



Roads Asset Management Plan

2017 to 2020

Version 1.

June 2017.

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Foreword

In Orkney we have a diverse geographical area that is a mix of sparsely populated areas as well as our key urban areas of Kirkwall and Stromness. We also have a number of outer Islands with road networks. This presents challenges when providing a holistic roads service across such a diverse community. Our Road Infrastructure is vital to these communities and wider transport links to our lifeline air and ferry services. It is an intrinsic part of our economic infrastructure supporting business and tourism alike.

This document sets out the Council's plans for the management of the road asset 2017 to 2020. It has been produced in accordance with national guidance and recommended good practice, developed through the SCOTS (Society of Chief Officers for Transportation in Scotland Road Asset Management Project).

This work also highlights the pressure on our road network and its investment needed to support a steady state. Asset management practices, tools and techniques are used to ensure we provide a value for money service. In these challenging times it is essential that the Council considers asset planning as a tool for investment and protection of our road network for the benefit of all road users. This plan forms an important part of the Council's commitment to apply good asset management principles and best practice to the road network.

The delivery of this plan focuses on what we need to do, where and at what cost to ensure our road user, be they residents, businesses or tourists use it safely and without undue delay or disruption all times of the year. It is essential that we seek an affordable level of investment over the life of this plan to maintain and ultimately improve one of the vital assets of our County, in doing so promote the economic wellbeing and vitality of local communities and wider attractiveness of Orkney as a place to live, work and visit.

G Sinclair

Chair

Development and Infrastructure Committee

Document Control and Council Approval

Version Number/Date.	Approved by Council.
v1/June2017.	Full Council 4 July 2017
Next Update Due.	April 2021.

Responsibility for the Plan

The persons responsible for the delivery of and updating of this plan are shown below

Position.	Responsible for.
Orkney Islands Council.	Custodians of the island's road assets.
Development and Infrastructure Committee.	Approval of the RAMP and subsequent amendments. Set agreed levels of service and allocate budgets accordingly. Ensure appropriate resources are made available.
Executive Director of Development and Infrastructure.	Review existing policies and develop new policies related to roads asset management. Implement corporate asset management strategies and ensure that accurate and reliable asset information is presented to the Council.
Head of Roads and Environmental Services.	Delivery of Service to Meet the Plans in the RAMP.
Roads and Environmental Services Manager.	Monitoring of Service to ensure that the Plans in the RAMP are met.
Team Leader Roads Support.	
Roads Support Officer.	

1.Introduction

Overview

This RAMP (Roads Asset Management Plan) sets out the plans for OICs (Orkney Islands Council) road assets for the period 2017 to 2020. The Council's CAMP (Corporate Asset Management Plan) outlines how OIC aims to apply asset management principles to the management of the Islands infrastructure. This plan supports the CAMP with a detailed plan for the "road asset" i.e. carriageways, footways, structures, street lighting, traffic management, street furniture and road drainage.

The benefits of road asset management planning are widely recognised. Its application is promoted by SCOTS (Society of Chief Officers of Transportation for Scotland), Audit Scotland and many other relevant Scottish and UK agencies. This plan represents OICs response to these requirements and formalises OICs plans for roads.

SCOTS has provided guidance to assist authorities to prepare RAMPs that are appropriate to local conditions. This plan has been produced in accordance with those guidelines. The plan is the output from a process of reviewing condition and performance, reporting the options for future investment to Council and the subsequent choice of appropriate affordable standards.

Future updates of this plan will be guided by ASORs (Annual Status and Options Report). The delivery of the roads service and works programme will be guided by the RAMP and the RMMP (Roads Management and Maintenance Plan).

Purpose

The purpose of this RAMP is to:

- Define the service standards that customers can expect to be delivered over the plan term.
- Formalising strategies for investment in road asset groups.
- Assist the Council to meet its statutory duty to pursue best value.
- Ensure that investment in different road assets types is based upon assessed need.

