

ANNUAL STATUS AND
OPTIONS REPORT
DRAFT 2018



Executive Summary

Introduction

- The Annual Status and Options Report is a product of our Roads Asset Management plan which records the level of service the council is aiming to achieve and provides a means of identifying and prioritising the overall funding needs of our road assets.
- The Report presents a summary of the Council's roads assets as of April 2018. It details the current condition of the asset, future investment options and the impact of these options.
- Asset groups considered are; Carriageways, Footways, Street Lighting, Bridges and Structures. Inventory collection and condition assessments provide detail on the extent of the area's roads infrastructure and the impact recent investments have had on its condition.
- Roads infrastructure deterioration can be slow and often goes unnoticed, meaning that the impact of investment cannot be assessed in the short term. The investment options presented consider the projected impact over a 20 year period. This allows decisions to be taken with an understanding of medium and long term implications.
- The financial tools used to develop forecasts consider the existing condition of our infrastructure and scope the remedial costs of network improvement. It should be noted that no allowance has been made for construction inflation; forecasts are based upon today's prices.

Current Status and Key Issues

Carriageway

- 2309 km of carriageway.

The most recent Road Condition Survey (RCI) results show marginal improvement compared with previous years (55.48% 2016-2018 , 54.42% 2017-2019) this was directly attributable to the extra budget (Capital) secured via the Elected Members which officers have worked tirelessly to programme, plan and deliver for the benefit of all road users in Argyll and Bute. This is a marginal improvement and is delivering a levelling of RCI results compared with the steady reduction of investment from the previous 3 years .

Deterioration of the roads network is compounded by increased levels of heavy traffic and a relatively high level of utility excavations. The RCI survey results indicates that 54.4% of the carriageway network should be considered for maintenance treatment.

The 2012 Road Maintenance and Management Strategy is still relevant today, although we now utilise framework contracts to meet current needs. The revised 2018 structure which combines Roads and Amenity teams will provide the creation of a hub which will enable improved performance management through monitoring asset condition, prioritising treatments within available budgets and compiling works programmes that will ensure the delivery of good value.

Surface Dressing is an important and cost effective treatment used to make sure that carriageways are sealed against the ingress of water. The treatment ensures that a strategic preventative maintenance approach is undertaken to maximise surface coverage and help minimise the volume of expensive reactive maintenance.

Surface Dressing is being used along with a number of innovative techniques including retread and a range of material types which have been suited to the particular traffic volumes, ground conditions and road geometry. These techniques have all been proven to work and Surface Dressing has enabled significantly greater areas of carriageway to be successfully treated. This approach has reduced the amount of reactive maintenance required through potholing and other similar defects.

The road network consists of many different assets however the overall priority is carriageway above footway (whilst still recognising footways as needing a limited investment) due to bigger risk, both in terms of third party

claims and long term financial costs.

Options identified in this report show that effective use of budgets, planned remedial and preventative measures at the earliest stage of deterioration are the most cost effective way to maintain our assets.

Footway

- 529 km of footway

A significant percentage of our footways are considered to be in poor condition and 55.7% of the footway net work should be considered for treatments. A new and enhanced inspection regime for footways is now in place and this will more readily identify areas requiring improvement.

An industry standard full footway condition survey is being considered for 2019/20 and additional capital investment of £250k has been allocated for works which will be completed for 2018/19.

Street Lighting

- Across Argyll and Bute there are 13,978 street lighting columns and 14,588 luminaires. Approximately 35% of these columns have exceeded their expected service life, however they are and are considered fit for purpose. Street lighting columns will be replaced as necessary within the confines of available funding.

The energy cost for street lighting is likely to rise over the coming years. To combat this the council have embarked on an LED street lighting replacement project, changing all existing lanterns to new energy efficient LED lighting. The project is programmed for completion at the end of December 2018 which will in time significantly reduce our energy demand. This will lead to lower overall energy costs and provide a substantial reduction in our carbon footprint.

Structures

- 900 Bridges, 295 culverts and 153km retaining walls.

The latest Bridge Stock Condition Index (overall condition) indicates the asset condition is falling slowly indicating that stock is deteriorating.

15 bridges have temporary weight restrictions in place as a measure to reduce loadings and protect these structures.

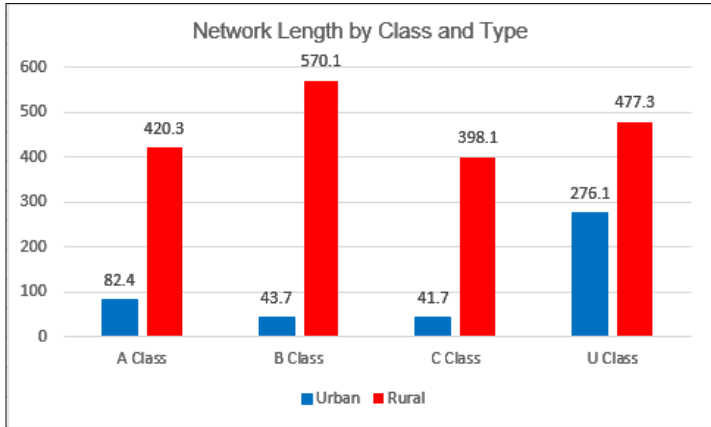
Currently the capital budget for bridge strengthening and replacement is at a very low level and risks are increasing that more bridges may potentially require the introduction of temporary weight restrictions to be considered in the near future. Officers work hard to tackle these challenges and strive to mitigate any risks so as to avoid the introduction of any restrictions that may impact or inconvenience road users movement.

