

PERTH AND KINROSS COUNCIL

Environment and Infrastructure Committee

30 October 2019

Roads Asset Annual Status Report – 2018/19

Report by Executive Director (Housing and Environment) (Report No. 19/305)

This report presents a status summary of the Council's roads assets based upon the latest published Scottish local authority data as at 31 March 2019. It describes the current condition of the asset; the standards achieved and provides performance indicator information to allow benchmarking of results.

1. BACKGROUND

- 1.1 As the Local Roads Authority, Perth & Kinross Council is responsible for a roads network and associated infrastructure with a Gross Replacement Value (GRV) of £3.3 billion. This is calculated using the guidelines set out in the statutory Whole of Government Accounts.
- 1.2 An annual carriageway condition survey is carried out by the Scottish Roads Maintenance Condition Survey (SRMCS). This produces a Road Condition Indicator (RCI) which is used for developing planned carriageway maintenance and as a performance indicator.
- 1.3 In comparison with other Scottish Councils, the condition of the Perth & Kinross Council road network is ranked 18th, which is an improvement in ranking from 19th last year. Our response times remain excellent with 100% of Category 1 defects being attended to within 4 hours.
- 1.4 The overall network condition has marginally improved with 1.32% (32.6km) in a better condition than it was in 2017. The condition of the A class network has stabilised. It should be noted that the condition will continue to be directly affected by weather events.
- 1.5 The condition of the bridges on the network continues to deteriorate with an increasing backlog of work.
- 1.6 For Street Lighting, our average cost of repairing a fault is £49.02 which remains one of the lowest in both our family group and Scotland, while our time for repairing faults remains one of the best in Scotland at just 2.44 days.
- 1.7 The Council's Roads Maintenance Strategy was approved by the Enterprise and Infrastructure Committee on 2 April 2014 (Report No [14/156](#) refers) and the Roads Asset Management Plan was approved on 17 June 2015 (Report [15/254](#) refers). The Strategy and the Plan require the publication of an annual status report which is the purpose of this paper.

- 1.8 Work has been undertaken to produce an Impact Analysis for programmes across the asset base which will form part of the Capital budget discussions in the lead up to full Council in February 2020. The Impact Analysis and the annual status report will provide Elected Members with information and options around different levels of investment with associated impact and risks (positive or negative). As such an informed decision on investment can be made at a political level.
- 1.9 A budget motion for a further £20m over the next 10 years was approved in June 2018 (Report No. 18/213 refers); previous experience indicates that this will take a number of years to demonstrate road condition improvement.
- 1.10 Perth & Kinross Council continues to work with Dundee City and Angus Councils to build on existing partnerships, and develop our collaborative approach to the management and maintenance of the local roads network.

2. CONDITION

- 2.1 The carriageway asset is considered by road classification group and comprises the following:

Road Class	Urban Length (km)	Rural Length (km)	Total Length (km)
A Road	57.31	376.25	433.56
B Road	43.73	301.34	345.07
C Road	44.24	577.31	621.55
Unclassified Road	496.63	583.25	1079.88
Total Length (km)	641.91	1838.15	2480.06

Table 1 – Road Classification Lengths

Definitions of the Road Classifications are detailed in Appendix 1

- 2.2 The Scottish Road Maintenance Condition Survey measures and summarises the condition of the carriageway into the following bands:

Green	The road is in an acceptable condition
Amber	The road condition indicates that further investigation is needed to establish if treatment is required
Red	The road has deteriorated to the point at which repairs to prolong future life should be considered

- 2.3 Table 2 is shown in Appendix 2 to the report and shows the condition of the overall Council road network as measured by SRMCS for the period 2013 to 2018. Results are compared to the Scottish average.
- 2.4 These results indicate that deterioration has halted and current investment is resulting in a stable position.

- 2.5 Tables 3-6 in Appendix 2 show the road condition by individual road classifications, again compared with the Scottish average.
- 2.6 The approved Roads Maintenance Strategy (Report No 14/156 refers) allows for a managed reduced level of investment in B, C and U Class roads to facilitate the prioritisation of investment in the Council's A Class roads network. The benefits of this strategy are starting to be realised as evidenced in improvement in the condition of the A class network and the stability of the remaining road network.
- 2.7 Condition of the U Class network in Perth & Kinross remains at a consistently better percentage than the Scottish average. It should be noted, however, that only 10% of the U Class network is surveyed annually across the country.

Road Service Standards

Service		Measured By	Target Compliance	2017/18	2018/19
Safety	Safety Inspections	Undertake routine carriageway and footway safety inspections on Category 2 and 3 at intervals of 1 month.	100%	85%	100%
		Undertake routine safety inspections on Category 4(a) Link Road at intervals of 3 months.	100%	75.6%	81%
		Undertake routine safety inspections on Category 4(b) Local Access roads at intervals of 1 year.	100%	90.1%	88%
	Defect Reporting	Category 1 defects shall be rectified or made safe within 4 hours.	100%	100%	100%
		Category 2 defects shall be rectified or made safe within 5 working days.	100%	N/A	60%
		Category 3 defects shall be rectified or made safe within 30 working days.	95%	N/A	90%

Table 7 – Carriageways Service Standards

- 2.8 Following implementation of the Road Safety Inspection and Defect Categorisation Policy approved at Environment, Enterprise and Infrastructure on 6 September 2017 (Report No 17/271 refers) the Category 2 defects target time to "make safe or repair by the end of the following day" was amended to "make safe or repair within 5 working days." The Category 3 defects target time of "repair within 7 days" was amended to "repair within 30 working days."
- 2.9 These changes required a period of adjustment for staff and the system reports indicate that targets were not met during the initial period of change. Some of this is due to a lack of understanding and also a difference in how figures were captured. This has now been resolved and is improving.

