

PERTH AND KINROSS COUNCIL

Environment and Infrastructure Committee

7 November 2018

Roads Asset Annual Status Report – 2017/18

Report by Executive Director (Housing and Environment) (18/364)

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 2018. 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 £3.31 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 20th which is an improvement in ranking on last year. Our response times remain excellent with 100% of Category 1 defects being attended to within 3 hours. The cost per kilometre for road maintenance is below average and ranked 21st in Scotland.
- 1.4 The overall network condition has remained static from last year. However our A class network has shown an improvement, confirming that the Roads Maintenance Strategy approved by the Enterprise and Infrastructure Committee on 2 April 2014 (Report No [14/156](#) refers) is beginning to have a positive impact on the condition of the network. It should be noted, however, that the condition will continue to be directly affected by weather events.
- 1.5 For Street Lighting, our average cost of repairing a fault is £45.46 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 days.

- 1.6 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.
- 1.7 When setting the 2016/17 revenue budget in February 2016, the Council approved an additional £6 million of investment in the road network and structures over 3 years. In addition, a budget motion for a further £20m over the next 10 years was approved in June 2018 (Report No. 18/213 refers).
- 1.8 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. ROAD 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	494.15	579.57	1073.72
Total Length (km)	639.43	1834.46	2473.89

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 2012 to 2017. 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	2016/17	2017/18
Safety	Safety Inspections	Undertake routine carriageway and footway safety inspections on Category 2 and 3 at intervals of 1 month.	100%	94.3%	85%
		Undertake routine safety inspections on Category 4(a) Link Road at intervals of 3 months.	100%	91.2%	75.6%
		Undertake routine safety inspections on Category 4(b) Local Access roads at intervals of 1 year.	100%	98.98%	90.1%
	Defect Reporting	Category 1 defects shall be rectified or made safe within 3 hours.	100%	100%	100%
		Category 2 defects shall be rectified or made safe within 1 day.	100%	98%	89%
		Category 3 defects shall be rectified or made safe within 7 days.	80%	77%	73%

Table 7 – Carriageways Service Standards

- 2.8 The inspection process was reviewed with an inspector carrying out all monthly inspections and assistant road maintenance officers carrying out others across larger geographic areas. This took some time to bed in and along with the winter of 2017/18 being one of the worst in recent years the officer's ability to carry out regular inspections and achieve target repair times was inhibited. Current evidence indicates that the process is now working well and performance is improving.

Performance Indicators

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

Description	Results			Analysis
	PKC 2017/18	SCOTS Family Group Average	Scottish National Average	
Percentage of Category 1 (Reactive) defects made safe within response times	100%	99.28%	85.13%	Better than both the SCOTS family group and national average
Percentage of carriageway safety inspections completed on time	83.05%	91.54%	93.30%	Below the national average and SCOTS family group average
Percentage of carriageway length to be considered for maintenance treatment	37.20%	39.08%	36.55%	Better than the SCOTS family group and slightly worse than the national average
Percentage of carriageway length treated	4.02%	4.05%	3.81%	Marginally below the SCOTS family group and better than the national average
Total carriageway maintenance expenditure by carriageway length	£6,603	£5,679	£11,121	Higher than the SCOTS family group but much lower than the national average

Table 8 – Performance Indicators

- 2.10 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.
- 2.11 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

