to cause injury. Street lighting contributes to making communities safer.

(b) Policy and Legal

The Council is responsible for the maintenance of 1554km of road, 378 bridges, and 17,166 street lighting columns which have been adopted by the Local Authority in terms of the Roads (Scotland) Act 1984. The Act places a duty on the Local Authority to maintain the roads, lighting

units and structures so adopted, but does not prescribe the level of maintenance to be delivered.

Codes of Practice for Highway Maintenance Management, Management of Highway Structures and for Highway Lighting Management identify good practice and consideration has to be given to this advice.

The Council have agreed standards for response to identified roads and lighting defects (public performance standards).

The Council's Winter Maintenance Policy and Procedures set out requirements in relation to provision of a winter maintenance service.

(c) Financial implications

The proposals detailed in this report can be accommodated within the relevant 2016/17 revenue allocation. The Council's capital plan will be discussed on the 30 March 2016. The capital expenditure proposals described in this report are subject to decisions made at that meeting.

(d) Risk Implications

There is a risk of exceeding revenue budget although every attempt will be made not to do so. Pressure on general maintenance budgets will increase in terms of reactive maintenance as carriageway conditions deteriorate. However, it is significantly influenced by weather events. Winter budgets are likely to be exceeded as the amount allocated is below the average cost of winter based on the last 9 years.

It is judged that the provision of a winter maintenance service required a minimum workforce of 90 so that it could be delivered in line with Council Policy and in accordance with legislation on health and safety, driver's hours and working time directives whilst allowing for vacancies and absences. A smaller workforce of 80 has reduced this contingency. This will have a consequence on the Council's ability to react to other events such as flooding and storms.

(e) Staffing Implications

There are no direct staffing implications because vacancies and overtime are being managed. Staffing levels within Roads Maintenance were held below establishment levels following budget reductions in 2014/15.

(f) Property

There are no property implications as a result of this report.

(g) Equalities

There are no equalities implications as a result of this report.

(h) Consultations

L Paisey, Principal Accountant, Legal Services Manager (Property & Contracts) and The Equal Opportunities Officer have been consulted and any comments taken into consideration.

CONCLUSION

- 7.1 The Committee is asked to note the estimated outcome against programmed expenditure set for 2015/16, to note condition of the carriageway asset group as described in this report, to agree the approach taken to managing the different asset groups and to agree the split of revenue and capital allocation to the various maintenance headings and asset types for 2016/17.**

Author of Report: Bill Ross, Roads Maintenance Manager

Background Papers:

Ref:

Appendix 1

	2015/2016 end of year budget	2015/2016 Estimated Expenditure		2016/2017 Allocation (subject to reports to Council on revenue and capital budgets)
Capital			-	
Carriageway			-	
Resurfacing/Reconstruction	£1,996,000	£1,063,000	-	£2,042,000
Surface Dressing (recently resurfaced roads)	incl. above	£993,000	-	incl. above
Drainage and Other Assets			-	
Replacements	£682,000	£610,000	-	£560,000
Footways, footpaths and steps	£511,000	£420,000	-	£394,000
Column Replacement	£739,000	£739,000	-	£725,000
Replace SOX and SON lights with LED lights	£600,000	£260,000	-	£1,100,000
Passing Places	£50,000	£40,000	-	£50,000
Sub-total	£4,578,000	£4,125,000	-	£4,871,000
Winter Maintenance	£1,805,436	£2,008,000	-	£1,805,436
Other Emergencies	£0	£28,000	-	
Sub-total	£1,805,436	£2,008,000	-	£1,805,436
Electricity			-	
Signs	£12,000	£12,000	-	£12,000
Lighting	£655,300	£650,000	-	£570,000
Sub-total	£667,300	£662,000	-	£582,000
Revenue Budget (Roads Maintenance)			-	
General Maintenance	£1,485,000	£1,412,000	-	£1,485,000
Footway Works	£20,000	£20,000	-	£20,000
Bridge Works	£50,000	£50,000	-	£50,000
Traffic Works	£150,000	£152,500	-	£150,000
Drainage and Other Works	£20,000	£20,000	-	£20,000
Lighting Maintenance	£257,000	£250,000	-	£257,000
Sub-total	£1,982,000	£1,904,500	-	£1,982,000
revenue	£4,454,736	£4,574,500	-	£4,369,436
TOTAL	£9,032,736	£8,699,500	-	£9,240,436

Items shaded grey were
adjustments to budget.

Appendix 2

