PERTH AND KINROSS COUNCIL

Strategic Policy and Resources Committee

17 June 2015

ROADS ASSET MANAGEMENT PLAN 2015 - 2020

Report by Depute Director (Environment)

PURPOSE OF REPORT
The Roads Asset Management Plan (RAMP) has been produced to detail the Council's strategy for maintenance of the road asset and to inform future capital investment.

1. BACKGROUND

1.1 The Roads Asset Management Plan (RAMP) sets out the Council's plans for the management of the Council's Roads Asset for the next 5 years. It has been produced in accordance with national guidance and recommended good practice developed through the Society of Chief Officers of Transportation in Scotland (SCOTS) / County Surveyors Society of Wales (CSSW) Roads Asset Management Project.

1.2 The plan has been written to provide an overview of the policy drivers and investment decisions that affect the provision and maintenance of this network. An update Status and Options report will be submitted on an annual basis to ensure the plan remains relevant and current.

1.3 It has been projected that the population of Perth and Kinross will have increased by 24% by 2037 creating even greater demands on the road network and associated infrastructure. Funding levels continue to be constrained yet the customer expectations of the levels of service continue to increase.

1.4 For the Council it is vitally important that the road infrastructure is maintained efficiently and that the best value possible is obtained from budgets.

1.5 It is anticipated that asset management will be used to inform the budget setting process, target spending and help predict the impact that funding levels may have on the on-going condition of the asset.

1.6 Perth and Kinross Council are responsible for a road network of 2,442 km and with a Gross Replacement value of £ 2.1 billion before the value of its associated infrastructure (street lighting, structures, traffic management) is included. This makes the Roads network the Council's most valuable asset and the only one which is relied upon every day by every citizen and visitor alike.

1.7 The 2013 carriageway backlog figure was calculated at £2.072bn. This year's calculation is £2.015bn which is a reduction of 2.8% (despite a 1.6% estimated increase in the cost of repairs).

2. PROPOSALS

Roads Assets

2.1 The Road Asset Management Plan (RAMP) records the Council's plans for the maintenance of the Roads Asset. The "Road Asset" comprises of carriageways, footways, structures, street lighting, traffic management systems and street furniture.

2.2 The Council's Roads Assets covered by this plan are:

Asset Type	Amount	Comments
Carriageways	2442km	
Footways and cycle tracks	1247km	Estimated Value
Structures: Bridges, culverts & subways	952	
Structures: Retaining Walls	62	Estimated Value
Street Lighting	25075	
Illuminated Signs	2322	
Street Furniture	47574	Estimated Value
Traffic Signals (junctions)	47	
Pedestrian Crossings	60	
Other Traffic Management Systems	61	

Inventory Data

2.3 This plan is based upon currently available inventory data for Roads Assets, for some minor Roads Assets inventory data is not currently held, however, an attempt has been made to incorporate these assets within this plan using local estimates and sample surveys.

Demands

Asset Growth

2.4 The asset grows each year due to the adoption of new roads and the construction of new road links. Over the last 3 years the following additional assets have been adopted by the council:

- 16 km Carriageways
- 300 columns Street Lighting
- 6 Puffins crossings (Pedestrian crossings)
- 3 Junctions
- 3 Weather stations (Street Furniture)

2.5 New assets create the need for maintenance, management and associated funding in future years as these additional assets age. For additions to street lighting there is an immediate impact as the Council's overall energy cost increases immediately exacerbating the effect of rising energy prices. However, in accordance with the Council's Carbon Management/Energy Reduction Plan, the effects of this are, in part, mitigated by installing new energy efficient (LED) lanterns.

Environmental Conditions

2.6 Pressure is also being placed upon the asset as a result of environmental conditions including:

- Flooding: many areas within Perth & Kinross are prone to flooding. In November 2014, for example, there were fourteen flood warnings in place over one week with severe flooding difficulties causing damage to property, embankments, bridges and the general road infrastructure.
- Harsh winters: recent unseasonably harsh winters have caused significant damage to road surfaces resulting from freeze/thaw action. Both of the above issues have impacted on the frequency and severity of collapses to retaining walls, bridge abutments and embankments.