STATUS AND OPTIONS REPORT 2018

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1.0 CARRIAGEWAYS



Road Length

A Class Roads 502.7km

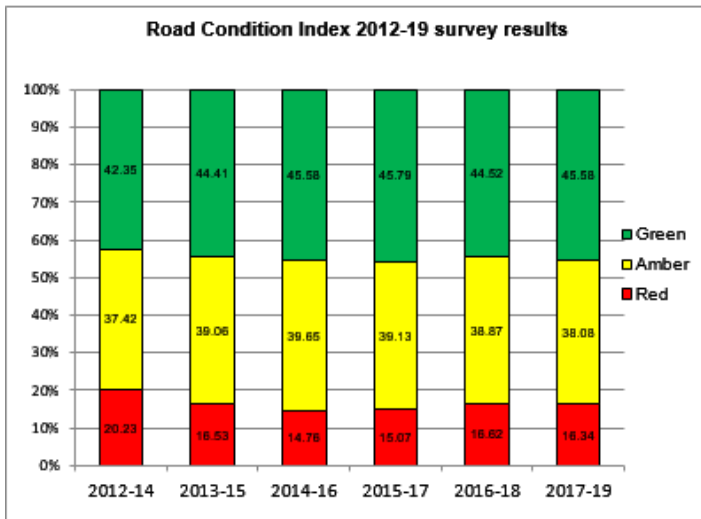
B Class Roads 613.8km

C Class Roads 439.8km

Unclassified Roads 753.4km

Total Network Length 2309.7km

The table above shows that nearly one third of our network is made up of unclassified roads (U Class). Most of the carriageway is rural with over 80% of the network in rural areas.



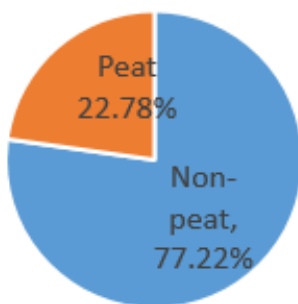
Road Condition

Road condition is measured by the Scottish Road Maintenance Condition Survey (SRMCS) which assesses parameters such as surface texture and cracking, smoothness and rutting. This provides an indication of the residual life of the road structure.

The results show in the last year the percentage of roads assessed as red has shown marginal improvement from 16.62% to 16.34%. A similar improvement is shown for roads assessed as amber from 38.87% to 38.08%. Roads assessed as green have improved by over 1% from 44.52% to 45.58% in the same period. This shows improvement and provides confirmation of the effective delivery of the roads reconstruction programme.

Currently Argyll and Bute Council, although having improved slightly in the last year, we are listed as having the highest RCI within our family group consisting of roads authorities with similar roads networks, effectively our roads index is the poorest of the 8 family group one for rural authorities.

Roads on Peat



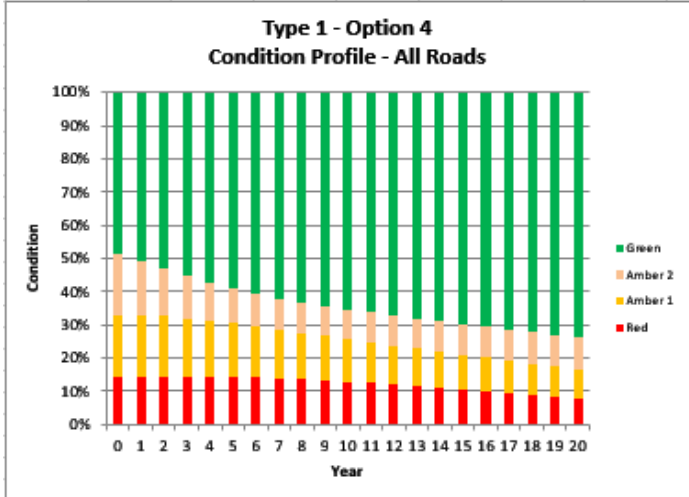
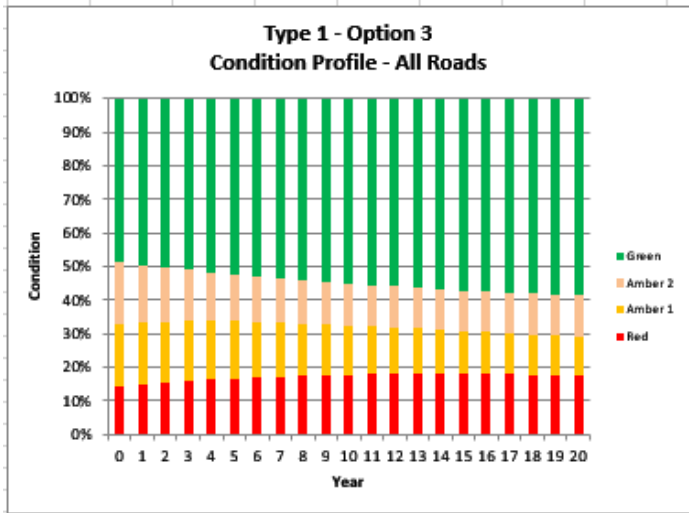
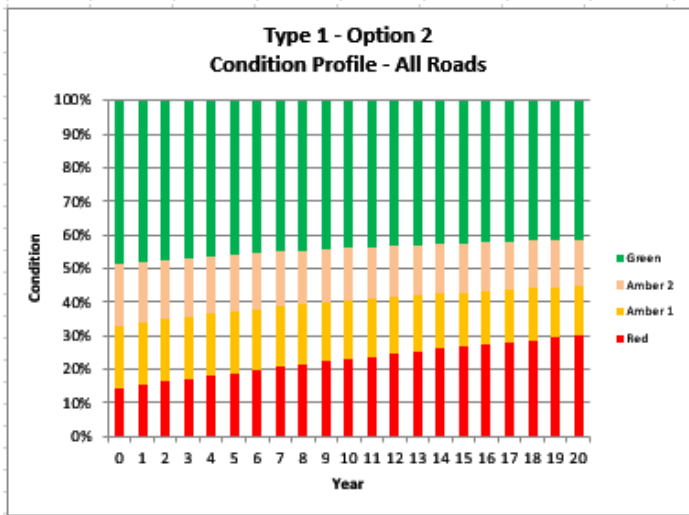
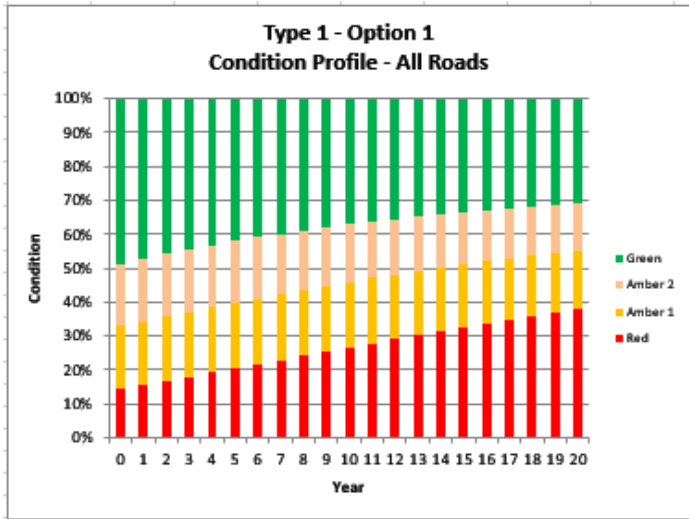
Road Construction