- 2.10 In addition the move to 1st time permanent repairs impacted initially on the Category 2 target completion. Subsequent to that however good progress was made with 1st time permanent pothole repairs, or the 9,932 pothole defects recorded through the year, 84.6% (8,408) were repaired on a 1st time basis.

Performance Indicators

- 2.11 The status of the carriageway asset is measured and compared to nationally standardised performance indicators:

Description	Results			Analysis
	PKC 2018/19	SCOTS Family Group Average	Scottish National Average	
Percentage of Category 1 (Reactive) defects made safe within response times	100%	96.73%	87.92%	Better than both the SCOTS family group and national average
Percentage of carriageway safety inspections completed on time*	87.89%	95.70%	91.09%	Below the national average and SCOTS family group average
Percentage of carriageway length to be considered for maintenance treatment	35.90%	38.55%	36.30%	Better than both the SCOTS family group and the national average
Percentage of carriageway length treated	6.94%	4.88%	4.29%	Better than both the SCOTS family group and the national average
Total carriageway maintenance expenditure by carriageway length per km	£7,030	£4,990	£12,349	Higher than the SCOTS family group but lower than the national average

Table 8 – Performance Indicators

On further investigation it was established that most were inspected early and so the Council was not exposed to risk. Notwithstanding this, work was done to improve the compliance level. This year across the April /June period we are sitting at 99% compliance so we anticipate another improvement in 2019/20 out-turn figure.

- 2.12 The SCOTS Performance Management and Benchmarking Focus Group continue to work with the Association for Public Service Excellence (APSE) and the County Surveyors' Society Wales (CSSW) to produce performance indicator information. This allows local authorities to compare performance and drive improvement. It should be noted that not all returns have been received for this year and some are incomplete therefore averages may be amended and for the purpose of this report have been taken at 30 September 2019.
- 2.13 The Scottish local authorities are split into family groups based on network length and urban/rural split. Perth & Kinross Council is in the Rural Family Group along with Aberdeenshire, Angus, Argyll & Bute, Scottish Borders, Dumfries & Galloway, Highland and Moray Councils.

Investment

- 2.14 The following table shows the expenditure for financial years 2017/18 and 2018/19 on the carriageway asset:

Cost Category	2017/18	Output 2017/18	2018/19	Output 2018/19
Planned Maintenance – Preventative	£938,341	75.3km surface dressed (3.03% of network)	£1,842,836	144.61km surface dressed 5.83% of network)
Planned Maintenance – Corrective	£3,214,761	15.7km (0.63%) of 40mm resurfacing (£1,639,360)	£4,864,179	19.28km (0.77%) of 40mm resurfacing (£1,955,817)
		10.95km (0.44%) of 60mm resurfacing (£1,213,697)		9.5km (0.38%) of 60mm resurfacing (£1,213,697)
		0km (0%) of 100mm resurfacing (£0)		1.83km (0.07%) of 100mm resurfacing (£520,592)
		21 linear metres of reconstruction (£12,583)		1,100 linear metres of reconstruction (£543,587)
		Drainage improvements (33 sites) (£348,121)		Drainage improvements (15 sites) (£630,486)
Routine Cyclic Maintenance	£503,128	26,142, gullies cleaned, drainage channels cleaned (£196,978)	£439,774	22,308 gullies cleaned, drainage channels cleaned (£233,612)
		Road Markings renewed as required (£165,654)		Road Markings renewed as required (£150,255)
		Clear choked gullies (1480 no) (£81,101) Other minor routine (£59,395)		Clear choked gullies (1381 no) (£55,907)
Routine – Reactive Repairs (emergency)	£87,703	48 Category 1 defects (£6,000)	£110,532	62 Category 1 defects (£12,000)
		Provide stand by service and attend to emergency		Provide stand by service and attend to emergency defects

Cost Category	2017/18	Output 2017/18	2018/19	Output 2018/19
		defects during out of hours period (£81,703)		during out of hours period (£98,532)
Reactive structural repairs (emergency)	£259,916	Repairs to retaining walls and embankments following weather events, subsidence etc.	£99,744	Repairs to retaining walls and embankments following weather events, subsidence etc.
Routine – Reactive Repairs (non-emergency)	£731,555	Carry out repairs to category 2 and 3 defects (potholes) identified during road safety inspections	£1,189,209	Carry out repairs to (potholes – not first time permanent-1524) identified during road safety inspections
		Repairs to signs and bollards (310 no)		Repairs to signs and bollards (199 no)
		Repairs to verges following vehicle damage (41 locations)		Repairs to verges following vehicle damage (10 locations)
		Repairs to fences and pedestrian guard rails (6 locations)		Repairs to fences and pedestrian guard rails (5 locations)
		Repairs to vehicle restraint systems (7 locations)		Repairs to vehicle restraint systems (7 locations)
		Repairs to footways (572 locations)		Repairs to footways (320 locations)
		Minor drainage repairs (57 locations)		Minor drainage repairs (133 locations)
		Repairs to cattle grid (0 locations)		Repairs to cattle grid (1 locations)
		Repairs to kerbs (92 locations)		Repairs to kerbs (66 locations)
		Repairs to retaining wall (0 location)		Repairs to retaining wall (0 location)
	£3,874,117	Carriageway patching (permanent) (105,612m²) Additional funding enabled this work	£2 ,677,726	Carriageway patching (permanent) (72,782m²) First time permanent repairs on potholes (8408 averaging £73.42 per pothole)
Total	£9,609,521		£11,224,000	