Service Standards

2.7 The Roads Asset Management Plan is based upon delivering the service standards below. The standards reflect the previously approved funding levels for roads asset maintenance summarised in section 3.2 of the report and represent the standards that customers can expect from the Council's Roads Assets during the plan period. Details of how the specific measures shown below are calculated are included in the Council's roads maintenance inspection manual. Relevant specific measures for Structures are in accordance with the Department for Transport's approved Code of Practice for Management of Highway Structures.

Service		Measured By	Target Standard	
			Standard	Target Compliance
Carriageways				
Safety	Safety Inspections	Undertake routine carriageway safety inspections on Category 2 and 3 at intervals of	1 month	100%
		Undertake routine safety inspections on Category 4(a) Link Road at intervals of	3 months	100%
		Undertake routine safety inspections on Category 4(b) Local Access roads at intervals of	1 year	100%
	Defect Reporting	Category 1 defects shall be rectified or made safe within	3 hours	100%
		Category 2 defects shall be rectified or made safe within	1 day	100%
		Category 3 defects shall be rectified or made safe within	7 days	80%

Service		Measured By	Target Standard	
			Standard	Target Compliance
Footways				
Safety	Safety Inspections	Undertake routine safety inspections on Prestige Area footways at intervals as described	2 weeks	100%
		Undertake routine safety inspections on Primary Walking Routes at intervals as described	1 month	100%
		Undertake routine safety inspections on Secondary Walking Routes at intervals as described	3 months	100%
		Undertake routine safety inspections on Linking Footways at intervals as described	6 months	100%
	Defect Reporting	Undertake routine safety inspections on Local Area Footways at intervals as described	1 year	100%
		Category 1 defects shall be rectified or made safe within	3 hours	100%
		Category 2 defects shall be rectified or made safe within	1 day	100%
		Category 3 defects shall be rectified or made safe within	7 days	80%

Service	Measured By	Target Standard	
		Standard	Target Compliance
Street Lighting			
Safety	Electrical testing of all equipment shall be undertaken at a frequency of	6 years	100%
	Emergency faults shall be made safe or repaired within 4 hours of notification	4 hours	100%
Condition	The percentage of street light columns exceeding their expected service life (ESL) should be no more than	25%	100%
	A non-emergency fault shall be rectified within 7 working days (Single Outage)	7 days	100%
	Average time taken to repair faults to restore lamps to working order	2.6 Days	100%

Service	Measured By	Target Standard	
		Standard	Target Compliance
Structures			
Safety	Carry out General Inspections at a maximum frequency of 2 years. Excluding structures programmed for a Principal Inspection.	2 years	100%
	Carry out Principal Inspections at a maximum frequency of 6 years.	6 years	100%

Service	Measured By	Target Standard	
		Standard	Target Compliance
Structures			
	Carry out Scour Inspections at a maximum frequency of 6 years.	6 years	100%
Condition	Attend non-emergency maintenance call outs within 7 days.	7 days	100%
	Maintain all Structures such that the BSCI ($_{ave}$) remains above	85%	100%
	Maintain all Structures such that the BSCI ($_{crit}$) remains above	75%	100%
	Maintain all Structures such that the number of structures with a BCI_{ave} indicating a poor condition remains below	10% of stock	100%
	Maintain all Structures such that the number of structures with a BCI_{crit} indicating a poor condition remains below	10% of stock	100%
	The total number of weight restricted bridges within the authority shall remain below	1% of stock	100%
	The number of sub-standard structures subject to BD79 monitoring within the authority shall remain below	2% of stock	N/A