The RAMP will help OIC allocate resources to where they are likely to provide the best long-term benefits.

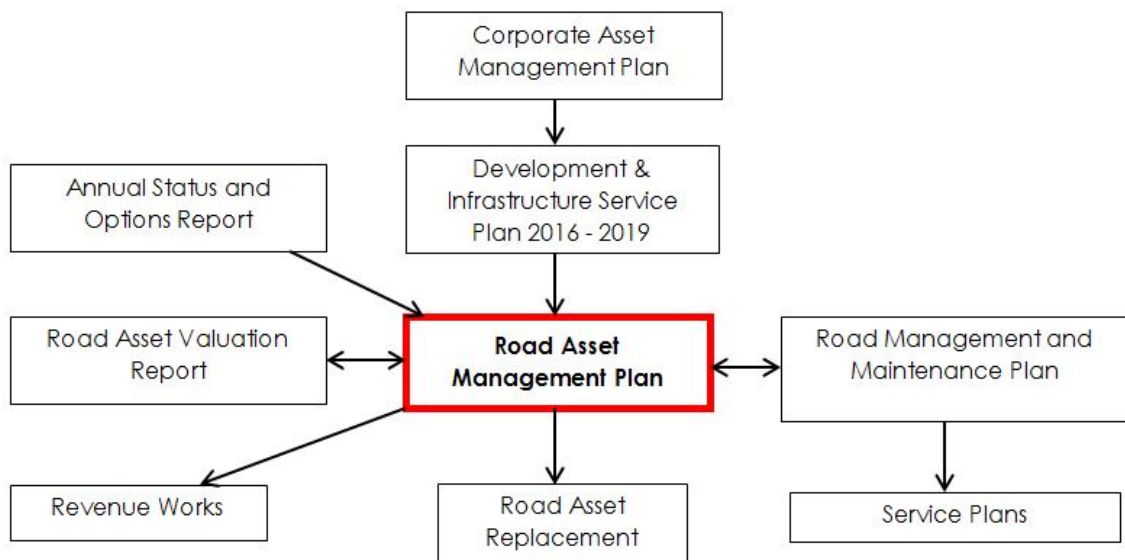
Corporate Asset Management Plan

The Corporate Asset Management Plan below sets out the structure for Council asset management plans and their relationship within the Council Corporate Strategy, Our Plan 2013 to 2018.



RAMP and Other Plans

The RAMP relates to the Council's other strategic documents and plans as illustrated below:



The RAMP is informed directly by the Development and Infrastructure Service Plan, the ASOR and the RMMP. Targets and strategies contained in the RAMP are used to develop works programmes in the road asset replacement programme and to prioritise revenue works once the Council's annual budget for roads has been agreed.

2. Road Assets

Road Assets

The Council's road assets covered by this plan are:

Asset Type.	Quantity.
Carriageways.	985km.
Footways.	118km.
Footpaths and Cycleways.	5km and 4km.
Structures.	46 Road Bridges, 1 Foot Bridge, 4 Special Structures and 38km Retaining Wall.
Street Lighting.	2,908 Lighting Columns and 215 Wall Lights.
Traffic Management Systems.	11 Zebra Crossings.
Road Drainage Infrastructure.	198km of Pipes, 5123 gullies. (Full extent of drainage is unknown as we are currently in the process of data gathering).

The asset also includes ditches, road markings, car parks, verges, cattle grids and street furniture such as traffic signs, roadside safety barriers, pedestrian barriers, traffic calming features, benches and bollards.

Assets Not Covered

Some related assets that the Roads Services maintain are the responsibility of other Council departments. The Council owned assets not covered in this RAMP are:

- Footpaths, street lighting and amenity areas managed by other Council services.
- Electric Vehicle Charging Points.
- Bus shelters managed by Transportation.
- Non-adopted roads.
- Non-adopted bridges.
- Public rights of way and Core Paths.