2.12 The following table shows the expenditure for financial years 2016/17 and 2017/18 on the carriageway asset:

Cost Category	2016/17	Output 2016/17	2017/18	Output 2017/18
Planned Maintenance – Preventative	£1,175,650	112.35km surface dressed (4.5% of network)	£938,341	75.3km surface dressed (3.03% of network)
Planned Maintenance – Corrective	£3,605,258	10,909 linear metres (0.41%) of 40mm resurfacing (£945,459)	£3,214,761	15.7km (0.63%) of 40mm resurfacing (£1,639,360)
		6,316 linear metres (0.25%) of 60mm resurfacing (£751,762)		10.95km (0.44%) of 60mm resurfacing (£1,213,697)
		15,293 linear metres (0.62%) of 100mm resurfacing (£1,168,967)		0km (0%) of 100mm resurfacing (£0)
		0 linear metres of reconstruction		21 linear metres of reconstruction (£12,583)
		Drainage improvements (52 sites) (£739,070)		Drainage improvements (33 sites) (£348,121)
Routine Cyclic Maintenance	£638,683	33,000, gullies cleaned	£503,128	26,142, gullies cleaned, drainage channels cleaned (£196,978)
		drainage channels cleaned (£319,225)		
		Road Markings renewed as required (£155,230)		Road Markings renewed as required (£165,654)
		Clear choked gullies (2903 no) (£87,905)		Clear choked gullies (1480 no) (£81,101)
		Other minor routine (£76,323)		Other minor routine (£59,395)
Routine – Reactive Repairs (emergency)	£75,100	24 Category 1 defects	£87,703	48 Category 1 defects (£6,000)
		Provide stand by service and attend to emergency defects during out of hours period (£71k)		Provide stand by service and attend to emergency defects during out of hours period (£81,703)
Reactive structural repairs (emergency)	£312,090	Repairs to retaining walls and embankments following weather events, subsidence etc.	£259,916	Repairs to retaining walls and embankments following weather events, subsidence etc.
Routine – Reactive Repairs (non-emergency)	£703,578	Carry out repairs to category 2 and 3 defects (potholes) identified during road safety inspections	£731,555	Carry out repairs to category 2 and 3 defects (potholes) identified during road safety inspections
		Repairs to signs and bollards (275 no)		Repairs to signs and bollards (310 no)
		Repairs to verges following vehicle damage (58 locations)		Repairs to verges following vehicle damage (41 locations)
		Repairs to fences and pedestrian guard rails (4		Repairs to fences and pedestrian guard rails (6

Cost Category	2016/17	Output 2016/17	2017/18	Output 2017/18
		locations)		locations)
		Repairs to vehicle restraint systems (6 locations)		Repairs to vehicle restraint systems (7 locations)
		Repairs to footways (661 locations)		Repairs to footways (572 locations)
		Minor drainage repairs (67 locations)		Minor drainage repairs (57 locations)
		Carriageway repairs (potholes) (11,557 locations) Several sites had multiple potholes		Carriageway repairs (potholes) (14,396 locations) Several sites had multiple potholes
		Repairs to cattle grid (2 locations)		Repairs to cattle grid (0 locations)
		Repairs to kerbs (69 locations)		Repairs to kerbs (92 locations)
		Repairs to retaining wall (1 location)		Repairs to retaining wall (0 location)
	£2,726,664	Carriageway patching (permanent) (92,424m ²) Additional funding enabled this work	£3,874,117	Carriageway patching (permanent) (105,612m ²) Additional funding enabled this work
Total	£9,237,023		£9,609,521	

Table 9 – Carriageway Investment and Output for 2016/17 and 2017/18

- 2.13 The following table shows the Roads Maintenance Partnership budget for financial year 2018/19 as reported to the Strategic Policy & Resources Committee on 12 September 2018:

Revenue	2018/19 Budget
Routine and Cyclic	£1,809,000
Flood Alleviation Scheme Maintenance	£150,000
Land Remediation	£50,000
Total	£2,009,000

Capital	2018/19 Budget
Structural Maintenance	£7,937,000
Unadopted roads	£96,000
Footways	£562,000
Safety Barriers	£60,000
Additional funding (Non-recurring)	£1,410,000
Forestry Commission Grant	£362,000
Total	£10,427,000

Table 10 – Roads Maintenance Partnership budget 2018/19

Structures

Condition

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

Structure Type	Quantity
Road Bridges	501
Footbridges	22
Unusual Structures	4
Retaining Walls	219
Culverts	343
Subways	1
Total	1090

- 2.15 The number of road bridges stated above has reduced from last year. The previous year's figure included a number of privately owned structures which have now been excluded.
- 2.16 Further work is still required to identify the number, location and condition of retaining walls within the PKC area. As a result, the full extent of the Council's responsibility for this asset type is unknown.