Service	Measured By	Target Standard	
		Standard	Target Compliance
Traffic Signals			
Safety	Attendance at Major faults shall be within 4 hours	4 hours	100%
	Attendance at Minor faults shall be within 24 hours	24 hours	100%
	Undertake electrical inspections for electrical assets at each installation every year	1 year	100%
Condition	Initial repair of major faults shall be within 1 hour	1 hour	100%
	Initial repair of minor faults shall be within 24 hours	24 hours	100%
	The percentage of traffic signal installations exceeding their ESL should be no more than	20 years	100%

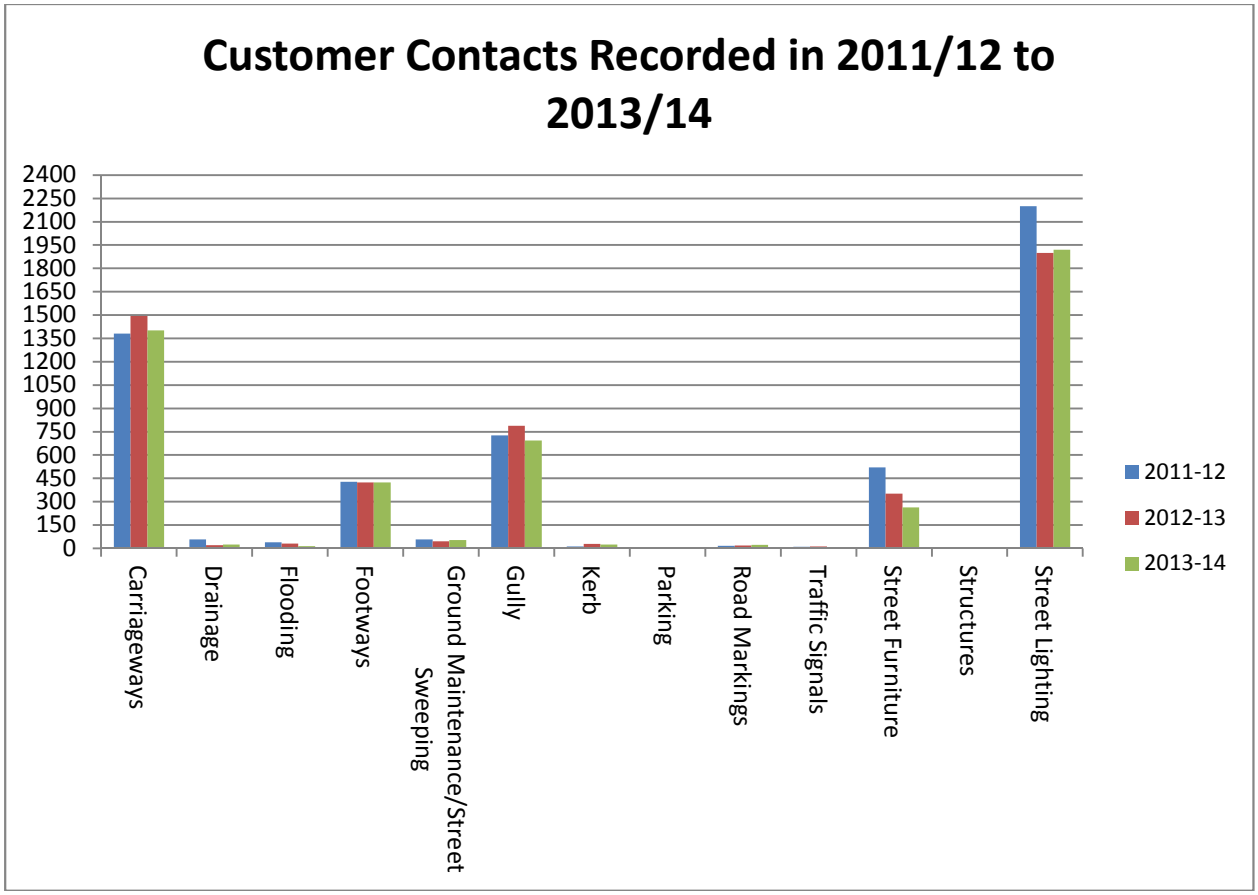
2.8 Actual performance achieved will be reported to the Enterprise and Infrastructure Committee in the annual status report in November 2015 and annually thereafter.