23% of our roads are constructed on peat. These incur greater construction and maintenance costs and may require restrictions on the weight of vehicles using the road.

New and innovative approaches in road maintenance techniques should be considered in these settings.

Asset Type	Gross Replacement Cost £'000	Depreciated Replacement Cost £'000	Annualised Depreciation Charge £'000
Carriageway	£2,024,285.43	£1,679,279.19	£28,765.54

Table to the left taken from the Asset Valuation return 2017/18 indicates a total Gross Replacement cost £2,024M for our carriageway asset.



1.1 INVESTMENT OPTIONS

OPTION 1— £3M

An annual investment of £3m would lead to a substantial deterioration on overall RCI with 69% of our roads requiring attention after 20 years including 38% of roads considered in the red category, this would significantly increase risk to road users safety. The volume of reactive temporary repairs would steadily rise, year on year as would public liability claims. Customer satisfaction levels can be expected to steadily decrease.

OPTION 2 — £5M

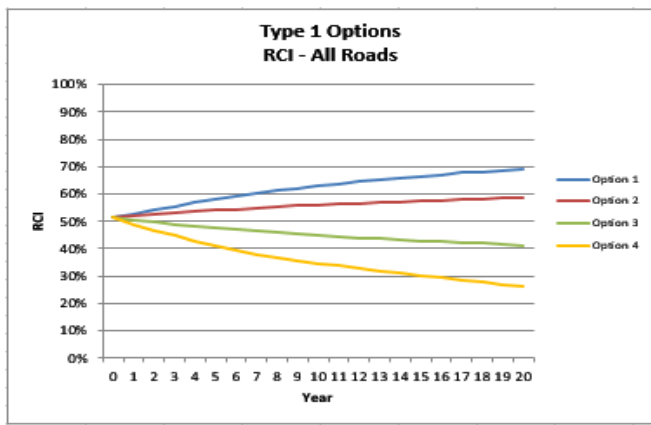
An annual investment of £5m would lead to a slower deterioration on overall RCI with 59% of our roads requiring attention after 20 years including 30% of roads considered as red category. This is almost double the latest result (16.34%) for red category roads. The volume of reactive temporary repairs would steadily rise, year on year as would public liability claims. Customer satisfaction levels can be expected to steadily decrease.

OPTION 3 — £8M

An annual investment of £8m would lead to an improvement in overall RCI with 41% of our roads requiring attention after 20 years including 18% of roads considered as red category which is on par with current red condition (16.34%). The volume of reactive temporary repairs would likely remain similar to current levels over initial period and would be expected to reduce over time as road condition improves. Public liability claims would also be expected to reduce as road condition steadily improves. Customer satisfaction levels would also potentially improve.

OPTION 4 — £11M

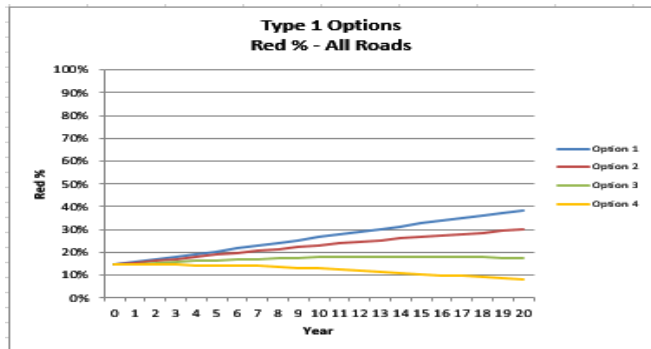
An annual investment of £11m for the next 20 years should lead to a substantial improvement in overall RCI with only 27% of roads requiring attention including only 8% of roads in red category, half the current red condition (16.34%). This would potentially make Argyll and Bute council the leading Scottish authority in terms of RCI. A substantial reduction in reactive repairs and public liability claims can be expected. Demands on limited resources would be lessened and customer satisfaction levels will also be greatly improved.



1.2 ROAD CONDITION

RCI Projections for all road classes

This diagram shows at a glance the different investment options and the effects on the road condition over 20 years. Options 1 & 2 shows how under investment impacts the network and presents greater risk to road users safety. Option 2 showing a slightly lesser rate of deterioration than option 1. Options 3 & 4 demonstrate how higher levels of investment are needed to improve network condition and Argyll and Bute Councils position of worst roads in Scotland in terms of RCI. However on a positive note the Audit Scotland Maintaining Scotland's Roads follow-up report (2016) graph shown opposite indicates Argyll and Bute as one of the top five fastest improving Scottish Local Authorities in terms of road condition.



Road in Red condition RCI only

Roads presenting in red condition category require higher levels of reactive maintenance and temporary repairs. This places higher demands on already limited resources. Options 1 to 4 clearly shows how investment levels impact the network with option 1 & 2 placing even greater strain on existing resource availability which leads to increased risk and poor customer satisfaction.