Table 9 – Carriageway Investment and Output for 2017/18 and 2018/19

- 2.15 The following table shows the Roads Maintenance Partnership budget for financial year 2019/20 as reported to the Strategic Policy & Resources Committee on 12 September 2019:

Revenue	2019/20 Budget
Routine and Cyclic	£1,047,000
Flood Alleviation Scheme Maintenance	£150,000
Total	£1,197,000

Capital	2019/20 Budget
Structural Maintenance	£10,353,000
Unadopted roads	£77,000
Footways	£527,000
Safety Barriers	£97,000
Cultullich Retaining Wall	£227,000
Capital	2019/20 Budget
Structure Maintenance – Timber Routes	£1,135,000
Total	£12,416,000

Table 10 – Roads Maintenance Partnership Budget 2019/20

Structures

Condition

- 2.16 Perth and Kinross Council is responsible for maintaining and managing over 1,000 structures throughout the authority area, including road bridges, culverts, footbridges and retaining walls. These include high profile structures such as Old Perth Bridge, Telford's Dunkeld bridge and Wade's bridge in Aberfeldy, as well as many hundreds of smaller less visible structures that are nonetheless integral to the road network. All have differing maintenance requirements dependent on their structural type and condition.
- 2.17 Perth and Kinross Council's structures connect communities allowing citizens and business easy access across rivers, railways and roads, thus ensuring efficient travel and transportation of goods. Their importance is highlighted when a bridge closure or restriction causes loss of serviceability or amenity.
- 2.18 The Council ensures the safety of these structures by carrying out planned inspections on a 2 year rolling programme. We assess the condition of the structures to ensure they are safe for use and to determine prioritised maintenance requirements.

- 2.19 The structures asset is considered by structure type and comprises the following:

Structure Type	Quantity
Road Bridges	503
Footbridges	22
Unusual Structures	4
Retaining Walls	223
Culverts	343
Subways	1
Total	1,096

Table 11- Structure Types Breakdown

- 2.20 The number of road bridges stated above has increased from last year due to reclassification of two structures from privately owned to PKC owned.
- 2.21 Although the full road network has now been surveyed to determine the number of retaining walls, the walls are often obscured by vegetation making them difficult to identify. It is therefore expected that further walls will continue to be found and added to the inventory for some years to come.

Stock Condition Indicators

- 2.22 The County Surveyors' Society Bridges Group has devised national Bridge Condition Indicators to evaluate the condition of structures stock and our stock is evaluated in line with these guidelines.
- 2.23 Two condition indicators are evaluated for each local authorities stock of structures defined as:
- $BSCI_{ave}$: Average Stock Condition Indicator – the weighted average of the individual Condition Indicator scores; this score provides an overview of the average stock condition.
 - $BSCI_{crit}$: Critical Stock Condition Indicator – the weighted average of the Critical Indicator scores. This score provides an indication of the criticality of the stock with regards to load carrying capacity.

Structure Condition Indicator Score Range Groupings

BSCI / BCI Score Range Group:	General Description	BSCI Stock Condition Descriptor
$95 \leq \text{BCI} \leq 100$	Very Good Condition	Structure stock is in a very good condition. Very few structures may be in a moderate to severe condition.
$90 \leq \text{BCI} < 94$	Good Condition	Structure stock is in a good condition. A few structures may be in a severe condition.
$80 \leq \text{BCI} < 89$	Fair Condition	Structure stock is in a fair condition. Some structures may be in a severe condition.
$65 \leq \text{BCI} < 79$	Poor Condition	Structure stock is in a poor condition. A significant number of structures may be in a severe condition.
$40 \leq \text{BCI} < 64$	Very Poor Condition	Structure stock is in a very poor condition. Many structures may be in a severe condition
$0 \leq \text{BCI} < 39$	Severe	Structure stock is in a severe condition. Many structures may be unserviceable or close to it.