Inventory Data

This plan is based upon currently available road asset data. Although the Council holds substantial data for some asset inventory types such as Carriageways and Street Lighting there are some asset data that is not currently held or is only partially complete. Where this is the case this plan uses local estimates and sample surveys. The improvement of the asset data will form an important part of the process of updating the road asset data management plan. Details of planned data collection

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will be included in the Data Improvement Plan which is currently being developed and will complement the RAMP.

3. Customer Expectations

Customer Preferences

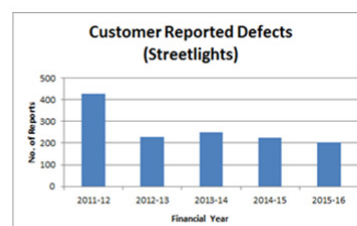
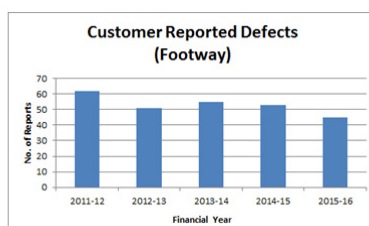
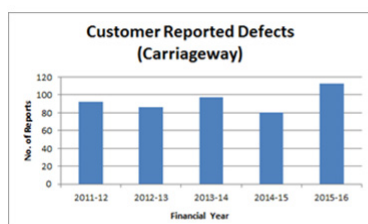
The Council does not currently undertake routine surveys of customer satisfaction in relation to the roads service, but a new channel of communication has recently become available which has made this a more practical option. A public consultation group (Orkney Opinions) of approximately 150 Orkney residents is being piloted by Corporate Services during 2017 to 2018 and all Council services have been invited to contribute questions to regular surveys on service performance, customer satisfaction, future plans etc.

The Roads service is using Orkney Opinions to gauge public opinion on matters relating to roads, and to identify any issues of particular concern which would merit wider public consultation. Future ASORs may include the results of feedback received from this process relating to roads management.

Future updates of the RAMP will take into account the findings of these surveys.

Customer Contacts

Customer contacts regarding roads are recorded as part of the method of logging and responding to queries and requests for service. The statistics below show that the level of customer contact about roads has remained at similar levels over the last 5 years.



The level of customer contact is low. It has not increased over the last 6 years. This infers that there is neither widespread nor growing dissatisfaction with the roads service. This is consistent with an asset in good condition that is not noticeably deteriorating. For Street lighting in particular the number of reported defects has greatly reduced.

The aim of this plan is to continue to deliver a good condition asset and work to minimise the need for members of the public to report defects.

4. Demands

This plan aims to maintain the good condition and performance of the asset. There are increasing demands on the asset that have been noted and, where possible, are being managed. These are:

Asset Growth

The road asset has increased by approximately 0.1% per year over the last 5 years. This is mainly due to a number of housing developments complete with attendant footways and lighting columns. These new assets create increased maintenance, management and associated funding in future years as these additional assets age. Since 2010 the network length has increased circa 3.2km. In the budget setting process for 2017 to 2018 this has been recognised and some funding identified to address this growth demand.

Traffic Growth and Composition

Over the longer term traffic has increased significantly such that many of our roads carry traffic way in excess of what they did previously. Some specific routes are subjected to particular pressure from high levels of HGV traffic and in recent years increasing quantities of tour buses as a result of our thriving tourist sector. There have also been progressive increases in the size of vehicles utilising our network, in particular buses and agricultural vehicles (ie. tractors and trailers). The width of these roads is such that when the heavier vehicles run on the carriageway edge damage is caused creating an increasing maintenance need on these routes. The carriageway strategy includes an allowance for edge treatment of these roads but this need may increase over and beyond the duration of this plan.

Environmental Conditions

Pressure is placed upon the asset from environmental conditions. Harsh winters between 2010 and 2013 caused damage to carriageways with a freeze/thaw action resulting in cracking in the road. It is not possible to predict when such conditions may be repeated. Although we have experienced milder winters in more recent years, the freeze/thaw action is still present and continues to deteriorate the carriageway in a similar manner. The surface dressing programme will assist to make our roads as resilient as possible to such effects. It is not however possible to prevent completely the damage that can occur from severe winter weather.