Customer Preferences

Customer Contacts

2.9 Customer contacts in relation to the roads assets are recorded in the Council's customer relationship management system (CRM).

2.10 A summary of the contacts received for Roads by category is shown below for 2011/12 to 2013/14:



Total Calls Received

	2011-12	2012-13	2013-14
Total	5453	5113	4849

2.11 The results show that customer contacts to the council are predominantly in regard to street lighting which reflects the importance of this service to the public. The other area of major concern is carriageway defects, which reflects the general deterioration and condition of the carriageway.

2.12 It should be noted that a number of these calls, once investigated, relate to work which is the responsibility of the various public utilities companies and not of Perth & Kinross Council.

2.13 Since 2011-12 the number of calls received regarding the roads asset has fallen by 12%. This would indicate that in general the public have fewer complaints about the road asset.

2.14 The chart above shows that the highest number of customer contacts were related to street lighting. An analysis of these calls provides the following information;

- In 2013/14, 96.20% of street lighting faults were repaired within 7 days; the Scottish average is 93.48%.
- The average time to repair a street lighting fault was 2.33 days; the Scottish average is 4.02 days.
- Public calls to report street lighting faults were 7.65% of total number of street lights; the Scottish average is 13.90%.

3. Financial Summary

Planned Funding

3.1 The service standard targets shown in section 2 are based upon the following Council approved funding levels. In future years, Perth & Kinross Council will require to decide upon the level of funding for the roads network, taking into account the information and options supplied in the complimentary Asset Status and Options Reports (ASORs). Any updates required to the RAMP will then be made.

3.2 The RAMP is based upon the Council's approved 5 year Capital Programme, together with the assumption that annual revenue expenditure on network maintenance remains constant at 2014/15 levels.

3.3 It should be noted that the £8.69m per annum budget allocated to carriageways and footways does not address the backlog of repairs requiring to be carried out on the road and associated infrastructure. The backlog in road repairs alone (excluding bridges and walls, traffic signals and street lighting) has been recalculated at £85.1 million (2015). To achieve a steady state condition, ie no better or worse, roads alone would require £11m per annum. The Council have recognised this fact and have over the last 3 years committed an additional £2.6m to road repairs, £750k to landslips and in 2015/16 settlement an additional £1m for repairs to road structures. Due to budget pressures these contributions are non-recurring budget additions and will be considered annually through the budget process.

3.4 The Code of Practice recommendation for resurfacing (top 40 to 70mm of road) is that 4% of the carriageway network should be resurfaced annually. In Perth & Kinross this equates to 98km and would ensure that the entire network surface is replaced every 25 years. Currently in PKC we are resurfacing 17km or 0.69% annually, thus equating to resurfacing the entire network every 144 years.

Asset	Works	Funding in Financial Year £'000			Long Term Funding Assumed £'000
		14/15	15/16	16/17	Y3-Y20 pa
Carriageways	Reactive	2,500	1,700	1,535	1,535
	Planned	7,053	6,884	6,682	6,682
Footways	Reactive	41	41	41	41
	Planned	530	422	435	435
Structures	Revenue	1,178	372	372	372
	Capital	1,574	456	0	760*
Street Lighting	Energy Costs	1,239	1,239	1,239	1,239
	Reactive	562	509	309	309
	Planned	497	161	161	693**
Traffic Signals	Energy/Com760munication Costs	78	78	78	78
	Reactive	51	51	51	51
	Planned	136	168	170	177
Totals:		**15,439**	**12,081**	**11,073**	**12,372**

*Non Recurring split over multiple years
**£231,000 in 2017/18, 2018/19, 2019/20 only