The following table shows a summary of the results of each option, green indicates an improving situation:

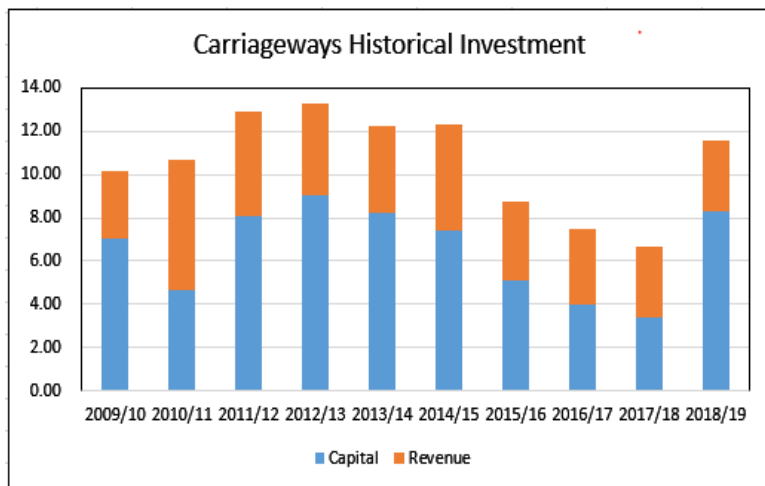
	Option 1	Option 2	Option 3	Option 4
Overall RCI	Substantial network deterioration RCI 69%	Significant deterioration (58%)	Much Improvement (41%)	Substantial improvement (26%) Potential Lead Authority
% Green	Substantial deterioration (31%)	Significant deterioration (41%)	Significantly improved (59%)	Substantial Improvement (74%)
% Red	Substantial deterioration (38%)	Substantial Deterioration (30%)	Slight deterioration (18%)	Substantial improvement (8%)
Reactive Maintenance	Very high demand for maintenance	High demand for maintenance	maintenance Requirements reducing over time	Substantial reduction in reactive maintenance

Maintenance Backlog

The Scottish Road Maintenance Condition Survey (SRMCS) is used to determine a Road Condition Indicator (RCI) value for each local authority road network. From these results SCOTS calculate the Maintenance Backlog for each authority every second year. The Maintenance Backlog is the cost of achieving in one year a network free from any sections in an amber or red condition using the latest survey date. The Maintenance Backlog calculated in 2017 for Argyll and Bute is £101 million (Data source—SCOS backlog Modelling Report March 2017)

Steady State

The SCOTS modelling tool also predicts the annual investment required to maintain a steady state for all conditions of road. This is a much reduced treatment regime aimed at maintain existing road condition at minimal expense. The Steady State Value for Argyll and Bute is £10.1 million



1.3 INVESTMENT AND HIERARCHY

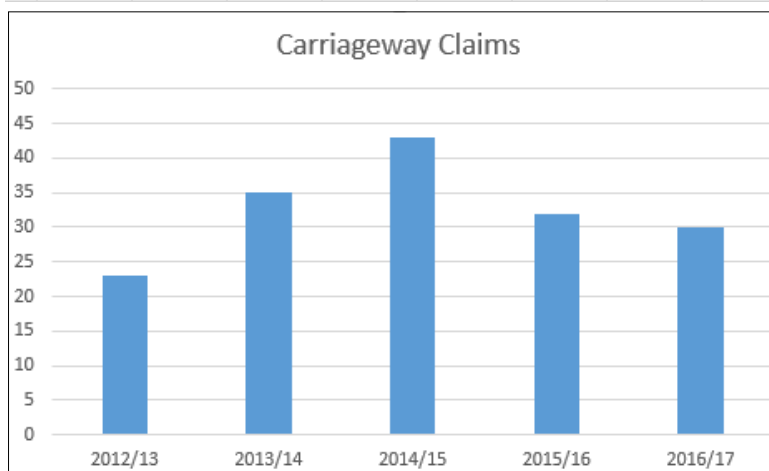
Historical Investment

Diagram shows the carriageway spend for capital and revenue works over the last 10 years with a year on year reduction in investment over the last 3 years.

For the year 2018/19 an additional capital budget spend of £8.32m was allocated by elected members which has allowed officers to deliver an increased number of roads improvements schemes. This welcome investment forms part of the £16M three year (2018-21) investment plan for roads reconstruction approved by Council in February 2018.

Insurance Claims

Following an increase of claims against the council in years 2012 to 2015 there is now evidence of a decrease in the number of claims relating to roads faults. An enhanced carriageway inspection regime may have played a part in ensuring that early identification and intervention sees us dealing with faults prior to them becoming issues for road users.



Carriageway Category	Hierarchy Description	Type of Road	Description
1	Motorway	N/A	N/A
2	Strategic Route	Principal A Roads	Routes for fast moving long distance with little pedestrian traffic. Speed limits generally in excess of 40mph
3a	Main Distributor	Major Urban Network and Inter Primary Links	Routes between strategic routes and linking urban centres to the strategic network
3b	Secondary Distributor	Classified Roads (B & C Class)	In rural areas these roads link the strategic and main distributor network. 30 mph speed limits and high pedestrian activity
4a	Link Road	Roads linking the Main and Secondary Distributor	In rural areas these roads link the smaller villages to distributor roads
4b	Local Access Road	Roads serving limited numbers of properties carrying only access traffic	They are often single lane and unsuitable for HGV

Feature	Description	Category	Frequency
Roads	Strategic Routes	2	Up to 12 pa (Min 10)
	Main Distributor	3(a)	Up to 12 pa (Min 10)
	Secondary Distributor	3(b)	Up to 12 pa (Min 10)
	Link Road	4(a)	4 pa
	Local Access Routes All other locations (car parks)	4(b)	Annually

Carriageway Hierarchy and Frequency of Inspections

The tables here refer to our inspection regime and the frequency of inspection. A roads position or hierarchy category will determine how often the road is inspected.



