

Agenda Item	<b>8</b>
Report No	<b>BSAC/11/20</b>

## HIGHLAND COUNCIL

**Committee:** **Badenoch & Strathspey Area Committee**

**Date:** **10 November 2020**

**Report Title:** **Area Road Structures Annual Report 2019/20**

**Report By:** **Executive Chief Officer Infrastructure and Environment**

### **1 Purpose/Executive Summary**

- 1.1 This report provides an Area update on the inspection regime and the work undertaken as part of the overall Structures Programme for the 2019/20 financial year.

### **2 Recommendations**

- 2.1 Members are asked to note the contents of the report.

### **3 Implications**

- 3.1 Resource – The total backlog of work is currently unknown, but the rolling programme will be added to annually as inspections are completed.
- 3.2 Legal - The Council has a duty to maintain structures to a reasonable standard and to manage risk effectively.
- 3.3 Community (Equality, Poverty, Rural and Island) - Due to the geographic nature of Highland, many structures are located in remote areas where failure may result in communities being cut off or having to travel significant distances via alternative routes.
- 3.4 Climate Change / Carbon Clever - There are no known Climate Change / Carbon Clever, implications arising as a direct result of this report. Although improving road structures is unlikely to have a significant effect on carbon emissions, keeping the road network in a condition which allows the free flow of traffic will assist in reducing them.
- 3.5 Risk - Although not specifically mentioned in CR10 Condition of our Roads, structures are a vital part of the road network and require active management.
- 3.6 Gaelic - There are no known Gaelic implications arising as a direct result of this report.

### **4 Structures Assets**

- 4.1 This report applies only to structures which are considered to be part of the adopted road network under the Roads (Scotland) Act 1984 and are the responsibility of the Council. It does not include structures that are the responsibility of other Council Services or those owned by other parties which are part of the adopted road network.
- 4.2 The term 'road structure' is used to describe bridges, culverts, retaining walls and cattle grids. A breakdown of Council owned/ maintained road structure numbers per Operational Area is shown in **Table 1** below (as at 20/08/20). It is important to note that footbridges which are part of the adopted road are also included.

**Table 1: Adopted Road Structures per Operational Area**

<b>Area</b>	<b>Bridges (5.0m plus)</b>	<b>Bridges (under 5.0m)</b>	<b>Minor Culverts</b>	<b>Retaining Walls</b>	<b>Cattle Grids</b>
Badenoch & Strathspey	60	56	14	23	16
Caithness	33	98	18	18	27
Inverness	112	131	79	160	40
Lochaber	126	176	78	217	82
Nairn	26	30	7	20	4
Ross & Cromarty	145	201	93	251	79
Skye & Lochalsh*	87	133	64	139	202
Sutherland	146	269	77	248	146

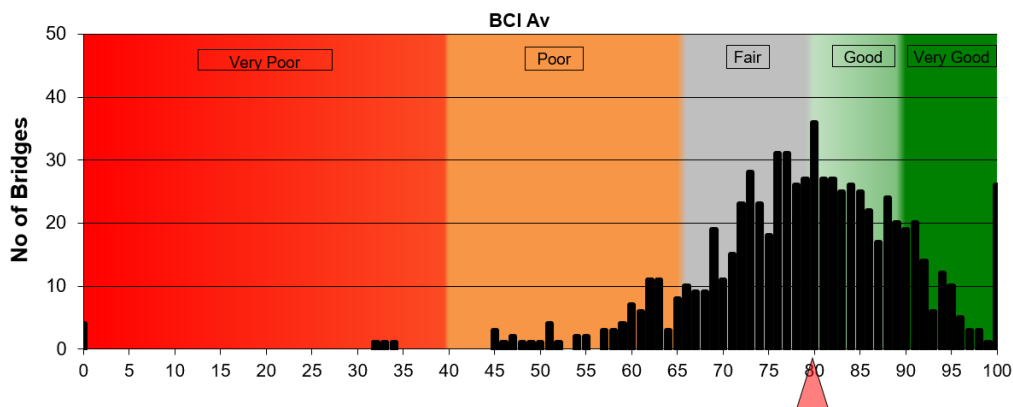
\* Includes Lochalsh area – database to be updated.