Table 12 - Structure Condition Indicator Score Range Groupings

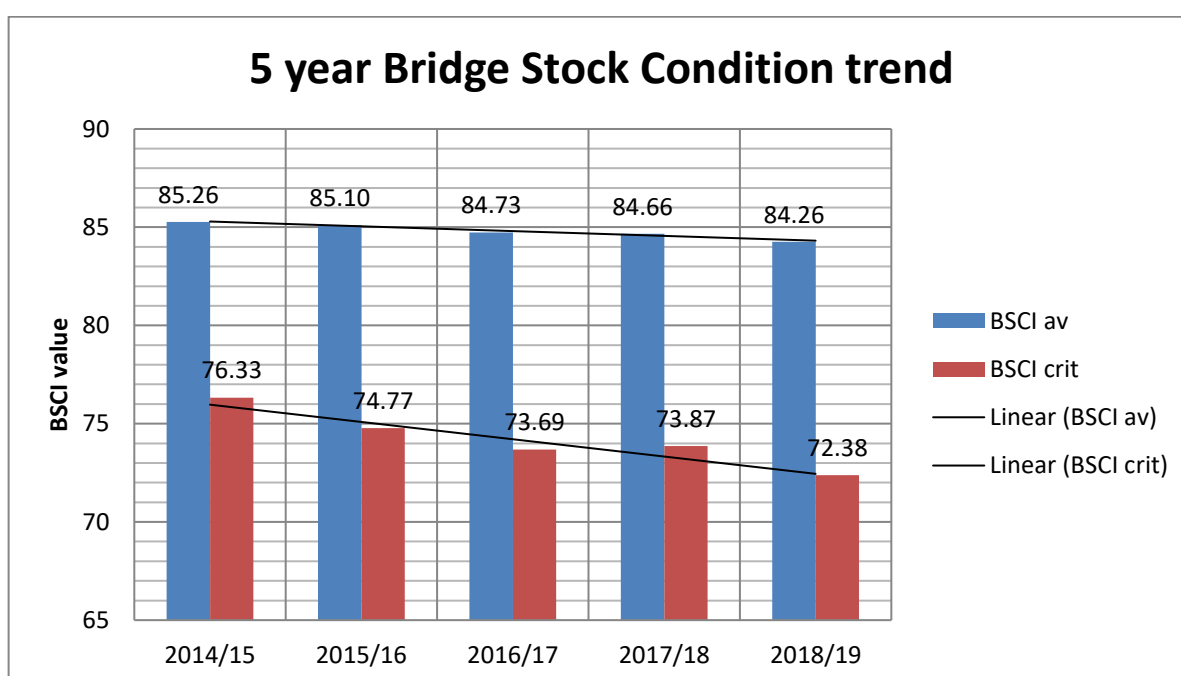


Table 13 – 5 Year Bridge Stock Condition Trend

- 2.24 From the above graph it is clear that the condition of the bridge stock in Perth & Kinross is in decline.

- 2.25 The $BSCI_{av}$ and $BSCI_{crit}$ scores for the overall bridge stock shown above are calculated from the individual condition scores from each bridge and weighted by the bridge area. The range of condition scores from individual bridges varies widely, with some bridges in a very good condition and others in a poorer condition.

Service Standards

Service	Measured By	Target Compliance	2017/18	2018/19
Safety	Carry out General Inspections at a maximum frequency of 2 years, excluding structures programmed for a Principal Inspection.	100%	100%	100%
	Carry out Principal Inspections at a maximum frequency of 6 years.	100%	66.36%	89.61%
	Carry out Scour Inspections at a maximum frequency of 6 years.	100%	95.28%	100%
Condition	Attend non-emergency maintenance call outs within 7 days.	100%	100%	100%
	Maintain all Structures such that the $BSCI_{(ave)}$ remains above 85.	85	84.66	84.26
	Maintain all Structures such that the $BSCI_{(crit)}$ remains above 80.	80	73.87	72.38
	Number of bridges with a BCI crit less than 40 (i.e. classed as severe)	0	78	84
	The total number of weight restricted bridges within the authority shall remain below 1% of stock.	1% of stock	1.53%	1.53%
	The number of sub-standard structures subject to BD79 monitoring within the authority shall remain below 2% of stock.	2% of stock	7.77%	8.26%

Table 14 – Structures Service Standards

- 2.26 The percentage of Principal Inspections completed has improved from last year but is still below target. There are two reasons for this; firstly, due to the condition of the bridges there are an increasing number of bridges that need Special Inspections at more frequent intervals and this takes resource away from the routine Principal Inspections. The second reason is that there are a

number of structures that need specialist access methods to fully inspect and resources have not been available to procure these.

- 2.27 The Target Compliance value for BSI_{crit} has been revised upwards to target 'Fair' condition rather than 'Poor' condition in accordance with Table 12 category descriptions.
- 2.28 A new Performance Indicator of 'Number of bridges with a BCI_{crit} less than 40 (i.e. in Severe condition)' has been added. This is a useful indicator of the number of structures that are at increased risk of future restrictions. The value for 2017/18 has been populated from last year's data.
- 2.29 Although the average condition of the key structural elements of the bridge stock (BCI_{crit}) is in the 'Poor' range there are, of course, a significant number of structures that are in worse condition than the average. Where there are concerns about a structure, either because of condition or capacity, we may implement on-going additional monitoring (Special Inspections) to ensure that it remains in a safe condition for use, and to determine whether further measures such as weight restrictions or traffic constraints are required.
- 2.30 The current condition of the bridge stock has resulted in 70 bridges being subject to these special monitoring regimes (up from 68 last year). The frequency of special monitoring is typically set at 1, 3, 6 or 12 months depending on the level of risk. These inspections must take priority over Principal and General Inspections and therefore maintaining the target rates for these inspections will become increasingly difficult in future years.
- 2.31 Scour inspections are carried out using a number of different techniques. Visual inspections for scour damage to bridges are carried out at every General Inspection and Principal Inspection. Specialist diver surveys are currently only required for a small number of the larger bridges. A contract for diving inspections was completed in 2018/19. The Structures Section plan to complete Scour risk assessment of relevant structures in coming years which has the potential to significantly increase the work backlog in this regard.
- 2.32 The programme to identify retaining walls associated with the road network is now complete and these structures have been added to the asset database. Inspection resources are fully utilised carrying out the standard inspections to bridges and culverts and the additional Special Inspections and therefore inspection of retaining walls has not yet commenced.
- 2.33 A number of weight restrictions are in place on bridges which are not capable of carrying full traffic loadings. Given the limited capital budget available for strengthening and refurbishment, these bridges are currently subject to an increased monitoring regime to identify if any further measures are required in terms of load capacity. The structures section are planning to determine and execute a programme of bridge assessments in the coming years.
- 2.34 One of the significant pressures on staff time and the revenue budget is repairing parapet damage caused by errant vehicles. Typically these must be

made safe immediately with temporary barriers, with the permanent repairs being carried out at a later date. Where the identity of the driver is known, repair costs are recharged to the insurance company, however in a significant proportion (typically about 50% of cases) the driver is not identified and these costs are borne by the Council.