1.4 ROAD SAFETY BARRIERS

Barrier replacement and maintenance is underfunded and major investment is required across the whole network. It is vital that the Council maintains and upgrades its safety/crash barrier and bridge parapet stock to ensure the safety of road users.

Policy, Assessment and Inspection processes need to be revised and at the moment we are currently reliant on specialist contractors and consultants to maintain our barrier stock.

Vehicle barriers – A general appraisal / condition survey of our safety barrier inventory has been carried out.

The survey identified almost 14km (18.5%) of barrier considered to be in poor condition and requiring to be replaced at an estimated cost of circa £2M. The barriers in poorest condition and those that are Non-Compliant because of their construction have been prioritised for replacement/repair within the confines of existing revenue funding at circa £100k/year since 2016/17. The replacement of our barrier stock through utilising the current funding allocation will take up to 20 years dependant on the locus.

A follow up detailed survey to identify all non compliant barrier is intended to be commissioned in Dec 18/ Jan 19 to fully assess and prioritise necessary barrier maintenance.

A further report will be brought to the EDI Committee in the Summer of 2019 confirming the extent of works required for barrier replacement. It is anticipated that barriers will be funded from the general capital block allocation.





1.5 ROAD DETERIORATION

In Argyll and Bute the road network covers a large area – 2309km to be specific. It is used daily by the majority of our residents and businesses and is fundamental to social, economic and the environmental wellbeing of our community. Maintaining roads is vital for our road users ensuring safe travel and network availability.



The top picture shows a small section of the B8000 in Bute & Cowal area prior to improvement works being undertaken. The photo illustrates the damage caused by vehicles overrunning the verges to enable passage. The photo opposite shows the benefit of investment in Capital resurfacing works to the B8000.



This photo is taken on a narrow single track road on the Isla of Coll. It illustrates the deterioration of roads on our remote island networks. Repairing these routes can present some logistical difficulties for materials and plant which needs to be carefully planned within the confines of available ferry services.

The photo below shows resurfacing works being undertaken by Argyll and Bute Operational Services on the Isle of Coll, with materials being delivered via ferry from mainland quarries.





Photo above shows Footway deterioration Nant Drive, Oban. Photo on right shows recently resurfaced footway in Lochside Street , Oban

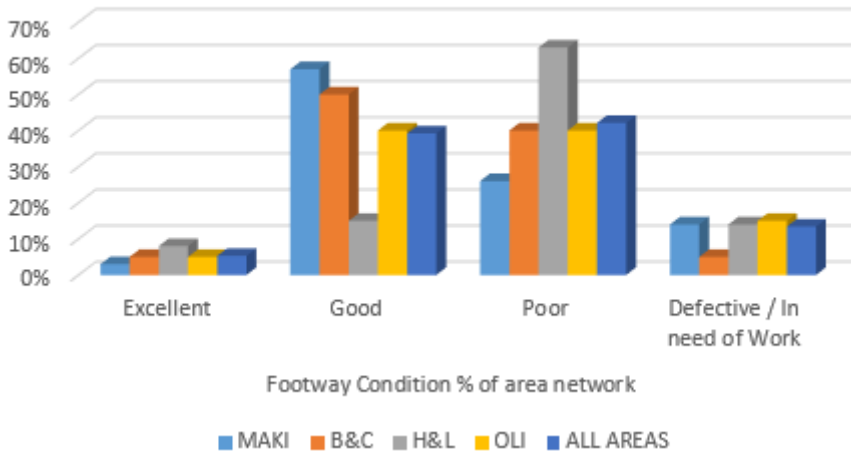
2.0 FOOTWAY STATUS

Footway Length

Total Footway Length 529km

Total Footpath Length 9.19km

Footway Condition



Footway Condition

44 % of the overall footway network is currently maintained at a satisfactory condition.

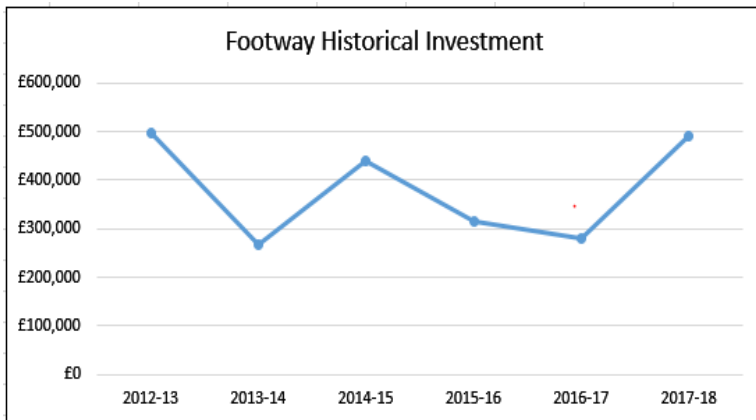
Excellent Condition 5.3%

Good Condition 39.2

Poor condition 42.1

Defective/

In need of work 13.4%



FOOTWAY INVESTMENT

Last year £489,953 was spent on planned maintenance for footways.

Industry standard condition footway surveys are being considered for 2019/20 and £250,000 footway capital investment program will be delivered in 18/19.