## **5 Finance**

- 5.1 A decision was made for 2017/18 to remove the costs for Principal Inspections (PIs) from Area revenue budgets. This removes the annual fluctuation in the Bridges Structural Maintenance budget for each Area which was dependent on the number of Principal Inspections that required to be completed.
- 5.2 The replacement and maintenance of structures is funded from either Capital or Revenue budgets. As would be expected, Area revenue budgets are used to effect relatively small repairs, maintenance or minor replacements, in comparison to Capital works. The Badenoch & Strathspey Area revenue budget for 2019/20 was £34,595.

## **6 Bridge Stock Condition**

- 6.1 As inspections are completed, information gathered is used to calculate the Bridge Stock Condition Index (BSCI). Currently, principal inspection results are used as they generate a condition score for each bridge >5m. The 2019/20 Highland BSCI average is 79.0 and BSCI critical is 64.0. The distribution of BCI average values for each bridge which has had a PI are shown in the diagram.



6.2 Those bridges identified in Badenoch & Strathspey area with an index below 65 are listed in **Table 2** below and these bridges are kept under close review.

**Table 2: Badenoch & Strathspey area bridges scoring below BCI 65**

Bridge Name	Average Bci Value	Overall Length of Structure
OLD TULCHAN	61.5	56.9
BALNAAN	60.2	46
CORONATION	64.5	10.05
BROOMHILL SPEY	63.3	115
SPEY BRIDGE CROMDALE	32	66.4
SPEY DAM	57	36.2
ANABOARD BURN II	48.2	5.4
DULNAIN	62.5	20

## 7 Structures Inspection Programme

7.1 There are several types of inspections undertaken on structures. These include General and Principal Inspections (GIs and PIs). Currently, PIs are undertaken by the Structures Section of the Project Design Unit (PDU) on bridges with an overall length of 5m or more. PIs are a more detailed inspection, compared to a GI. The Area Structures Technicians, along with other Area staff when necessary, will undertake the majority of GIs. Some GIs on the larger structures (20m length or more) will be completed by the Structures Section (PDU). The Area Structures Technicians will assist the Structures Section in completing inspections whenever possible.

7.2 Members approved the 'Structures Inspections' policy at EDI committee in August 2019 to move towards a risk-based approach to inspections. Inspections are generally undertaken within a calendar, rather than financial, year. This is to allow for programming.

## 8 2019/20 Badenoch & Strathspey Principal Inspection Programme Update (bridges >5m, by the PDU)

8.1 For 2019/20, 4 bridges were programmed for Principal Inspections. Members are reminded that the PDU Structures Section undertakes these inspections.

8.2 At the end of March 2020, 4 bridges had been inspected. This is a completion rate of 100%. The bridges inspected are listed in **Appendix A** by area.

## 9 2019/20 Badenoch & Strathspey General Inspection Programme Update (bridges >20M, by the PDU)

- 9.1 For 2019/20, 6 bridges over 20m in length were programmed for General Inspections by the PDU.
- 9.2 At the end of March 2020, 6 bridges had been inspected. This represents a completion rate of 100%. The bridges inspected are listed in **Appendix B** by area.
- 10 Badenoch & Strathspey Area General Inspections (bridges <20m, by Area Officers)**
- 10.1 The Badenoch & Strathspey area General Inspections (GI) completed in 2019/20 by the Area Structures Technician are recorded in **Table 3** below. These comprise programmed and backlog general inspections:-