- 2.35 Between April 2018 and March 2019 there were 22 parapets damaged with an estimated repair cost of £141,000. The permanent repairs are risk ranked along with all other works priorities and therefore if a bridge poses a low risk to the public once the temporary barriers are in place, the repairs may be put on to the backlog list and delayed for several years to allow higher priority works to be completed. The current backlog of parapet impact repairs is 54.

Performance Indicators

- 2.36 The status of the structures asset is measured and compared by nationally standardised performance indicators:

Description	Results			Analysis
	PKC 2018/19	SCOTS Family Group Average	National Average	
Percentage of principal inspections carried out on time	89.61%	73.62%	82.75%	Better than both the SCOTS family group and national average
Percentage of general inspections carried out on time	100%	87.54%	86.52%	Better than both the SCOTS family group and national average
BSCI Average	84.26	83.41	86.07	Ranked 4 th out of 7 in SCOTS Family group.
BSCI Critical	72.38	75.39	78.49	Ranked 5 th out of 7 in SCOTS family group.
No of Council owned bridges failing assessment	50	53	22	PKC has more bridges failing assessments than the national average but less than SCOTS family group average.
No of privately owned bridges failing assessment on Council road network	5	4	5	PKC has more private bridges failing assessment than the SCOTS family group average but the same as the national average.

Table 15 – Performance Indicators

- 2.37 It should be noted that agreement would have to be reached with the owner should the Council wish to strengthen a privately owned bridge. The cost of this would lie with the Council.

Investment

- 2.38 The following table shows the expenditure on Structures for financial year 2018/19 with the budget figure as reported to the Strategic Policy & Resources Committee on 11 September 2019:

Revenue	2018/19 Planned	2018/19 Actual
Bridge Repairs	£185,500	£219,736
Income (Recovery of third parties damage & Garry Bridge Rental)	(£16,500)	(£53,485)
Structural Maintenance – Queen’s Bridge	£191,000	£124,486
Structural Maintenance – Old Perth Bridge	£26,000	£75,386
Total	£402,500	£419,608

Capital	2018/19 Planned	2018/19 Actual
West of Fearnan Culvert	£42,000	£30,535
Parapet Upgrades	£109,000	£0
Welton Road Retaining Wall	£369,000	£0
Pitcur	£15,000	£10,180
Dalhenzean Culvert	£5,000	£850
Total	£540,000	£41,565

Table 16 – Structures Investment 2018/19

- 2.39 Due to workload pressures on existing staff being diverted to more urgent safety critical projects, it was not possible to progress the parapet upgrades programme, Welton Road Retaining Wall and Dalhenzian Culvert. These projects were ‘slipped’ to 2019/20 & 2020/21.
- 2.40 The following table shows the Structures budget for financial year 2019/20 as reported to the Strategic Resources & Policy Committee on 11 September 2019:

Revenue	2019/20 Budget
Bridge Repairs	£187,500
Total	£187,500

Capital	2019/20 Budget
West of Fearnan Culvert	£19,000
Bridge Refurbishment Programme	£159,000
Parapet Upgrades	£50,000
Dalhenzean Culvert	£291,000
Dunkeld Golf Course	£226,000
Old Perth Bridge	£166,000
Queens Bridge	£377,000
Welton Road Retaining Wall	£78,000
Total	£1,366,000

Table 17 – Structures 2019/20 Programme

- 2.41 There is a backlog of £37 million Capital projects and £8 million of Revenue projects identified.
- 2.42 PKC take part in the SCOTS RAMP project which has developed a tool to estimate the amount of depreciation a bridge stock will experience. Based on this tool, the amount of annual depreciation of bridge stock is £1.410million. The Revenue budget (from table 15 above) available to offset this depreciation is £187,500 or approximately 13% of the amount required. The effects of continuing to maintain this level of revenue funding can evidently be seen in the continuing decline in condition of the bridge stock.

Street Lighting

- 2.43 The street lighting asset is considered using the following classification:

Column Material	Quantity
Galvanised Steel	13,643
Aluminium (pre 2000)	3,342
Aluminium (post 2000)	5,409
Cast Iron	22
Total	22,416

Cable Assets	Quantity (m)
Cable under Footway	372,500
Cable under Verge	372,500
Total	745,000

Other Street Lighting Assets	Quantity
Wall Bracket	2,179
Wooden Pole	162
Control Cabinet	1,216
Total	3,557

Luminaires	Quantity
All	25,146
Total	25,146

Illuminated Signs	Quantity
Signs	1,983
Bollards	357
Total	2,340

Table 18 – Quantity of Street Lighting Assets

Columns Exceeding ESL (by Material Type)		
Material Type	Columns Within ESL	Columns Exceeding ESL
Galvanised Steel	10,119	3,524
Aluminium (pre 2000)	2,741	601
Aluminium (post 2000)	5,409	0
Cast Iron	22	0

Table 19 – Quantity of Columns Exceeding ESL (Expected Service Life)

- 2.44 In 2018/19, 18.40% of columns exceeded their Expected Service Life (ESL). The table above shows that a high proportion of galvanised steel columns have exceeded their ESL. These column types continue to be replaced in the column replacement programme. Any columns that have a specific safety issue considered to be a risk to the public are deemed to be dangerous and are treated as emergencies.

Luminaire Exceeding ESL (By Material Type)		
Material Type	Luminaires Exceeding ESL	Luminaires Within ESL
SOX	6,478	951
SON	1,459	2,940
FLUORESCENT	410	3,666
METAL HALIDE	22	43
LED	0	8,859
Other	10	308

Table 20 – Quantity of Luminaire Exceeding ESL

- 2.45 In 2018/19, 33.32% of lanterns exceeded their ESL. (Note: ESL is assumed to be 20 years for all luminaire types). The table above shows that a high proportion of the remaining SOX luminaires have exceeded their ESL. Replacement of SOX luminaires is a high priority in the current LED programme.