Table 4.7a Footway Valuation by Hierarchy

Footway Hierarchy	Gross Replacement Cost	Depreciated Replacement Cost	Annualised Depreciation Cost
Higher Amenity	£9,291,189	£7,887,272	£59,920
Other Footways	£79,656,973	£58,868,576	£785,654
Total	£88,948,162	£66,755,848	£845,573

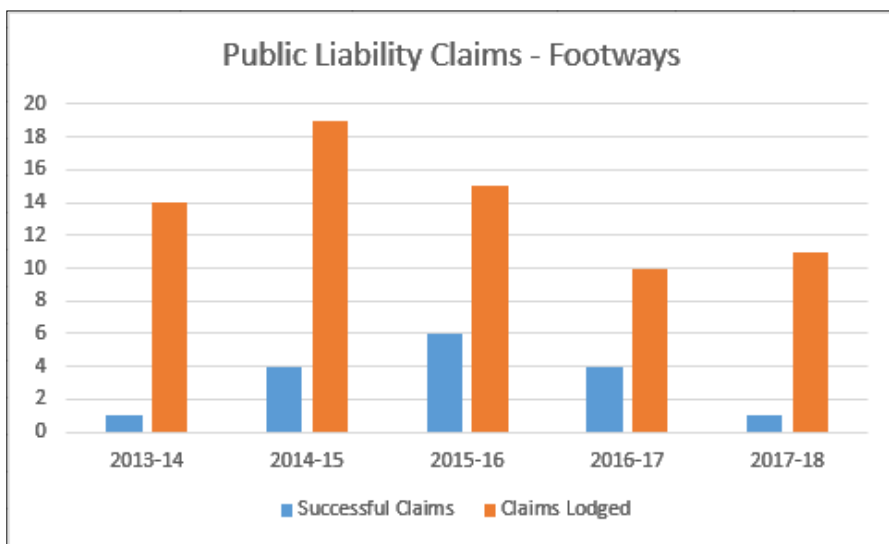
Table to the left taken from the Asset Valuation return 2017/18 indicates a total Gross Replacement cost £89M for our footway asset.

Category	Category Name	Description
1 (a)	Prestige Walking Zones	Very busy areas of town centre with high public space
1	Primary Walking Routes	Busy urban shopping and main pedestrian routes
2	Secondary Walking Routes	Medium usage routes through local areas feeding into primary routes
3	Link Footways/Footpaths	Linking local access footways through urban areas and busy rural footways
4	Local Access Footways/ Footpaths	Footways associated with low usage

Feature	Description	Category	Frequency
Footways	Prestige Walking Zones	1 (a)	Up to 12 pa (Min 10)
	Primary Walking Routes	1	Up to 12 pa (Min 10)
	Secondary Walking Routes	2	4 pa
	Link Footway	3	2 pa
	Local Access Footways		Annually

2.1 Footway Hierarchy and Frequency of Inspections

The tables here refer to our inspection regime and the frequency of inspection. A footways position or hierarchy category will determine how often the footway is inspected.



There has been a significant drop in the number of successful insurance claims during 2017/18 in comparison with previous years. The introduction of a new and enhanced footway inspection regime has likely contributed to this reduction.

Investment priority however remains with carriageways due to the higher risk of third party claims and long term financial cost implications.

3.0 STREETLIGHTING STATUS

Lighting Columns	13978
Luminaries	14588
Cable Length	453 km approx

Condition

Over 35% of our lighting columns have exceeded their service life (based on SCOTS asset valuation service life). Some lighting columns assessment is being undertaken as the LED replacement project progresses and from this information a program of column replacement works will be identified. The data collected to date identified 240 columns in poor condition that should be considered for replacement and 78 damaged columns that require to be replaced. During the LED replacement works approx. 600 aluminium columns were fitted with bespoke brackets to extend the column service life.

Historical investment in lighting is shown in the graph to the left.

Lower investment in previous years has impacted on reactive maintenance costs and has attributed to more columns exceeding their expected service life. Further work needs to be undertaken to understand the relationship between street lighting asset (column) age/condition and corresponding reactive maintenance costs.

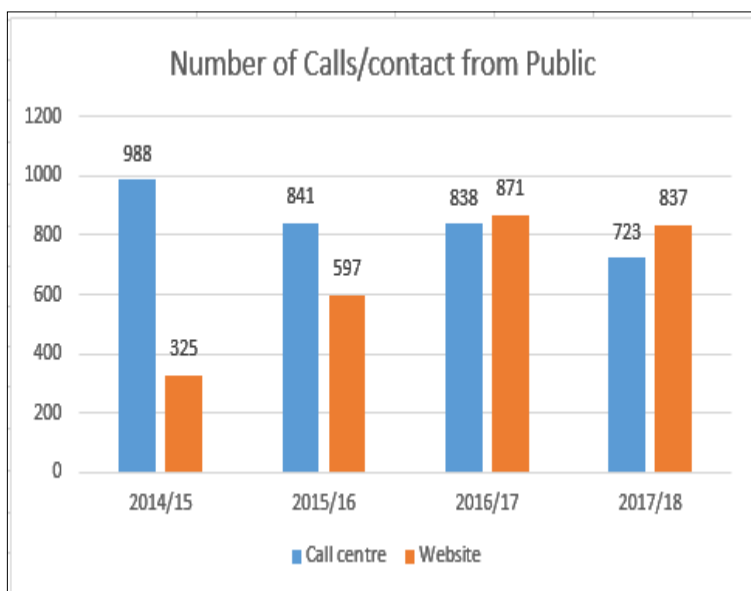
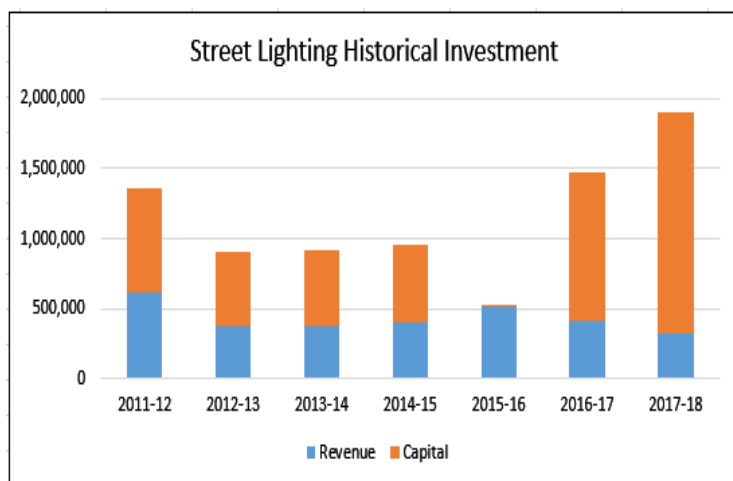
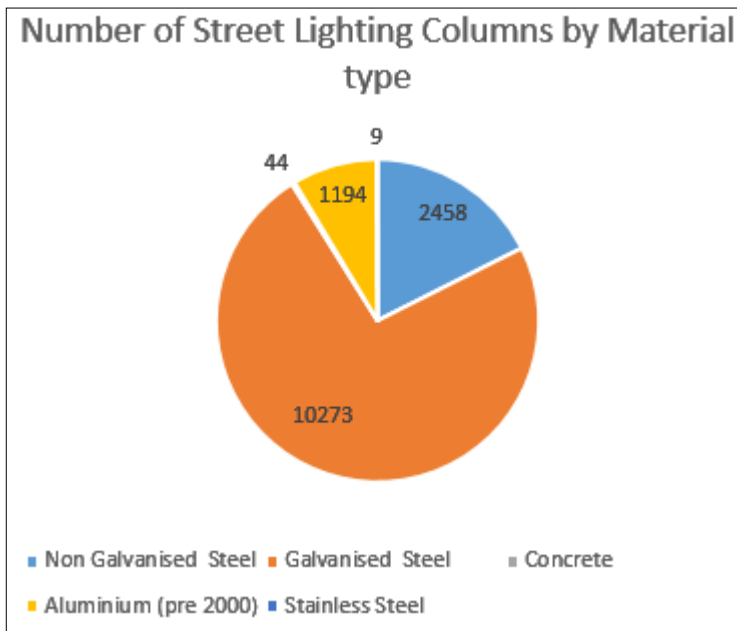
Customer Satisfaction