Changes in weather patterns also create pressures in dealing with a higher number of high intensity rain events. This can and does lead to increased demand for reactive maintenance attending sites where surface water flooding occurs. It is possible that a continuance of this may lead to need for remedial measures to increase the networks resilience to such events.

Utility Activity

Utility activity has a direct effect on road condition. The repairs that users see are a combination of works undertaken by the Council and works carried out by utility operators. Utility companies have the right to open the road to install/maintain their apparatus and are responsible for carrying out their own reinstatements. Even when the utility has reinstated the surface to the required standard there will be long term

effect on the road from the disturbance of it having been excavated though, this may not become evident for a number of years.

Structural Backlog

All of these factors contribute to the rate of deterioration of the road network and therefore a structural backlog that is outstripping the available budget for annual maintenance.

5. Service Standards

This plan is based upon delivering the service standards listed below. The standards are based on the assumed funding levels in section 6.

Service.	Measured By.	Standard.	
		2017.	2020.
Carriageways.			
The plan is based upon maintaining current standards of repair and condition at current levels.			
Safety.	Percentage of Cat 1 defects made safe within response times.	100%.	100%.
	Percentage of safety inspections completed on time.	100%.	100%.
Condition.	Percentage of all roads to be considered for maintenance treatment.	<30%.	<30%.
Footways.			
Safety.	Percentage of Cat 1 defects made safe within response times.	100%.	100%.
	Percentage of safety inspections completed on time.	100%.	100%.
Condition.	Percentage of footway area to be considered for maintenance treatment.	TBA*.	TBA*.
* During the plan term a condition survey of footways will be undertaken and used to establish an appropriate standard for footway condition.			
Street Lighting.			
Safety.	Percentage of repairs within 7 days.	85%.	85%.
Condition.	% of columns which have exceeded their Expected Service Life.	10%.	0%.
Environment.	Average annual electricity consumption per street light (kWhrs).	275	146
Structures.			
Safety.	Percentage of General Inspections carried out on time.	NA.	100%.
Condition.	Bridge Stock Condition Indicator (BSCI ave).	NA.	TBA**.
** During the term of the plan a round of general inspections will be completed. The results of these will be used to calculate a BSCI from which an initial standard will be set.			

6. Financial Summary

This plan is based upon assumed levels of funding. The predictions of future condition used to create the plan use these assumed figures. If actual funding allocated to manage road assets varies significantly from these figures it may be necessary to adjust the standards contained in the plan to align with the actual budget levels.

Sources of Funding and Budget Allocation

Funding for roads to delivery this plan comes from the following primary sources:

- Revenue Funding; is split between a number of service headings based on historical precedence and identified need. Revenue funding has been reduced in recent years due to pressure on the funding of the Council's overall revenue budgets.
- Capital Funding; capital funding for roads is spent using the asset replacement programme which is based upon achieving levels of replacement of each asset aimed as sustained a reasonable condition into the future.

Further sources of income for works on the public road include the following:

- Grants: Individual grants may be available for specific types of improvement work usually from Government or specialist interest groups. Budget holders produce applications for grant money with any funding allocated being used for the specific projects identified.
- Developer Contributions: when appropriate the Council seeks to obtain costs from developers, or works done by them, as contributions towards improvements to the road infrastructure, required in the local vicinity, as a result of the development.

Asset Valuation

As at May 2016 the road asset was valued as follows:

Asset Type.	Gross Replacement Cost £'000.	Depreciated Replacement Cost £'000.	Annualised Depreciation Charge £'000.
Carriageway.	£775,581.	£707,550.	£6,232.
Footway.	£8,719.	£5,462.	£138.
Structures.	£148,578.	£146,142.	£144.
Street Lighting.	£10,490.	£6,163.	£294.
Street Furniture.	£4,067.	£2,026.	£188.
Land.	£9,334.		
Total.	£956,769.	£867,344.	£6,997.