Historical Expenditure

3.5 Historical expenditure invested in works on the Roads Asset is shown below:

Asset	Works	Historical Expenditure £'000		
		11/12	12/13	13/14
Carriageways	Capital	7,024	8,369	9,953
	Revenue	3,155	2,125	2,630
Footways	Capital	2,093	430	533
	Revenue	0	0	0
Structures	Capital	655	1,470	3,806
	Revenue	174	206	258
Street Lighting	Energy Costs	764	1,169	1,072
	Capital	456	406	575
	Revenue	446	456	419
Traffic Signals	Energy/Communication Costs	58	75	69
	Capital	60	154	44
	Revenue	137	113	118
Totals:		**15,022**	**14,973**	**19,477**

3.6 It should be noted that the figures in the above table include investment in structures for specific capital schemes which is over and above the maintenance requirement. This included:

(a)	Lair/Cray Junction Improvement	£2.66m
(b)	St Leonard's Bridge	£1.12m
(c)	Port na Craig	£0.91m
(d)	Chesthill Culvert	£0.28m
(e)	Allt Phubil	£0.27m

3.7 In 2013 with the benefit of Salix funding, Perth and Kinross Council replaced 850 135w SOX lanterns with LEDs. This project delivers annual energy savings of 495,637kWh which represents a 71% reduction in energy consumption. It provides a cost saving of £59,476 per year in energy costs and a carbon reduction of 6728 tonnes of CO2 over the 20 year life of the luminaires. There are also benefits from greater reliability and reduced maintenance costs. The capital cost of £368,475 with 0% interest will be paid back within 7 years.

4. ASSET INVESTMENT STRATEGIES

Carriageways and footways

4.1 The Road Maintenance Strategy, approved by Enterprise and Infrastructure Committee on 2 April 2014 (Report No.14/156 refers), details the strategy for investment which enables the service standards in Section 2 to be delivered. Based on the results from SRMCS(Scottish Roads Maintenance Condition Strategy) the A Class road network has deteriorated whilst the B Class, C Class and U Class networks have remained relatively static. This information has informed the Roads Maintenance Strategy which focuses upon addressing the deterioration of the A Class network and therefore improving our main transport links. Perth & Kinross Council does, however, recognise that many of our residents live in communities served by the lower class road network and the strategy has been developed to maintain the current condition of these roads whilst focusing upon improving the A Class network.

Street Lighting

4.2 The aim of the draft Street Lighting policy is to ensure that all street lights are operating 99% of the time and all columns are in a safe condition. The night time inspection process enables non functioning or 'dark lamps' to be identified and repaired within a seven day response time.

4.3 The structural testing programme enables columns in poor condition to be identified and replaced before failure occurs.

4.4 The Council has developed a Carbon Management / Energy Reduction Plan which has highlighted major CO2 emission savings available through improved street lighting management. All street lights which meet the appropriate criteria are dimmed between midnight and 6am. A government led

initiative to replace lanterns with new energy efficient (LED) lanterns has been agreed to replace the most inefficient street lights.

Structures

4.5 The Council's structures team carries out regular inspections on the bridges stock and records the condition using the bridge condition indicator. Despite recent increases in funding, the current bridge stock condition shows that there is still a shortfall of funding available to address structures which require urgent repair.

4.6 To date the Council has identified 302 structures that require either strengthening or repair works. The strategy developed is to reduce this backlog by focussing initially on those structures that are considered to be a high priority. The nature of the schemes means that funding requirements will change each year. The table below shows the number of structures progammed for works in future years.

Category	**Strategy**	**Comments**				
Repair & Strengthening Works	Repair of defects to current intervention standards and response times.	The strategy requires the deployment of contractors to carry out emergency and non-emergency repairs & strengthening works. (Bearing replacement, Waterproofing replacement, Painting, Joint repair/ replacement, Pointing, strengthening works, etc.)				
Structure Type	Work Type	**Total No of Structures Requiring Works**	**Works for 2015/16**	**Works for 2016/17**	**Works for 2017/18**	**Works for 2018/19**
Bridges, Culverts & Retaining Walls	Strengthening & Repair Works	302	56	20	20	20

Traffic Management Systems

4.7 The aim of the traffic signals team is to ensure that all traffic signals are operating 100% of the time and all equipment remains in a safe condition. Installations are replaced only following obsolescence due to life expiry or external damage. Further work is required to produce a formal strategy for traffic signals. Where possible installations are replaced as a whole rather than replacing individual items of equipment. The table below shows the progamme of works in future years.