There has been a significant rise in customer enquiries last year. Completion of the LED replacement program across the council's network should see this number decrease in future years.

Gross Replacement Cost

Street Lighting Columns—£47,266,670

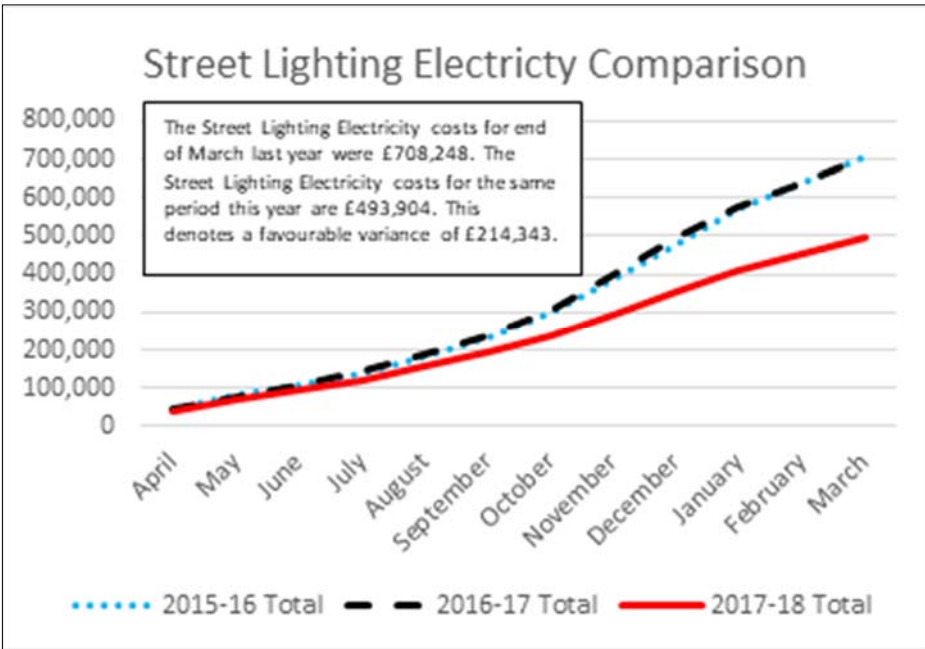
Street Lighting Luminaires— £2,100,875.00





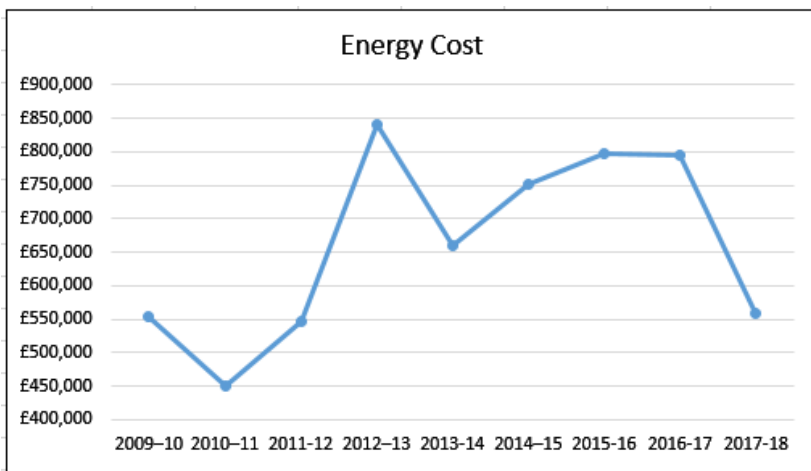
3.1 LED PROJECT

A programme to replace old SOX and SON lighting with new energy efficient (LED) luminaires has commenced and all of the council's lighting network should be converted to LED by December 2018