Proposed future change to the way in which councils account for roads will result in the current value of the roads asset (which is based on historical cost) being replaced with a depreciated replacement cost as shown above. This will recognise the value of the road asset more appropriately. The valuation figures above illustrate the massive financial value of the road asset.

In theory the annualised depreciation represents the average investment required in planned maintenance (renewal of the asset) required to maintain the asset in its current condition.

Historical Expenditure

The historical expenditure invested in the road asset has resulted in the current condition and level of performance of the road asset. It is worth noting as it provides useful context for future funding levels.

Historical expenditure invested in works on the Road asset is shown below:

Asset.	Works.	Historical Expenditure £ 000.			
		12/13.	13/14.	14/15.	15/16.
Carriageways.	Capital.	1,413.	1,263.	1,166.	1,234.
	Revenue.	602.	642.	796.	666.
Footways.	Capital.	272.	323.	124.	443.
	Revenue.	0.	49.	14.	0.
Structures.	Capital.	25.	25.	25.	25.
	Revenue.	88.	135.	114.	47.
Street Lighting.	Energy Costs.	92.	94.	101.	130.
	Capital.	266.	219.	340.	293.
	Revenue.	224.	160.	94.	137.
Totals:		2,982.	2,910.	2,774.	2,975.

Planned Funding

The service standard targets shown in section 5 are based upon the following assumed funding levels. The funding for years 1 to 3 is based upon the approved short term budget as confirmed by The Council on 9th March 2017.

Funding beyond that year 3 shown below is an estimate included solely to allow the prediction of long term condition. It has been assumed that a level of funding similar to current funding levels (the average of the last 3 years) will be provided. Any changes to these funding predictions in the future will require an update of this RAMP.

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Asset.	Works.	Funding Required £k.			Long Term Funding Assumed £k.
		Y1 17/18.	Y2 18/19.	Y3 19/20.	Y4-Y20 pa.
Carriageway.	Capital.	394.	394.	594.	594.
	Revenue.	1573.	1573.	1573.	1573.
Footways.	Capital.	140.	140.	140.	140.
	Revenue.	90.	90.	90.	90.
Structures.	Capital.	25.	25.	25.	25.
	Revenue.	130.	130.	130.	130.
Street Lighting.	Energy Costs.	85.	60.	60.	60.
	Capital.	613.	613.	385.	385.
	Revenue.	143.	143.	143.	143.
Totals:		3,193.	3,168.	3,140.	3,140.

7.Asset Investment Strategies

The strategies aimed at delivering the service standards contained in section 5 are set out below. Where possible these strategies aim to minimise the whole of life cost of maintaining the asset. Good asset management planning should ensure that both the short term and longer term needs are considered such that future generations are not left with disproportionate costs to meet. Due to data constraints some asset strategies will need to be developed during the term of this plan.

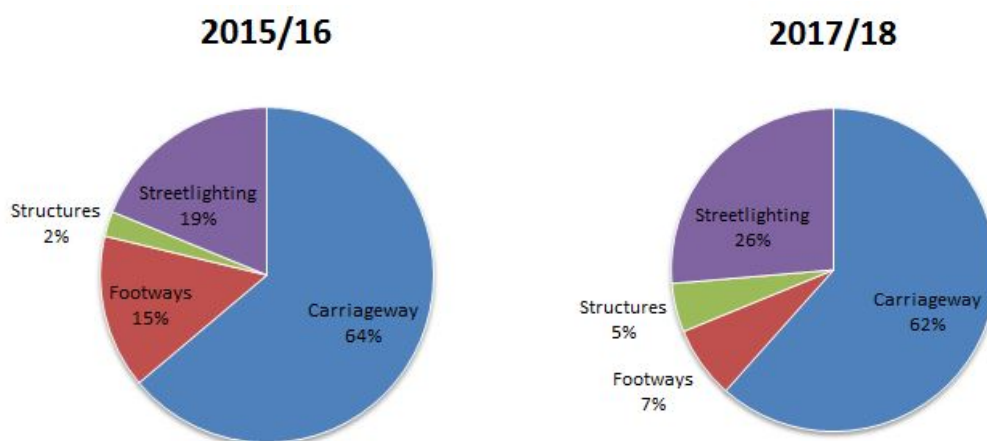
Investment between Asset Types

In comparison to historical investment, future investment, for the main asset types, will be:

