

Agenda Item	21
Report No	EDI/81/18

## HIGHLAND COUNCIL

**Committee:** Environment, Development and Infrastructure

**Date:** 8 November 2018

**Report Title:** Road Structures Annual Report

**Report By:** Director of Community Services

### 1. Purpose/Executive Summary

- 1.1 This report provides an outline of the Council's bridge stock, its condition, the bridge inspection regime, and the budgets associated with maintaining road structures.
- 1.2 It provides recommendations for projects to be included in the "Bridges, Retaining Walls and Culverts" line, of the Community Services' Capital Programme, 2019/21.

### 2. Recommendations

- 2.1 Members are invited to:
  - i. note the position of the Bridge Stock Condition Indicators in Highland;
  - ii. note the current position in Highland in relation to the number of structures inspections undertaken; and
  - iii. approve the 2 year rolling programme for 2019-21 for the "Bridges, Retaining Walls and Culverts" allocation of the Community Services Capital Programme.

### 3. Highland Council Road Structures Information

- 3.1 The Highland Council has the largest number of road structures out of the 32 Scottish Local Authorities.
- 3.2 The term 'road structure' is used to describe bridges, culverts and retaining walls. Not all road structures which carry or hold up an adopted road are in the ownership of the Council.
- 3.3 More detail on road structures is given in the Road Asset Management Plan (RAMP) 2016-2019, available through the link below.  
[https://www.highland.gov.uk/info/20005/roads\\_and\\_pavements/99/roads\\_information/4](https://www.highland.gov.uk/info/20005/roads_and_pavements/99/roads_information/4)
- 3.4 The information provided in the RAMP was correct at the time it was produced. A table showing the numbers and types of road structures the Council is responsible for is shown below (2017/18 figures from asset valuation calculations).

Structure Type	Quantity
Road Bridges	1,675
Footbridges	31
Unusual Structures	103
Retaining Walls	1,061
Culverts	418
<b>Total</b>	<b>3,288</b>

- 3.5 The Gross Replacement Cost (GRC) of the structures stock calculated for 2017/18 is £646,260,701. This figure fluctuates as data on the stock is refined.
- 3.6 Additionally, cattle grids are structures on roads which the council also have a responsibility for. Traditionally, they have not been included in the structures budget but have been replaced using revenue money from the roads budget. There are currently 574 listed in the asset management database. Cattle grids are not included in the structures GRC figure above as they are accounted for separately due to the way Whole of Government Accounts requires it to be recorded. The 2017/18 GRC for grids is £6,347,000.
- 3.7 The figures contained in this report do not include other bridges the Council may be responsible for, only those considered to be 'adopted' under the Roads (Scotland) Act 1984. Other bodies may own or be responsible for structures which carry the public road. Network Rail and Scottish Canals are examples of organisations responsible for some bridges on the adopted road network.

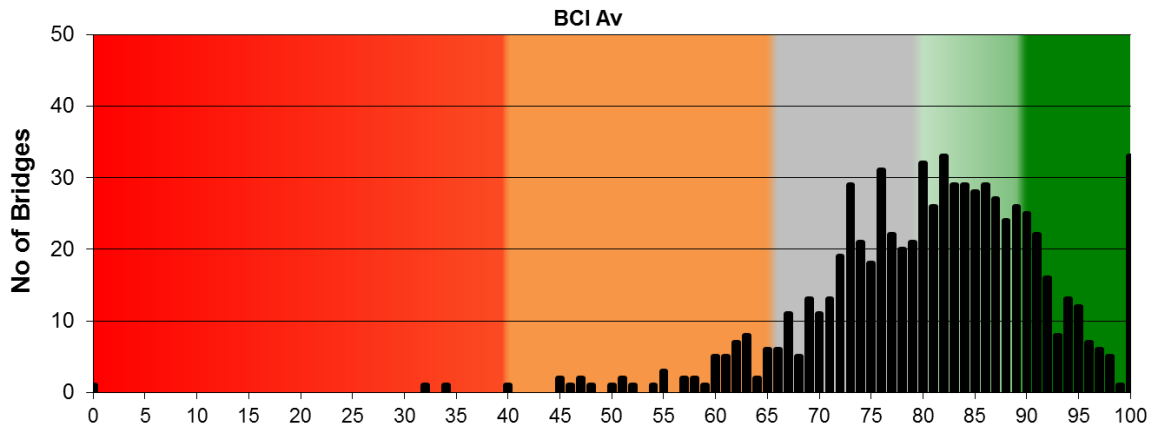
### 4. Inspections

- 4.1 The 'Well-Managed Highway Infrastructure: Code of Practice' was published in October 2016. It recommends using a risk-based approach to determine inspection frequencies. The Society of Chief Officers of Transportation (SCOTS) has drafted a risk-based approach as part of the Road Asset Management project. Highland is currently reviewing this approach. A strategy for inspections will be brought to a future committee, expected to be February 2019.