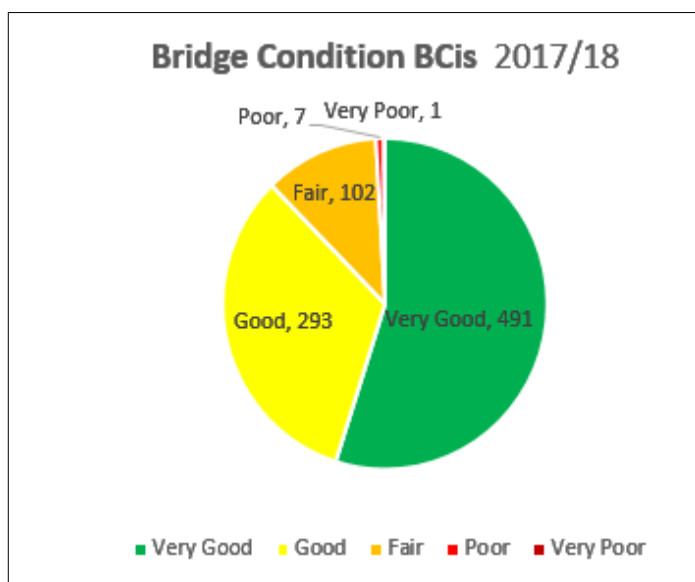
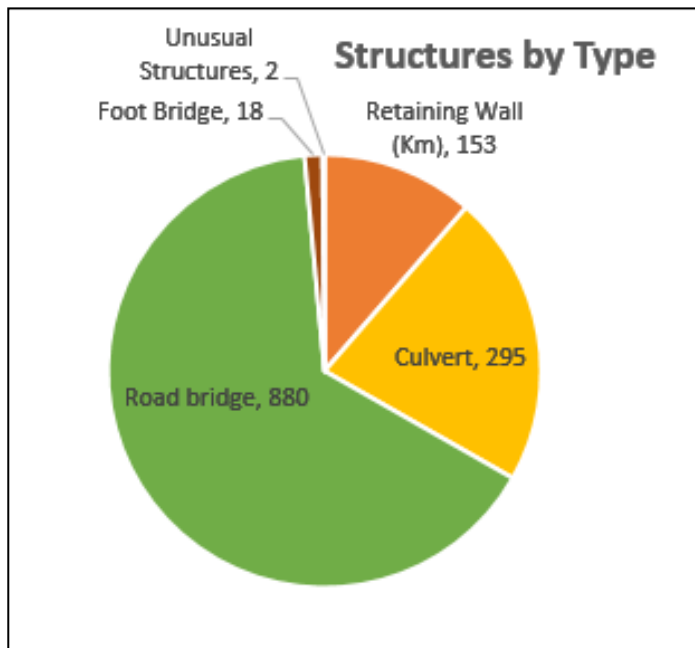


The graph shows that the difference in the electricity costs are already being realised with £214k saving on the previous years energy cost. We will continue to make savings as the project progresses because LED's are more resilient, use less energy and have a longer lifecycle.

Savings generated through the LED project will enable funding for any necessary column replacements identified during the LED replacement works and other electrical upgrade projects for our street lighting network.



The graph to the left shows the annual electricity costs from 2009/10. The LED project started in 2016 shows a clear reduction in costs has been delivered through the introduction of LED lanterns.



INSPECTIONS	
General inspections scheduled to be undertaken	900
General inspections undertaken on time	885
Frequency of general inspections (In Years)	2

Structure Type	Gross Replacement Cost
Road Bridges	£112,975,464
Footbridges	£3,226,501
Unusual Structures	£2,286,856
Retaining Walls	£36,589,384
Culverts	£3,547,853
TOTALS	£158,626,058

4.0 STRUCTURES STATUS

Assets

900 Bridges and Structures

153km Retaining Walls

295 Culverts

Condition

Our bridges and structures are inspected and assessed to comply with the Management of Highway Structures Code of Practice.

28 council owned and maintained bridges as well as 3 privately owned bridges failed assessment under European Standards.

23 Council owned and maintained bridges are subject to monitoring/special inspection regimes

Bridge Stock Condition Indicator average BSCI average value is 89.14.

Bridge Stock Condition Indicator average BSCI critical value is 83.21.

The latest Bridge Stock Condition index (overall condition) indicates the condition is falling slowly indicating stock is deteriorating.

The inspection regime applied to the structures stock for 2017/18 is shown in table.

Weight Restrictions

The number of weight restricted bridges and retaining walls has been managed by a programme of strengthening and replacement works and the established inspection regime.

Currently Knock Bridge, Mull has no weight restriction but the road itself has a 33 tonne restriction on it due to the condition of the road as opposed to problems with the strength of the bridge.

Asset Valuation

The tables opposite shows the asset latest valuation. The total gross replacement value has reduced mainly due to a large proportion of retaining walls being reclassified as coastal protection assets.

Gross Replacement Costs £158,626,058 (SCOTS)

Gross Replacement Cost **Circa £950M** (based on Argyll and Bute experience over last 20years)

ADDITIONAL PROJECTS

STTF Co—Funding Schemes

The Strategic Timber Transport Group were awarded a significantly increased award this year some of which will be used to develop projects throughout the year, working with Argyll and Bute Council to identify timber haulage routes in need of maintenance or repair. The STTF was introduced in 2005 to facilitate the sustainable transport of timber in the rural areas of Scotland for the benefit of local communities and the environment. In previous years STTF have co-financed a number of works in Argyll and Bute including major improvements, road widening and passing place improvements. Argyll and Bute Council are one of the beneficiaries of the STTG's co-funding support and £1.46 million will be made available for public road improvement projects during 2018/19.



SUSTRANS—Hermitage Park Path and Cycle Network Project

Argyll and Bute Council are creating a path and cycle network through Helensburgh's Hermitage Park in partnership with the local community. This will significantly improve and encourage cycling and walking access and develop a convenient and attractive travel link through the park to local amenities. The project will include the complete overhaul of the main path network that directly connects the four main entry and exit points, which are located at the north, south, east and west points of the park. It will provide key links to a broader network of paths and cycle-ways in the area, including the John Muir Way and cycle path along Sinclair Street, which links to Regional Cycle Route 40 and in turn to NCR 7. Provision of a combined path and cycleway through the park will improve opportunities and encourage residents, be they commuters, school pupils or visitors to Helensburgh.