- Carriageways: level of investment has been reduced recently due to budget cuts
- Footways: level of investment has decreased. Footway works have been tied with Street lighting works in recent years due to the need to excavate the footway to replace cabling. This has led to an overall good standard of Footways.
- Structures: level of investment maintained at similar levels
- Street lighting; short term increase in investment to replace existing lights with LEDs will result in a reduction in revenue expenditure.

Over the duration of the plan additional data will be acquired, specifically for footways and structures that may result in changes to how budget are allocated between asset types.

The charts below highlight the breakdown of roads spend detailed above.



Carriageways

Category	Description	Basis of Strategy
Routine and Reactive Repair.	Repair of defect to current intervention standards and response times.	<p>Strategy consists of:</p> <p>Repair of all defects considered to be potentially hazardous (Cat 1 defects) within 24 hours.</p> <p>Repair of as many minor defects (Cat 2 defects) as Council resources are able to achieve*.</p> <p>[* due to the random nature of when minor defects appear it may not be always possible to meet response times for Cat 2 defects 100% of the time].</p>
Planned Maintenance Preventative.	A programme of preventative treatment of roads in the initial stages of deterioration.	<p>Preventative maintenance treatments are applied to roads in the first stages of deterioration. This assists to</p> <p>Prevent minor defects appearing and.</p> <p>Minimises the need for higher cost resurfacing treatment.</p> <p>Preventative maintenance investment is critical to maintaining good condition roads on the islands. At the time of preparing the plan it was estimated that an investment in the region of £1m pa is required to maintain current condition and translates into a surface dressing programme of approximately 75km pa. Our current Surface Dressing programme is £500,000.</p>
Planned Maintenance Corrective.	Programme of resurfacing where a preventative treatment cannot be applied due to rutting or poor longitudinal profile.	<p>There will always be a small number of roads that deteriorate to a level whereby a surface treatment is insufficient. This element of the strategy involves the resurfacing (with bituminous overlay or inlay) of roads in a deteriorated condition. These are priorities on a worst first basis.</p> <p>At the time of preparing this plan it was estimated that approximately £250k pa of investment in resurfacing was required to maintain the roads in their current condition. This translates into a programme of approximately 2km of resurfacing pa. Our current Surfacing programme is £350,000.</p>

Footways

Category	Description	Basis of Strategy
Routine and Reactive Repair.	Repair of defect to current intervention standards and response times.	The strategy for the routine and reactive repair of footways mirrors that of carriageways (see above).
Planned Maintenance Preventative.	A programme of preventative treatment of bituminous footways in the initial stages of deterioration.	Bituminous footways that have been around for many years can begin to deteriorate by fretting stones and beginning to fall apart. For footways in this condition their life can be extended by the use of a thin surface treatment (slurry seal). A programme of slurry sealing is in place (approximately 960m ² of footway treated pa.). When a full condition survey of footways has been completed the scale of the programme will be reviewed and if appropriate, amended. [Slurry sealing is a highly cost effective method of extending the life of footways in a particular state of deterioration].
Planned Maintenance Corrective.	Programme of resurfacing/renewal of footways.	Recent footway investment through the Asset Replacement Programme has been coordinated with street lighting replacement such that when street lighting has been replaced the footway has been resurfaced to provide a full upgrade of the street. This programme is nearing its end and a new method of prioritising future investment in footway is required. To inform this, a survey of the condition of all footways has been instigated. When completed the results from this will be used to prioritise the resurfacing/renewal of the footways in the worst condition.