<table>
<tr><th>Category</th><th>Strategy</th><th>Comments</th></tr>
<tr><td>Routine and Reactive Repair</td><td>Repair of defect to current intervention standards and response times.</td><td colspan="5">The strategy is achieved through the maintenance contract between the Council and the successful signal maintenance contractor, and the arrangement with Tayside Contracts for minor repairs as required.</td></tr>
<tr><td rowspan="3">Refurbishment of signalised junctions</td><td rowspan="3">Refurbishment of junction that have deteriorated or the equipment has become obsolete/unreliable</td><td colspan="5">The strategy is predicted to require the approximate annual quantities of junctions to be renewed:</td></tr>
<tr><td></td><td>2015/16</td><td>2016/17</td><td>2017/18</td><td>2018/19</td></tr>
<tr><td>Junction Renewals</td><td>1</td><td>1</td><td>1</td><td>1</td></tr>
<tr><td rowspan="3">Refurbishment of signalised crossings</td><td rowspan="3">Refurbishment of signalised crossings that have deteriorated or the equipment has become obsolete/unreliable</td><td colspan="5">The strategy is predicted to require the approximate annual quantities of pedestrian crossings to be renewed:</td></tr>
<tr><td></td><td>2015/16</td><td>2016/17</td><td>2017/18</td><td>2018/19</td></tr>
<tr><td>Pedestrian Crossing Renewals</td><td>1</td><td>1</td><td>1</td><td>1</td></tr>
</table>

5. RISKS TO THE PLAN

5.1 The risks that could prevent achievement of the standards specified in this plan are:

Plan Assumption	Risk	Action If Risk Occurs
The plan is based upon “average” winter weather conditions.	Severe winter weather will create higher levels of defects and deterioration than have been allowed for.	Budgets and predictions will be monitored and this plan updated if abnormally harsh winters occur.
Available budgets have been assumed as shown in section 3	Financial constraints require the Council to reduce the funding available for roads.	Target service standards will be revised to affordable levels.
Construction inflation will remain at a level similar to the last 3 years.	Construction inflation will increase the cost of works (particularly oil costs as they affect the cost of road surfacing materials).	Target service standards will be revised to affordable levels.
Levels of defect and deterioration are based on current data which is limited for some assets (e.g. footways).	Assets deteriorate more rapidly than predicted and the investment required to meet targets is insufficient.	Split between planned and reactive maintenance budgets will be revised.

Plan Assumption	Risk	Action If Risk Occurs
Resources are available to deliver the improvement actions.	Pressures on resources mean that staff are not allocated to service improvement tasks such that the predicted benefits cannot be fully achieved.	Target dates will be revised and reported.

5.2 The risk has been evaluated in accordance with Perth & Kinross Council's corporate risk management strategy.

6. CONCLUSION AND RECOMMENDATIONS

6.1 This Roads Asset Management Plan seeks to set out the priorities for the Council's roads assets in relation to carriageways, footways, structures, street lighting and traffic management systems. This includes:-

- Focussing on the condition of the A class network within current available budgets
- Managing energy reduction by ensuring that energy costs are monitored and savings are made, wherever possible
- Directing the available funding for structures to those schemes which are deemed the highest priority

6.2 Analysis of customer contacts indicates that in general the public have fewer complaints about the roads asset and this plan will ensure that trend continues.

6.3 The plan also identifies areas within the roads section which require further work to be carried out to produce strategies to support the plan.