**Table 3: Badenoch & Strathspey Area GI 2019/2020**

Bridge ID Number	Bridge Name
B09700120	Boring Mill
B09700160	Coylumbridge
U20840010	Loch An Eilein
B09700140	Dalfaber Caravan Site
U24490010	Dalfaber railway
C11370040	Breakachy East
U20790010	Dalfaber
U21040020	Sherrabeg
B09700010	Pitmain Burn
B09700020	Pitmain Burn Ext
B09700030	Dellmore
B09700050	Shinty pitch 2
B09700040	Shinty pitch 1
C11370020	Truim
B09700110	Feshie
U23870020	Crubenmore
U30500010	Lynwilg Farm
B09700180	Glencairn
U20940009	Blackmill
U20940020	Allt Ruadh
B09700090	Tromie
B09700079	Gordonhall
U24000020	Slochd Cottage Railway
B91520030	Dunachton
B91520020	Balavil
B09700210	Balliemore
B91520050	Loch Alvie
U23510020	Upper Delliefure
B91020020	Wester Culfioch
A09390070	Allt Na Ceardaich
U23790030	Lochindorb
U23790040	Drumroy
U23790050	Glentaroch
U23790020	Anaboard Burn 2
U23790010	Anaboard Burn 1
B91780010	Dulnain
A09380019	Foregin
A09380029	Baddengorm

A09380040	Duthil
B91520070	Aviemore
C11260020	Rieunachan
U20360010	Dorback Burn

10.2 This does not include ad-hoc inspections, which take place in response to complaints, for asset management, work programming, or responding to weather events for example.

10.3 Area Structures Technicians carry out the Area General Inspections. There are 4 area Structures Technicians covering the Highlands. They are now established in post, since commencement around May 2019, bringing Highland Council's inspection regime back on programme. 100% of the planned 32 Badenoch & Strathspey area General Inspections were completed along with 10 from the backlog, and the backlog of area General Inspections is significantly improved; of the Badenoch & Strathspey area backlog there are 45 remaining.

## 11 Inspection Frequency

11.1 General Inspections are undertaken on a risk-based inspection cycle of either two or three years, as approved at the November 2018 EDI Committee (report EDI/81/18). The risk-based inspection intervals are dependent on condition, exposure and risk of deterioration as set out in the guidance issued by the Society of Chief Officers of Transportation in Scotland (SCOTS).

11.2 Principal Inspections are undertaken at 6, 9, or 12-year intervals on the same basis.

## 12 Badenoch & Strathspey Area Bridge Works

12.1 Following inspections, area staff duties include:-

- Compiling lists of work to be undertaken;
- Designing and supervising minor repairs and maintenance works;
- Approving design work;
- Award of contract for any works externally sourced; and
- Compliance with Quality Assurance procedures

12.2 Various minor works to bridges that are undertaken from the area budget include:-

- Masonry parapet pointing;
- Steel railing parapet repairs;
- Bridge deck weeding;
- Bridge deck drainage cleaning; and
- Bridge deck pothole patching

12.3 More significant works that have been undertaken in Badenoch & Strathspey in 2019/20 include those listed in **Table 4** below:-

**Table 4 – Badenoch & Strathspey Area Bridge Works 2019/20**

Bridge	Works	Date	Cost
Broomhill, Nethy	Repair stone parapet accident damage	Sept 2019	£10,000
Slugainm Dlanahitnach	Repair storm-flood damage	Oct 2019	£5,000
Lynemore, A939	Repair stone parapet accident damage	Feb 2020	£7,000
Glentarroch, Lochindorb	Repair parapet railings and concrete abutments	Feb 2020	£4,000
Tromie, B970	Repair stone parapet accident damage	July 2020	£10,000

- 12.4 he identified replacement of yellow hatched road markings at Tromie bridge, which are required in order to prevent vehicles from parking irresponsibly, restricting road width and affecting access onto the bridge, especially for larger vehicles such as timber lorries, has been affected firstly by COVID-19 and now by wet weather. However, this is still programmed, and the hatchings will be replaced as soon as conditions allow.
- 12.5 Following inspection of Ghamhna bridge on the council road to Melgarve (beyond Garva Bridge, Laggan) the area team is currently developing project work required to replace this bridge; present thinking favours a large concrete box culvert solution as the most efficient and effective
- 12.6 As stated in 5.1 of this report, completed inspections continue to inform the area bridge stock condition, and highlight the requirements for further works and funding.