From officer observation the footways are assessed to be in a reasonable condition. Continued investment is however required to ensure that they do not deteriorate and start to create trip hazards and the like that present risk to users.

Structures

Category	Description	Basis of Strategy
Routine and Reactive Repair.	Repair of defect to current intervention standards and	Repairs to structures are currently identified during routine inspections or as a result of public notification. Historically the majority of repairs have been minor involving small

	response times.	replacement of blocks, repointing and the like. An annual budget has been sufficient to allow repair of the majority of defects. A regime of general inspection is being instigated. These inspections will record the condition of each structure and allow a fuller picture.
Replacement.	Replacement of deteriorated bridges or those assessed as being weak.	There is currently no identified need to replace any structures.
Refurbishment.	Refurbishment of structures that show signs of deterioration.	Repairs to structures are currently identified during routine inspections or as a result of public notification.

The structures strategy will be updated upon completion of the first round of general inspections.

Street lighting

Category	Description	Basis of Strategy
Routine and Reactive Repair.	Repair of defect to current intervention standards and response times.	Repairs to Street lights are currently identified through our public complaints Portal.
Planned Maintenance Corrective.	Programme of structural renewal. (Asset Replacement Programme)	The strategy is predicted to require approximately 150 no columns replaced pa in the short term. Replacement at this rate is predicted to result in no columns being over 30 years old at the end of the plan (2020).
Invest to save.		A programme of replacement of existing lighting units with LEDs is underway. The target of this programme is to replace all existing units with an LED by 2020. The LEDs use substantially less electricity and as a result the Councils energy bill for street lighting is predicted to reduce to a 1/3 rd of its current level as a result of this programme

Traffic Management Systems

There are 11 pedestrian crossings on the islands, all of which are in good condition and will not be in need of replacement or refurbishment within the duration of this plan. Beyond the end of this plan there will be a need to programme replacement of the older installations as the equipment will reach its end of expected life and the controllers may become obsolete and unable to be repaired.

Street Furniture

A range of other roads assets such as road signs, road marking, safety fences etc. are managed via the road replacement programme. The programme makes allowance for the ongoing replacement of a proportion of these assets as they reach the end of their life or have been damaged such that they require replacement.

Drainage

Key priority is functionality of road gullies, drainage ditches, offlets and culverts. The identification and maintenance of key “carrier” pipes in urban centres and rural networks will also be undertaken. Where settlement and ponding arises the resurfacing of which will be coordinated with wider geographic surfacing priorities. The data held on urban drainage systems is currently better than that of rural drainage. Drainage inventory data will be improved as per the data management plan.

Future Refinement

Any successors to this plan will reflect changing budgets and asset conditions.

It is not envisaged that this plan will be amended during its term 2017 to 2020.

8.Risks to the Plan

The Council operates a corporate approach to risk management detailed in the corporate risk policy. In accordance with this strategy the risks of this plan not being achieved have been assessed and are recorded below

Table 8.1: Risk to Achievement of the RAMP

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, predicted benefits may not be fully achieved.	Target dates will be revised and reported.
The plan is based upon winters with an average number of frost days.	Adverse weather will create higher levels of defects and deterioration than have been considered.	Budgets and predictions will be revised and this plan updated if abnormally harsh winters occur.
Available budgets have been assumed as shown in section 7.	Pressures on budgets mean that the Council may reduce the funding available for Roads.	Target service standards will be revised to affordable levels.
Construction inflation will remain at level similar to the last 5 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 and drainage).	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.

The risks have been evaluated in accordance with Council policy. The risks are reviewed regularly throughout the year.

References

- Risk Management Policy and Strategy 2016 to 2018.
- Road Maintenance Management Manual 2013 to 2018.
- Annual Status and Options Report 2016/17.
- Road Asset Data Improvement Plan.
- Corporate Asset Management Plan.