Service Standards

Service	Measured By	Target Compliance	2017/18	2018/19
Safety	Electrical testing of all equipment shall be undertaken at a frequency of 6 years	100%	65.25%	62.92%
	Emergency faults shall be made safe or repaired within 4 hours of notification	100%	100%	100%
Condition	The percentage of street light columns exceeding their expected service life (ESL) should be no more than 25%	25%	18.27%	18.40%
	A non-emergency fault shall be rectified within 7 working days (Single Outage)	100%	99%	98.40%
	Average time taken to repair faults to restore lamps to working order	2.6 days	2.31 days	2.44 days

Table 21 – Street Lighting Service Standards

- 2.46 All street lighting units have been initially tested and undergone a subsequent periodic inspection. It has been agreed that the Council will use some of the savings generated from the LED Business Case to fund additional periodic inspection and testing. This will ensure that Perth & Kinross Council continues to meet its statutory obligations within the Regulations.
- 2.47 The recommended frequency of periodic inspection and testing has slipped in recent years as a result of additional defects identified and repaired as part of the testing regime. This will be a recurring pressure on the inspection programme year on year and will vary depending upon the defects found.

Performance Indicators

Description	Results			Analysis
	PKC 2017/18	SCOTS Family Group Average	National Average	
Percentage of repairs within 7 days	98.40%	83.53%	88.83%	The Council performance for repairing faults is better than SCOTS family group and one of the best across Scotland

Description	Results			Analysis
Average cost for repairing a routine fault	£49.02	£60.92	£95.21	One of the lowest across Scotland
Average time taken to repair (days)	2.44 days	5.22 days	6.93 days	Substantially lower than both the SCOTS family group and the Scottish average
Public calls as a percentage of street lights	11.13%	6.97%	7.83%	The Council receives more calls when compared to the SCOTS benchmarking family group and Scotland

Table 22 – Performance Indicators

- 2.48 The Council performance for repairing faults remains one of the best in Scotland with 98.40% of faults repaired within 7 days. The average cost of repairing a routine fault is £49.02 which remains one of the lowest in Scotland. The average time taken to repair a fault has continuously improved and is now 2.44 days, which is substantially less than the Scottish average of 7.83 days.

Investment

- 2.49 The following table shows the expenditure for financial years 2017/18 and 2018/19 on Street Lighting:

Cost Category	2017/18	Output 2017/18	2018/19	Output 2018/19
Planned Maintenance – Corrective	£883,930	2000 lanterns replaced during year (7.85%)	£1,032,928	2000 lanterns replaced during year (7.95%)
Total net payment for bulk/planned replacement of street lighting stock		414 columns replaced during year (1.83% of total stock)		462 columns replaced during year (2.05% of total stock)
Routine – Reactive Repairs	£198,639	4,370 total faults repaired	£199,035	4,060 total faults repaired
Total number of routine, day to day faults affecting lanterns, control gear or photo cells		1,404 of the total faults that were identified as a result of scouting/inspection		1,283 of the total faults that were identified as a result of scouting/inspection
		2,966 of the total faults that were identified as a result of reports by public / other third parties		2,777 of the total faults that were identified as a result of reports by public / other third parties

Cost Category	2017/18	Output 2017/18	2018/19	Output 2018/19
Routine – Reactive Repairs	£150,094	All other net annual payments for maintenance of street lighting stock (excluding bulk/planned replacement and energy costs)	£139,635	All other net annual payments for maintenance of street lighting stock (excluding bulk/planned replacement and energy costs)
Total	£1,232,663		£1,371,598	

Table 23 – Street Lighting Investment and Output for 2017/18 and 2018/19

- 2.50 Following approval by the Strategic Policy & Resources Committee on 23 September 2015 (Report 15/396 refers) to undertake a ‘spend to save’ replacement of less efficient street lighting installations and provide significant energy savings in terms of cost and CO2 emissions, the following programme of light and column replacement works is being implemented:

	Planned Lantern Replacements	Actual Lantern Replacements	Planned Column Replacements	Actual Column Replacements
2016/17	1,500	3,115	375	471
2017/18	1,500	1,725	375	414
2018/19	1,500	2,000	500	462
2019/20	2,000		500	
2020/21	2,000		500	
2021/22	2,000		500	
2022/23	2,000		500	
2023/24	2,000		500	
2024/25	2,000		500	
2025/26	1,000		500	
TOTAL	17,500	6,840	4,750	1,347

Table 23 – Street Lighting Programme

- 2.51 The Street Lighting Partnership is currently 4 years into its LED replacement programme to drive down energy costs and replace the infrastructure in a planned, phased manner and delivery is ahead of programme. The following table shows the forecast data from the Scottish Futures Toolkit which the business case was based on, compared against the last 3 years figures which shows energy reduction and cost savings are significantly greater than forecast in the business case.