Stock Condition Indicators

- 2.17 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.
- 2.18 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.

Individual Structure Condition Indicators

2.19 Two condition indicators are calculated for each structure, which are defined as:

- BCI_{ave} : the average BCI for a structure taking into account the condition of all structural elements on the structure. This score provides an overview of the average structure condition.
- BCI_{crit} : the condition score of the load bearing element which is in worst condition. This score provides an indication of the criticality of the structure with regards to load bearing capacity.

Structure Condition Indicator Score Range Groupings

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

Service Standards

Service	Measured By	Target Compliance	2016/17	2017/18
Safety	Carry out General Inspections at a maximum frequency of 2 years, excluding structures programmed for a Principal Inspection.	100%	98.69%	100%

Service	Measured By	Target Compliance	2016/17	2017/18
	Carry out Principal Inspections at a maximum frequency of 6 years.	100%	74.42%	66.36%
	Carry out Scour Inspections at a maximum frequency of 6 years.	100%	100%	95.28%
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	84.73	84.66
	Maintain all Structures such that the BSCI _(crit) remains above 75.	75	73.69	73.87
	The total number of weight restricted bridges within the authority shall remain below 1% of stock.	1% of stock	3.53%	4.36%
	The number of sub-standard structures subject to BD79 monitoring within the authority shall remain below 2% of stock.	2% of stock	7.0%	7.77%

Table 13 – Structures Service Standards

- 2.20 In general, the overall condition of the Council's structures stock is calculated as Fair to Poor.
- 2.21 The number of principal inspections completed is below target as priority has been given to ensuring that special inspections are carried out. If it is not possible to carry out a full principal inspection due to lack of suitable access to all areas of the bridge due to confined space, railway land or roped access required then it is recorded as a general inspection instead.
- 2.22 The condition of individual structural components within the stock is below acceptable standards as defined in table 12. This has resulted in 68 sub-standard structures being subject to special monitoring. The frequency of special monitoring is typically set at 1, 3, 6 or 12 months depending on level of risk. The special inspections add a further 125 inspection visits or an increase of over 25% to the workload of the inspectors. These inspections will take precedence over Principal and General Inspections and therefore targets for these inspections may drop in future years.

- 2.23 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. Underwater inspections using waterproof cameras are increasingly being used. Only in rare cases are diving surveys required. In 2017/18, diving inspections were scheduled for 5 out of the 106 structures requiring principal inspection. However, these have been re-phased into 2018/19.
- 2.24 A programme of identifying retaining walls is ongoing with only Perth City centre remaining to be surveyed. These structures will be added to the general and principal inspection programme which will have an impact on inspection resources and the maintenance budget. Works identified will be managed on a risk basis.
- 2.25 A number of weight restrictions have had to be placed 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.

Performance Indicators

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

Description	Results			Analysis
	PKC 2017/18	SCOTS Family Group Average	National Average	
Percentage of principal inspections carried out on time	66.36%	69.97%	78.51%	PKC has a lower percentage of principle inspections carried out on time than both the SCOTS family group and national average.
Percentage of general inspections carried out on time	100%	79.63%	88.68%	Better than both the SCOTS family group and national average.
BSCI Average	84.66	84.61	86.33	Ranked 5 th out of 7 in SCOTS Family group.
BSCI Critical	73.87	77.37	78.23	Ranked 5 th out of 7 in SCOTS family group.

No of Council owned bridges failing assessment	50	55	24	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	3	7	PKC has more private bridges failing assessment than the SCOTS family group average but less than national average.