### 5. Bridge Stock Condition

- 5.1 Principal inspections (on bridges 5m or more in length pre 2018/19) generate a

condition score for each individual bridge. This is used to calculate the Bridge Stock Condition Index (BSCI). The 2017/18 Highland BSCI average is 80.9 and BSCI critical is 67.9. The distribution of BCI average values for each bridge which has had a PI are shown in the diagram below.



## 6. Performance Indicators

- 6.1 Highland completes and returns an APSE/ SCOTS performance questionnaire annually. This questionnaire has evolved over the years and has been partly developed through the SCOTS Road Asset Management project. It is intended to now publish these results annually as the amendments to the questionnaire have settled down.
- 6.2 The 2017/18 Highland results have been submitted to APSE/ SCOTS but not yet verified by them. Therefore, the previous 3 years data for some of the performance indicators relating to structures is shown in the table below, along with the provisional 2017/18 results (all 4 years data for Highland).

APSE/ SCOTS PI	2014/15	2015/16	2016/17	Provisional 2017/18 Result
% of Principal Inspections carried out on time	81.4	85.8	100.0	98.8
% of General Inspections carried out on time	37.9	24.3	26.0	38.0
BSCI average	82.0	81.0	81.4	80.9
BSCI critical	70.0	68.5	69.0	67.9
% of Council owned bridges failing European standards	10.9	10.8	10.7	10.0
% of Council road bridges with unacceptable weight, height or width restriction	0.3	0.4	0.3	0.3

- 6.3 The table below shows the 2016/17 results for the SCOTS Family Group (Rural), and the Scotland averages. The 2017/18 results have not yet been verified by APSE/ SCOTS at the time of writing this report so are not currently available.

APSE/ SCOTS PI	Family Group Average	Scotland Average
% of Principal Inspections carried out on time	74.7	71.4
% of General Inspections carried out on time	85.9	85.8
BSCI average	86.5	86.9
BSCI critical	77.3	77.9
% of Council owned bridges failing European standards	3.3	3.4

% of Council road bridges with unacceptable weight, height or width restriction	1.0	1.9
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6.4 Principal Inspections are undertaken by the Project Design Unit and paid for from the Roads and Transport revenue budget. General Inspections are normally undertaken by Roads and Transport Area staff along with their other duties. Members agreed at the November 2017 EDI Committee to reallocate more resources to structures inspections from within the overall roads maintenance budget. At the time of writing this report, four additional Structures Technician posts are under recruitment and this will significantly improve the percentage of General Inspections undertaken on time in Highland.

## 7. Inspections and Resultant Works

7.1 Principal and General inspections create recommendations and works for the structures stock. These works are prioritised either in the Capital programme or by the Roads and Transport Area offices for the revenue budget.

7.2 The 2018/19 Roads Budget Allocation has the following distribution for spend on structures:

- Roads Bridge Maintenance: £350k plus additional £180k (capital)
- Cattle/ Deer Grids: £120k (£50k revenue, £70k capital)
- Strategic Timber Transport Scheme: 50k (capital)
- Bridges Structural Maintenance: £477k (revenue)
- Principal Inspections and Assessments: £185k (revenue)

7.3 A decision was made for 2017/18 to split out the costs for Principal Inspections as these were being paid from various Area revenue budgets. This removes the annual fluctuation in the Bridges Structural Maintenance for each Area which was dependent on the number of Principal Inspections that required to be completed.

7.4 As stated in the Road Asset Management Plan version 4 (2016 – 2019), the annualised depreciation for structures is £3,160,000. Annualised depreciation is the cost of an asset in one year of its expected life. Principal Inspections highlight and recommend the need for a further assessment on a structure and these should be added to a rolling programme. Any assessments required currently need to be paid for from the Area revenue budget, reducing the funding available for maintenance works. This has resulted in a decline in the number of assessments undertaken so that maintenance works can be completed. Assessments will be reviewed on a case by case basis and potentially paid for from the £185k PI budget.

7.5 The internal audit report 'Inspection of Roads and Bridges' (September 2017) highlighted the need for a consistent approach to reporting works undertaken at Area Committees. This is currently being implemented; agreed actions include the recruitment of four Structures Technicians supported by the provision of specialist training.