LED Replacement Programme	2015/16	2016/17	2017/18	2018/19
SFT Forecast Energy (kWh)	9,262,753	8,414,074	7,682,897	7,197,520
Actual Energy (kWh)	8,879,121	7,749,283	6,993,048	6,578,241
SFT Forecast Energy Saving		848,679	1,579,858	2,065,233

(kWh)				
Actual Energy Saving (kWh)	383,632	1,513,470	2,269,705	2,684,512
SFT Forecast Energy Cost (£)	£1,017,454	£1,144,851	£1,259,158	£1,290,711
Actual Energy Cost (£)	£1,083,924	£1,006,360	£885,452	£920,923
SFT Forecast Energy Cost Saving (£)		£104,969	£176,359	£235,170
Actual Energy Cost Saving (£)	£46,832	£196,547	£288,961	£257,008

Table 24 – LED Replacement Programme Energy Figures

- 2.52 The Street Lighting Core budget is £150k per annum committed until 2020/2021. It was agreed to fund the future core budget at £150k per year until 2024/2025 using the LED prudential borrowing surplus.
- 2.53 This removes budget pressure from the core budget and at the same time still delivers an overall reduction in the prudential borrowing.
- 2.54 The effect of this is that actual energy savings being realised through the revenue budget are less than those identified in the table in table 24.

Traffic Management

- 2.55 All traffic signal and public space CCTV cameras require ongoing maintenance to ensure the equipment remains operational and in a safe condition.

Condition

Traffic Signal Types	Quantity	Exceeding Expected Service Life (ESL)	Within Expected Service Life (ESL)
Traffic Signal Junctions			
Junctions	46	3	43
Traffic Signal (Pedestrian Crossing) Subtypes			
Single Carriageway	62	8	54
Dual Carriageway	1	0	1
Total	109	11	98

Other Traffic Management System	Quantity
--	-----------------

Types	
Safety Cameras	35
Vehicle Activated Signs	129
Total	164

2.56 Expected Service Life is calculated to be 20 years for equipment and 40 years for associated engineering works.

Service Standards

Service	Measured By	Target Compliance	2017/18	2018/19
Safety	Attendance at Major faults shall be within 4 hours	100%	92%	84%
	Attendance at Minor faults shall be within 24 hours	100%	93%	92%
	Undertake electrical inspections for electrical assets at each installation every year	100%	100%	100%
Condition	Initial repair of major faults shall be within 1 hour	100%	90%	83%
	Initial repair of minor faults shall be within 24 hours	100%	93%	90%
	The percentage of traffic signal installations exceeding their ESL of 20 years should be no more than 0	100%	94.69%	89%

Table 25 – Traffic Management Service Standards

Performance Indicators

Description	Results			Analysis
	PKC 2017/18	SCOTS Family Group Average	National Average	
Percentage of faults rectified within target time	89.03%	90.51%	95.23%	PKC is slightly below the SCOTS family group and below the national average.

Percentage of faults rectified on first visit	83.67%	92.96%	92.93%	PKC is below both the SCOTS family group and national average.
---	--------	--------	--------	--

Table 26 - Performance Indicators showing PKC returns against SCOTS family group returns and national average return

Investment

- 2.57 Traffic signal investment/refurbishments are carried out on sites which have shown significant equipment deterioration or when a site is under review due to other circumstances such as a new housing development or road layout amendments.
- 2.58 The following table shows the expenditure on Traffic Signals for financial year 2018/19:

Revenue

Cost Category	2018/19 Planned	Output 2018/19	2018/19 Actual
Planned Maintenance	£77,000	Planned Maintenance Contract – Siemens	£90,563
Reactive Maintenance	£60,500	Miscellaneous reactive repairs and maintenance costs	£50,164
Telecommunication Costs	£8,000	Annual costs for communication systems	£6,957
Energy Costs	67,000	Electricity costs for Traffic Signals, and Automatic Bollards	£48,992
CCTV Planned Maintenance	£4,961*	Planned Maintenance Contract – Spie Scotshield Ltd	£5,458*
CCTV Reactive Maintenance	£6,447*	Miscellaneous reactive repairs and maintenance costs	£4,884*
CCTV System Costs	£29,865*	System running costs	£27,105*
City Operations (ERDF)	£120,000	Funded by Traffic management but being delivered by Housing & Community Safety	£19,918
Vehicle Activated Signs	£150,000	Various Sites	£146,096
Total	£523,773		£400,137

*Funded by Parking Services

Capital

Cost Category	2018/19 Planned	Output 2018/19	2018/19 Actual
UTC Upgrade	£30,000	Dunkeld Road at Ballantine Place	£23,772
	£60,000	Dunkeld Road/St Catherines Road Junction	£79,150
	£34,000	Urban Traffic Control upgrades unallocated	£17,000
Road Safety Initiatives	£215,000	Programmed – Priority List 1 schemes	£139,906
	£692,000	Road Safety Initiative Works – Priority List 2 schemes	£36,579
Vehicle Activated Signs (VAS)	£39,000	Vehicle activated signs	£38,040
A977	£493,000	A977 Speed Mitigation Measures	£222,003
Broich Road	£320,000	Broich Road, Crieff Junction Improvements	£6,409
Total	£1,883,000		£562,859

Table 27 – Traffic Management Investment 2018/19

- 2.59 It should be noted that as we continue to grow the asset there will be ongoing revenue pressures to maintain it at a serviceable level.
- 2.60 The following table shows the Traffic Signals budget for financial year 2019/20 as reported to the Strategic Policy & Resources Committee on 11 September 2019:

2019/20 Programme

Revenue

Cost Category	2019/20 Budget	Output 2019/20
Planned Maintenance	£77,000	Planned Maintenance Contract – Siemens
Reactive Maintenance	£68,500	Miscellaneous reactive repairs and maintenance costs
Telecommunication Costs	£8,000	Annual costs for communication systems
Energy Costs	£67,000	Electricity costs for Traffic Signals, and Automatic Bollards