Table 14 – Performance Indicators

- 2.27 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

- 2.28 The following table shows the expenditure on Structures for financial year 2017/18 with the budget figure as reported to the Strategic Policy & Resources Committee on 12 September 2018:

Revenue	2017/18 Planned	2017/18 Actual
Bridge Repairs	£212,000	£234,179
Structural Maintenance – Queen's Bridge	£402,000	£181,508
Structural Maintenance – Old Perth Bridge	£235,000	£150,350
Total	£849,000	£566,037

*New revenue stream: Queens Bridge and Old Perth Bridge investigation, testing and assessment

Capital	2017/18 Planned	2017/18 Actual
West of Fearnan Culvert	£312,000	£422,435
Parapet Upgrades	£71,000	£11,732
Pitcur Culvert	£0	£171,176
Welton Road Retaining Wall	£123,000	£0
Port na Craig Footbridge	£18,000	£4,177
Total	£524,000	£609,520

Table 15 – Structures Investment 2017/18

- 2.29 The following table shows the Structures budget for financial year 2018/19 as reported to the Strategic Resources & Policy Committee on 12 September 2018:

Revenue	2018/19 Budget
Bridge Repairs	£185,500
Structural Maintenance – Queen’s Bridge	£191,000
Structural Maintenance – Old Perth Bridge	£26,000
Total	£402,500

Capital	2018/19 Budget
West of Fearnan Culvert	£42,000
Parapet Upgrades	£109,000
Welton Road Retaining Wall	£369,000
Pitcur	£15,000
Total	£535,000

Table 16 – Structures 2018/19 Programme

- 2.30 An additional £5m has been allocated to the structures Capital budget for the next 10 years. This will be used to start addressing the £31million backlog of Capital projects identified.
- 2.31 Based on the amount of annual depreciation predicted by the SCOTS RAMP project, the amount of Revenue budget currently allocated is approximately 13% of the amount required.
- 2.32 There are currently 46 parapet impacts on highway structures awaiting repair in Perth & Kinross. These have been made safe with temporary barriers and signs where necessary and permanent repairs will be carried out when staff and revenue resources allow. 13 of these impacts are scheduled for repair in 2018/19. Where the driver of the errant vehicle can be found, repair costs are reclaimed from their insurance company. In all other cases, these repair costs must be taken by the Council.

Street Lighting

2.33 The street lighting asset is considered using the following classification:

Column Material	Quantity
Galvanised Steel	14,174
Aluminium (pre 2000)	3,345
Aluminium (post 2000)	4,789
Cast Iron	25
Total	22,333

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	230
Control Cabinet	1,216
Total	3,625

Luminares	Quantity
All	25,449
Total	25,449

Illuminated Signs	Quantity
Signs	1,990
Bollards	356
Total	2,346

Table 17 – Quantity of Street Lighting Assets

Columns Exceeding ESL (by Material Type)		
Material Type	Columns Within ESL	Columns Exceeding ESL
Galvanised Steel	10656	3518
Aluminium (pre 2000)	3144	201
Aluminium (post 2000)	4789	0
Cast Iron	25	0

Table 18 – Quantity of Columns Exceeding ESL (Expected Service Life)

- 2.34 In 2017/18, 18.27% 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 have a high priority rating 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	6181	2938
SON	1803	4794
FLUORESCENT	350	3734
METAL HALIDE	25	55
LED	0	4868
Other	123	556

Table 19 – Quantity of Luminaire Exceeding ESL

- 2.35 In 2017/18, 32.61% 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	2016/17	2017/18
Safety	Electrical testing of all equipment shall be undertaken at a frequency of 6 years	100%	68.09%	65.25%
	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%	19.01%	18.27%
	A non-emergency fault shall be rectified within 7 working days (Single Outage)	100%	98.50%	99%
	Average time taken to repair faults to restore lamps to working order	2.6 days	2.38 days	2.31 days

Table 20 – Street Lighting Service Standards

- 2.36 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.
- 2.37 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	99%	86.12%	87.39%	The Council performance for repairing faults is better than SCOTS family group and one of the best across Scotland
Average cost for repairing a routine fault	£45.46	£68.27	£119.37	One of the lowest across Scotland
Average time taken to repair (days)	2.31 days	4.16 days	7.86 days	Substantially lower than both the SCOTS family group and the Scottish average
Public calls as a percentage of street lights	11.76%	8.67%	8.28%	The Council receives more calls when compared to the SCOTS benchmarking family group and Scotland

Table 21 – Performance Indicators

- 2.38 The Council performance for repairing faults remains one of the best in Scotland with 99% of faults repaired within 7 days. The average cost of repairing a routine fault is £45.46 which remains one of the lowest in Scotland. The average time taken to repair a fault has continuously improved and is now 2.31 days, which is substantially less than the Scottish average of 7.86 days.