6.4 The Strategic, Policy and Resources Committee is asked to approve this Roads Asset Management Plan.

6.5 It is recommended that the Committee:-

(i) approves the Roads Asset Management Plan as outlined within the report
(ii) instructs the Executive Director (Environment) to provide an update status and options report on an annual basis to the Enterprise and Infrastructure Commitee
(iii) Requests that the Roads Asset Management Plan is reviewed every 5 years and reported back to this Committee

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Approved

Name	Designation	Date
Barbara Renton	Depute Director (Environment)	8 June 2015

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ANNEX

1. IMPLICATIONS, ASSESSMENTS, CONSULTATION AND COMMUNICATION

Strategic Implications	**Yes / None**
Community Plan / Single Outcome Agreement	**Yes**
Corporate Plan	**Yes**
Resource Implications	
Financial	**Yes**
Workforce	**None**
Asset Management (land, property, IST)	**Yes**
Assessments	
Equality Impact Assessment	**Yes**
Strategic Environmental Assessment	**Yes**
Sustainability (community, economic, environmental)	**None**
Legal and Governance	**Yes**
Risk	**Yes**
Consultation	
Internal	**Yes**
External	**None**
Communication	
Communications Plan	**None**

1. Strategic Implications

Community Plan / Single Outcome Agreement

1.1 The Plan relates to the delivery of the Perth and Kinross Community Plan / Single Outcome Agreement in terms of the following priorities:

(i) Promoting a prosperous, inclusive and sustainable economy
(ii) Supporting people to lead independent, healthy and active lives
(iii) Creating a safe and sustainable place for future generations

Corporate Plan

1.2 The Council's Corporate Plan lays out five Objectives which provide clear strategic directions, inform decisions at a corporate and service level and shape resources allocation. This report supports the delivery of the following Corporate Plan objectives:

(i) Promoting a prosperous, inclusive and sustainable economy;
(ii) Supporting people to lead independent, healthy and active lives; and
(iii) Creating a safe and sustainable place for future generations.

2. Resource Implications

Financial

2.1 No direct financial implications within this report. Financial requirements for roads asset maintenance will be addressed throught the normal protocols.

Workforce

2.2 No workforce implications directly associated with this report.

Asset Management (land, property, IT)

2.3 This report is the Roads Asset Management Plan

3. Assessments

Equality Impact Assessment

3.1 Assessed as **not relevant** for the purposes of EqIA

Strategic Environmental Assessment

3.2 Strategic Environmental Assessment (SEA) is a legal requirement under the Environmental Assessment (Scotland) Act 2005 that applies to all qualifying plans, programmes and strategies, including polices (PPS).

3.3 The matters presented in this report were considered under the Environmental Assessment (Scotland) Act 2005 and no further action is required as it does not qualify as a PPS as defined by the Act and is therefore exempt.

Sustainability

3.4 No implications.

Legal and Governance

3.5 No direct legal implications within this report.

Risk

3.6 There is a risk to the travelling public and reputational/legal risk to the Council if the network is not maintained.

4. Consultation

Internal

4.1 The Roads Maintenance Partnership, the Street Lighting Partnership, the Head of Environmental and Consumer Services and Service & Corporate Finance teams have all been consulted in the preparation of this report.

External

4.2 The national roads asset management development project of The Society of Chief Officers for Transportation in Scotland (SCOTS) has been utilised in the preparation of this report.

5. Communication

5.1 The principles of the roads asset management plan and any associated working practices will be communicated through the normal council channels for example eric.

2. BACKGROUND PAPERS

The following documents were consulted during the preparation of the Roads asset management plan;

- Road Maintenance Strategy
- Street Lighting Policy (draft)
- Roads Inspection Manual
- Carbon Management/energy Reduction Plan
- Asset Management Policy
- Local Transport Plan
- Annual Status Report
- Road Asset Data Management Plan
- Management of Highway Structures (Code of Practice)
- Corporate Risk Management Plan

3. APPENDICES

None.