Public Space CCTV Maintenance*	£55,000	Planned Maintenance Contract – Spie Scotshield Ltd and Scottish Communications Group. Reactive repairs and system running costs.
City Operations (ERDF)	£120,000	Funded by Traffic management but being delivered by Housing & Community Safety
Vehicle Activated Signs	£150,000	Various Sites
Total	£545,500	

*Funded by Parking Services

Capital

Cost Category	2019/20 Budget	Output 2019/20
UTC Upgrade	£65,000	Dunkeld Road at Asda
	£192,000	Barrack St Junction
Road Safety Initiatives	£731,000	Road Safety Initiative Schemes
20mph Signs	£300,000	20mph signs
A977	£161,000	A977 Speed Mitigation Measures
Broich Road	£315,000	Broich Road, Crieff Junction Improvements
School RSI	£270,000	Road Safety Improvements
Total	£2,034,000	

Table 28 – Traffic Management Programme 2019/20

- 2.61 The additional Capital funding allocated from 2017/18 continues to be allocated towards the backlog of pedestrian crossings and speed activated variable message signs.
- 2.62 It should be noted that as we continue to add to the asset base, maintenance costs will increase which without additional revenue funding will result in a reduced standard of maintenance.

Summary and Future Developments

- 2.63 The overall condition of the Council's roads network has seen a further marginal improvement.
- 2.64 The Roads Maintenance Strategy, implemented through the approved Roads Asset Management Plan, directs where the available funding is spent and is currently targeted at the Council's primary road network, with lower category roads receiving less expensive treatments such as patching and surface dressing. The strategy will be reviewed in conjunction with the Roads Asset Management Plan in 2020/21.

- 2.65 The Street Lighting Partnership is currently 4 years into its LED replacement programme to drive down energy costs and replace their infrastructure in a planned and phased manner. Delivery remains ahead of programme resulting in higher savings and a quicker reduction in energy consumption.
- 2.66 Improvements to both the Council's CCTV and traffic signalling systems will be undertaken periodically in accordance with available funding. Priority will be given to maintaining the existing systems as effectively as possible to ensure that functionality is prolonged as much as possible.
- 2.67 The condition of the bridge stock continues to decline with an increasing number of structures in a condition that need a special inspection regime to ensure that they are safe to use.
- 2.68 With the deterioration of condition, more structures may be reaching a point where they will need to be replaced rather than repaired.
- 2.69 The number of parapet strikes continues to have a large impact on existing staff time and financial resources, with a resulting increase in the backlog of impact damages to be repaired.

3. RECOMMENDATIONS

- 3.1 It is recommended that the Committee:
- (i) endorses the contents of this Roads Asset Status Report, together with the condition and performance of the Council's Roads assets as at 31 March 2018, as set out in Appendix 2 to the report.
 - (ii) requests the Executive Director (Housing and Environment) to continue to submit an annual report on the performance of, and investment in, the Council's Roads assets in accordance with the approved Asset Management Plan, including benchmarking information.

Authors

Name	Designation	Contact Details
Gregor Walker	Corporate Asset Management Officer	01738 475000 HECommitteeReports@pkc.gov.uk
Stuart D'All	Road Maintenance Partnership Manager	

Approved

Name	Designation	Date
Barbara Renton	Executive Director (Housing & Environment)	04 October 2019

If you or someone you know would like a copy of this document in another language or format, (on occasion, only a summary of the document will be provided in translation), this can be arranged by contacting the Customer Service Centre on 01738 475000.

You can also send us a text message on 07824 498145.

All Council Services can offer a telephone translation facility.

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	None
Strategic Environmental Assessment	None
Sustainability (community, economic, environmental)	None
Legal and Governance	None
Risk	None
Consultation	
Internal	Yes
External	None
Communication	
Communications Plan	None

1. Strategic Implications

Community Plan / Single Outcome Agreement

- 1.1 The Perth and Kinross Community Plan/Single Outcome Agreement sets out a number of priorities. By maintaining the roads asset it enables every aspect of life to continue:

- (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

Capital

- 2.1 See detail in report.

Revenue

- 2.2 See detail in report.

Workforce

- 2.3 Maintenance of the network is implemented using existing staff resources.

Asset Management (land, property, IST)

- 2.4 This report defines the outcomes of managing the roads asset.

3. Assessments

Equality Impact Assessment

- 3.1 Under the Equality Act 2010, the Council is required to eliminate discrimination, advance equality of opportunity, and foster good relations between equality groups. Carrying out Equality Impact Assessments for plans and policies allows the Council to demonstrate that it is meeting these duties.
- 3.2 This section should reflect that the proposals have been considered under the Corporate Equalities Impact Assessment process (EqIA) with the following outcome:
- (i) Assessed as **not relevant** for the purposes of EqIA.

Strategic Environmental Assessment

- 3.3 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 policies (PPS). The proposals have been considered under the Act and no further action is required as it does not qualify as a PPS as defined by the Act and is therefore exempt.

Legal and Governance

- 3.4 Head of Legal and Governance assessment is not required for this report.

Risk

- 3.5 A risk assessment is not required for this report.

4. Consultation

4.1 The following were consulted in the preparation of this report:

- The Roads Maintenance Partnership
- The Street Lighting Partnership
- Structures Team
- Traffic Management Team
- Corporate Finance

5. Communication

5.1 None.

2. BACKGROUND PAPERS

2.1 No background papers, as defined by Section 50D of the Local Government (Scotland) Act 1983 (other than any containing confidential or exempt information) were relied on to any material extent in preparing the above report.

3. APPENDICES

3.1 Appendix 1 - Definitions of the Road Classifications.

3.2 Appendix 2 - Carriageway Condition against Scottish Average.