## 8. Capital Programme – Bridge Maintenance budget (Roads and Transport)

8.1 As stated in 7.2, £530,000 from the Roads and Transport capital budget is allocated for bridge maintenance. Further capital investment is made from the Development and Infrastructure capital budgets. The Council's capital programme was reviewed in March 2018.

8.2 In Report EDI 23/17, it was recommended that a 2 year rolling programme for bridge

maintenance is created to allow for design of works and subsequent construction. Members agreed this at committee. The 2019-2021 works programme for Member approval is shown in Appendix A. Not all projects will be completed in the year they start as design work is initially required.

- 8.3 The £50k allowance for match funding for the Strategic Timber Transport Scheme (STTS) has been allocated to bridge repair works on the C1043 (Strathconon). The scheme will provide improvements to a 20km section of road from Marybank to Milton. The bridges within the section have been visually surveyed and formal assessments of the capacity of two of them completed. In order to carry out the structural repairs to a masonry arch bridge on the route, a temporary bridge and access formation is required. The temporary bridge has been sourced from the Highland Council stock of emergency bridges and will be erected by Council staff. If the £50k STTS allowance is not needed in future years for an STTS project, the funding will be added back into the Roads Bridge Maintenance total.
- 8.4 Cattle and deer grids will be allocated funding on an annual basis by bids submitted to the HQ team. At the time of writing this report, 9 bids had been submitted and allocated for 2018/19. A rolling list will be kept if more bids than funding available are submitted. The following table lists the cattle grids for replacement/ repair in 2018/19.

No.	Area	Route	Grid Name
1	Badenoch & Strathspey	U2274	Tulloch
2	Badenoch & Strathspey	U2036	Lettoch (Nethy Bridge)
3	Badenoch & Strathspey	U2114	Glenbanchor (Newtonmore)
4	Lochaber	A861	Salen - Acharacle
5	Lochaber	U1002	Lundavra Road
6	Lochaber	C1188	Strontian - Bellsgrrove Road
7	Skye	U4768	Sheader aka Fairy Glen
8	Skye	U4767	Camustianavaig
9	Skye	U4798	Glenbernisdale

## 9. Implications

- 9.1 Resources: Members agreed at the November 2017 EDI Committee to approve recruitment of 4 additional Structures Technicians. The cost of this is allocated from within the overall roads maintenance budget.
- 9.2 Legal: The Council has a duty to maintain structures to a reasonable standard and to manage risk effectively.
- 9.3 Rural: Due to the geographic nature of Highland, many structures are located where remote communities rely on them. This is used as one of the factors taken into account when prioritising schemes.
- 9.4 Community and Gaelic: There are no other known Climate Change / Carbon Clever, equalities or Gaelic implications arising as a direct result of this report.

Designation: Director of Community Services

Date: 8 November 2018

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Background Papers: COM 58/15 Bridges and Road Structures  
EDI 23/17 Road Structures Annual Report

## Appendix A

		PROJECT	2018-19	2019-20	2020-21	TOTAL ESTIMATED PROJECT COST	SCOPE of WORKS	
Allocated Nov 2017	1	C10870030	An Uillt Bhig	40	39	2	81	Strengthening and refurbishment
	2	C10430070	Bridgend	50		0	50	THC contribution in conjunction with STTS funding
	3	B09700200	Nethy	28	109	3	140	Repointing
	4	A08310040	Polmaily	24	55	2	80	Waterproofing, joint replacement & resurfacing
	5	A08320330	Poolewe	10	138	3	150	Concrete investigation and repair
	6	A08360180	Vagastie		19	1	20	Minor works
	7	A08360220	Inchkinloch		28	2	30	Partial repointing
	8	A08380080	Achfary		87	3	90	Waterproofing & resurfacing, concrete repairs
	9	C11540010	Tomlachlan		68	2	70	Refurbishment or re-decking
	10	C10340089	Braesgill	200	0	0	200	Replacement of flood damaged, small bridge
	11	A08350270	Ledmore		116	159	275	Parapet replacement
	12	A08620090	Lovat		122	3	125	Masonry repair and scour protection
	13	B08610010	Ness		16	231	350	Assessment and Investigations as a precursor to major works
	14	A08380220	Kyle of Tongue West joint replacement		4	45	50	Movement joint replacement
	15	A08610350	Ceol na Mara		4	45	50	Masonry repairs
	16	A08610340	Camuschork		3	35	40	Masonry repairs
	17		<i>Design cost for Works in 2021-22</i>			44		
TOTAL ANNUAL SPEND			352	808	580			
ANNUAL BUDGET			580	580	580			
Under/overspend Carried Forward			228					