Investment

- 2.39 The following table shows the expenditure for financial years 2016/17 and 2017/18 on Street Lighting:

Cost Category	2016/17	Output 2016/17	2017/18	Output 2017/18
Planned Maintenance – Corrective	£1,267,211	2604 lanterns replaced during year (10.23%)	£883,930	2000 lanterns replaced during year (7.85%)
Total net payment for bulk/planned replacement of street lighting stock		471 columns replaced during year (2.09% of total stock)		414 columns replaced during year (1.83% of total stock)
Routine – Reactive Repairs	£170,021	4,356 total faults Repaired	£198,639	4,370 total faults repaired
Total number of routine, day to day faults affecting lanterns, control gear or photo cells		1,542 of the total faults that were identified as a result of scouting/inspection		1,404 of the total faults that were identified as a result of scouting/inspection
		2,814 of the total faults that were identified as a result of reports by public / other third parties		2,966 of the total faults that were identified as a result of reports by public / other third parties
Routine – Reactive Repairs	£110,140	All other net annual payments for maintenance of street lighting stock (excluding bulk/planned replacement and energy costs)	£150,094	All other net annual payments for maintenance of street lighting stock (excluding bulk/planned replacement and energy costs)
Total	£1,547,372		£1,232,663	

Table 22 – Street Lighting Investment and Output for 2016/17 and 2017/18

- 2.40 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		500	
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	4,840	4,750	885

Table 23 – Street Lighting Programme

- 2.41 The Street Lighting Partnership is currently 3 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	2019/20
SFT Forecast Energy (kWh)	9,262,753	8,376,702	7,909,465	7,511,409	7,040,473
SFT Forecast Energy Saving (kWh)		886,051	1,353,288	1,751,344	2,222,280
Actual Energy (kWh)	8,879,121	7,749,283	6,993,048		
Actual Energy Saving (kWh)	383,632	1,513,470	2,269,705		
SFT Forecast Energy Cost (£)	£1,017,454	£1,144,851	£1,259,158	£1,290,711	£1,336,066
SFT Forecast Energy Cost Saving (£)		£104,969	£176,359	£235,170	£310,134
Energy Budget Required Without LED's conversion (£)	£1,130,756	£1,202,907	£1,179,261		
Actual Energy Cost (£)	£1,083,924	£1,006,360	£890,300		
Actual Energy Cost Saving (£)	£46,832	£196,547	£288,961		

Table 24 – LED Replacement Programme Energy Figures

Traffic Management

- 2.42 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	48	3	45
Traffic Signal (Pedestrian Crossing) Subtypes			
Single Carriageway	62	5	57
Dual Carriageway	3	0	3
Total	113	8	105

Other Traffic Management System Types	Quantity
Safety Cameras	35
Vehicle Activated Signs	66
Total	101

- 2.43 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	2016/17	2017/18
Safety	Attendance at Major faults shall be within 4 hours	100%	84.21%	92%
	Attendance at Minor faults shall be within 24 hours	100%	83.22%	93%
	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%	82.46%	90%
	Initial repair of minor faults shall be within 24 hours	100%	95.21%	93%

	The percentage of traffic signal installations exceeding their ESL of 20 years should be no more than 0	100%	96.26%	94.69%
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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	89.86%	88.04%	93.33%	PKC is similar to the SCOTS family group and below the national average.
Percentage of faults rectified on first visit	83.38%	89.96%	91.23%	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

- 2.44 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.
- 2.45 The following table shows the expenditure on Traffic Signals for financial year 2017/18:

2017/18 Actual

Revenue

Cost Category	2017/18 Budget	Planned Work 2017/18	2017/18 Actual
CCTV Planned Maintenance	£6,000	Planned Maintenance Contract – Spie Scotshield Ltd	£5,954*
CCTV Reactive Maintenance	£8,500	Miscellaneous reactive repairs and maintenance costs	£6,681*
CCTV System Costs	£27,105	System running costs	£27,105*
Planned Maintenance	£77,000	Planned Maintenance Contract – Siemens (expires 31/12/2017)	£77,030