### 13 Other Structures

- 13.1 An inspection programme for all other structures (retaining walls, large culverts and cattle grids) is being prepared based on a three-yearly cycle of inspections. This inspection programme is now being implemented in phases. The Badenoch & Strathspey area cattle grid results are summarised below.

### 14 Cattle Grids

- 14.1 The condition and investment requirements for Badenoch & Strathspey cattle grids are shown in **Table 5** below. Each replacement cattle grid costs between approximately £9-14,000 depending on the size (deer-grids being the largest). Two cattle grids were replaced in 2019/20, at Lettoch and Tulloch, and currently one further replacement is required at Glenbanchor (which is a large deer-grid).

**Table 5 – Badenoch & Strathspey Cattle Grids**

Location	Rd & Grid W m	Grid L m	Gate m (ft)	Signs	Condition Remarks	Replace
Tombain	3.3	2.6	3.3 (11')	2	New 2017	
Lettoch	3.5	2.5	3.6 (12')	2	Renew gate & grid, Plus siderails	2019/20
Achnahannet	3	2.6	4.5 (15')	2	New 2017	
Garva	3	2.6	3m (10')	2	Gate & Grid OK but monitor & replace medium term	
Glenbanchor	3	2.6	3m (10')	2	Gate & Grid OK but monitor & replace medium term	

Glenbanchor	3	2.6	3.3m (11')	2	Gate & Grid OK but monitor & replace medium term	
Glenbanchor	3.3	4.5	3.6 (12')	2	Renew gate & grid, side rails and gate 1.8m tall (Deer)	2020/21
Strone	3	2.5	1 (3') & 3.6 (12')	2	Unadopted. Two side gates	
Strone	3.3	2.7	1 (3') & 3.6 (12')	2	OK. Two side gates. Monitor & replace medium term.	
Garva	3	2.6	3.05 (10')	2	Gate & Grid OK but monitor & replace medium term	
Garva	3.66	5	3.1 x 1.9	2	Condition new, Deer grid	
Tulloch Township	3.6	2.5	3.66	2	Renew gate & grid, Plus siderails	2019/20
Dalnahaitnach	3.3	4.6	3.6 x 1.7, 1.52 x 1.7	2	New 2015, Gate old (wood)(Deer)	
Achlean	3.3	3.6	3.05 x 1.2	2	New 2016	
Achlean	3.3	2.4	3.05 x 1.2	2	New 2016	
Tullochgrue	3.3	2.6	3.6 (12')	2	Gate & Grid OK but monitor & replace medium term	

Designation: Executive Chief Officer Infrastructure and Environment

Date: 22 October 2020

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Background Papers: TEC 77/13 Cattle and Deer Grids Policy  
COM 58/15 Bridges and Road Structures  
EDI 23/17 Road Structures Annual Report  
EDI 81/18 Road Structures Annual Report  
EDI 61/19 Risk Based Approach to Structures Inspections  
EDI 83/19 Road Structures Annual Report  
BSAC 13/19 Area Roads & Bridges Progress Report 18/19  
AS 16/19 Six-monthly Review of Corporate Risks, (CR10)

**2019/20 Principal Inspection Programme – Badenoch & Strathspey**

<b>Structure Ref</b>	<b>Name</b>
B09700150	AVIEMORE RAILWAY
B91500010	RALIA RAILWAY
C11410010	SPEY STREET KINGUSSIE
U23870010	CRUBENMORE RAILWAY



## 2019/20 General Inspection Programme - Badenoch &amp; Strathspey

<b>Structure Ref</b>	<b>Name</b>
B91020030	OLD TULCHAN
B91500020	SPEY
B91530020	CARRBRIDGE
C11280010	BOAT OF GARTEN
C11320020	KINCRAIG SPEY
C11490020	SPEY BRIDGE ADVIE