Reactive Maintenance	£49,500	Miscellaneous reactive repairs and maintenance costs	£37,312
Telecommunication Costs	£8,000	Annual costs for communication systems	£6,244
Energy Costs	£67,000	Electricity costs for Traffic Signals, and Automatic Bollards	£43,487
Speed Detection Signs	£1,500		£0
City Operations (ERDF)	£120,000	Funded by Traffic management but being delivered by Housing & Community Safety	£8,710
Total Revenue	£364,605		£212,523

*Funded by Parking Services

Capital

Cost Category	2017/18 Budget	Planned Work 2017/18	2017/18 Actual
Road Safety Initiative Additional Works	£300,000	Forfar Road, Coupar Angus (Larghan View)	£360,757
	£60,000	High Street, Kinross (Co-op)	£30,104
	£80,000	High Street Kinross (Montgomery Street)	£0.00
	£50,000	Dundee Road, Perth	£32,458
	£180,000	Pedwarden Road and Whinniemuir Farm crossings (Scone Road), Perth	£91,683
UTC Upgrade	£1,569	York Place/Caledonian Road, Perth	£1,569
	£4000	Wellmeadow, Blairgowrie	£5,153
	£15,000	Fittis Road, Perth	£12,827
Vehicle Activated Signs (VAS)	£199,000	VAS Road Safety Initiative	£160,235
A977	£90,000	Speed Mitigation Measures	£60,768
Total Capital	£979,569		£755,554
Total Revenue & Capital	£1,344,174		£968,077

Table 27 – Traffic Management Investment 2017/18

- 2.46 The following table shows the Traffic Signals budget for financial year 2018/19 as reported to the Strategic Policy & Resources Committee on 12 September 2018:

2018/19 Programme

Revenue

Cost Category	2018/19 Budget	Output 2018/19
Planned Maintenance	£77,000	Planned Maintenance Contract – Siemens
Reactive Maintenance	£60,500	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
CCTV Planned Maintenance	£4,961*	Planned Maintenance Contract – Spie Scotshield Ltd
CCTV Reactive Maintenance	£6,447*	Miscellaneous reactive repairs and maintenance costs
CCTV System Costs	£29,865*	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	£523,773	

*Funded by Parking Services

Capital

Cost Category	2018/19 Budget	Output 2018/19
UTC Upgrade	£30,000	Dunkeld Road at Ballantine Place
	£60,000	Dunkeld Road/St Catherines Road Junction
	£34,000	Urban Traffic Control upgrades unallocated
Road Safety Initiatives	£215,000	Programmed – Priority List 1 schemes
	£692,000	Road Safety Initiative Works – Priority List 2 schemes
Vehicle Activated Signs (VAS)	£39,000	Vehicle activated signs
A977	£493,000	A977 Speed Mitigation Measures
Broich Road	£320,000	Broich Road, Crieff Junction Improvements
Total	£1,883,000	

Table 28 – Traffic Management Programme 2018/19

- 2.47 An additional £1,621,000 of Capital funding was allocated towards a backlog of pedestrian crossings and speed activated variable message signs to be delivered in 2017/18 and 2018/19.
- 2.48 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

- 2.49 The overall condition of the Council's roads network and associated infrastructure has stabilised following a number of years of decline. Strategies and future programmes continue to assist in mitigating this along with the future impact of additional funding allocated to the roads asset base in June 2018.
- 2.50 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.
- 2.51 The Street Lighting Partnership is currently 3 years into its LED replacement programme to drive down energy costs and replace their infrastructure in a planned and phased manner. Delivery is ahead of programme resulting in higher savings and a quicker reduction in energy consumption.
- 2.52 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.
- 2.53 The overall condition of the Council's road structures (bridges, culverts & retaining walls) continues to decline year on year. An increase in future capital and revenue investment would be required to address this decline.

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

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Approved

Name	Designation	Date
Barbara Renton	Executive Director (Housing & Environment)	17 October 2017

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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