



**REPORT TO: ECONOMIC DEVELOPMENT AND INFRASTRUCTURE
SERVICES COMMITTEE ON 30 SEPTEMBER 2014**

**SUBJECT: GARMOUTH VIADUCT IMPROVEMENTS AND BROOM OF MOY
BRIDGE CONDITION**

BY: THE CHIEF EXECUTIVE

1. REASON FOR REPORT

- 1.1 This report is submitted to Committee in terms of Section III (G) (16) of the Council's Administrative Scheme relating to the exercise of all functions of the Councils as Roads Authority including safety, the detailed planning, design and construction, improvement, maintenance and lighting of roads, bridges and other structures.
- 1.2 The minute of this Committee of 5 August 2014 (Item 9 (iii) refers) requested a report on the condition of the Garmouth Viaduct. A request was also made for a report on the condition of Broom of Moy Bridge (Question Time).

2. RECOMMENDATION

2.1 It is recommended that Committee:-

- (i) note the detailed costings for replacing the walkway and selected timber baulks at Garmouth Viaduct as detailed in APPENDIX I and that there is insufficient funds in the capital plan to accommodate this;
- (ii) note that the preliminary project as detailed in APPENDIX I be submitted to Asset Management Working Group as part of the Council's capital plan process;
- (iii) subject to 2.1(ii) agree that external sources of funding be explored prior to submitting the project for consideration as part of the next review of the capital plan;
- (iv) Subject to 2.1(ii) note that the long term future of the structure will need to be investigated by conducting a structural survey of the bridge to enable the council to consider this project as part of a future capital plan;
- (v) That no specific improvement action is taken regarding Broom of Moy Bridge.

3. BACKGROUND

Garmouth Viaduct

- 3.1 The Garmouth Viaduct is a former railway bridge which spans the River Spey and is now owned by the Council. After removal of the rails the viaduct was converted to a footway/cycleway and it is now part of the National Cycle Network (Sustrans 1). There are plywood surface panels supported on timbers between the original timber rail seating baulks. Built in 1886 the structure is Category B listed and comprises a 350 foot bowed central truss and, on each side, 3 No 100 foot plain truss approach spans carried on circular ashlar piers with granite capitals.
- 3.2 As a listed structure all works require approval from Historic Scotland.
- 3.3 Previous work to replace rotting plywood sheeting was carried out around 2000.
- 3.4 Work was carried out in July and August this year to replace six defective plywood panels with glassfibre reinforced plastic (GRP). This material does not rot and provides a non-slip walking surface. It costs 50% more than a timber ply replacement but has a lower whole life cost. An assessment considered that 30% of the panels are defective now, with the remainder having less than five years life remaining.
- 3.5 The timber baulks either side of the walkway no longer form any structural function but they are part of the history of the bridge and therefore need replacing with similar section timbers. The condition of these timbers has been assessed and 16% are in a very poor condition. Two sections of timber (20 metres in total) were replaced as emergency work during the operation to install the GRP panels.
- 3.6 The condition of the steelwork varies. At track level and below the walkway the paintwork is in fair condition. The paint system on the main trusses has broken down and full shotblasting to metal and painting is required to extend the life of the bridge. The steelwork appears to be in good condition at present with only superficial corrosion and little loss of section. A full survey of the viaduct (including paint analysis) using rope access techniques is recommended to confirm these observations and to obtain recommendations and costs for re-painting. Scour of piers and abutments would also be checked. Until a full survey is completed any estimates will be unreliable, typically the cost might be over £2 million.
- 3.7 **APPENDIX I** gives a breakdown of the costs for the above. **APPENDIX II** shows photos of the recent works as described above

Broom of Moy Bridge

- 3.8 This is a post-war Bailey Bridge designed for military purposes. Military designs are more tolerant in terms of a structure's deflection. In this case deflection means pronounced sag. The Forres (River Findhorn & Pilmuir) Flood Alleviation Scheme required the bridge be substantially extended to span the widened watercourse. Three new spans were added meaning that the older structure now appears odd. Because replacing the old section was not necessary in terms of flood alleviation, it could not attract 80% grant funding in the same way as Scheme operations.
- 3.9 While the deck of the Bailey Bridge was renovated relatively recently, the steel structure was not. Foundations and abutments are sound. The main issue is aesthetics rather than the spanning structure.
- 3.10 Consideration was given to replacing the Bailey Bridge section so indicative costs were assessed at £800,000 plus risk or alternatively optimism bias. The benefits of a replacement would be deferred maintenance and improved aesthetics, but in monetary terms this would not amount to a great deal and certainly a very small percentage of cost. Hence there would be no economic case and the project would not progress past the first stage of the recently introduced gateway process for capital projects.

4. SUMMARY OF IMPLICATIONS

(a) Moray 2023: A Plan for the Future/Service Plan

This report was informed by Moray 2023 - A Plan for the Future and council priorities and provides support to enable the priorities of Healthier Citizens, Adults living sustainable independent lives safeguarded from harm and a growing and diverse economy to be delivered. The safety and maintenance is part of the Council's duty of care.

(b) Policy and Legal

The Land Reform (Scotland) Act 2003 – imposes a duty on the local authority “to uphold access rights specifically to assert, protect and keep open and free from obstruction or encroachment any route, waterway or other means by which access rights may reasonably be exercised.”

(c) Financial implications

The total cost for the preliminary project for the Garmouth Viaduct would cost approximately £140,000.

These works could be partially funded from the capital budget for Remote Footbridges in Moray for 2014/15, which is £78,000

This will be insufficient funds to fund the replacement of the walkway in its entirety but there is also potentially £38,000 of ring fenced capital receipts that could be accessed for this project

(d) Risk Implications

For the Garmouth Viaduct the short term risk to the public is for cyclists or walkers on a surface which is defective due to holes and trip hazards. The longer term risk to the both Garmouth and Broom of Moy is the deterioration of the steelwork leading to eventual closure of the bridges on safety grounds.

The Council approved a 10 year capital plan on 17 January 2012 (Para 2 of the minute refers). It has since been recognised by the Council that the 10 year plan is not affordable without further additional reductions in annual revenue expenditure. The 10 year capital plan and all subsequent capital plans have been agreed by following a robust asset management process. The process was last reported to Council in the report to the Special meeting of Moray Council on 11 February 2014 (Para 3 of the minute refers). In summary members set the priorities for Council services and the standards for condition and suitability of all assets. The capital plan is based on the delivery of the Council's priorities and achieving the standards set by Council. This holistic approach to the management of the Council's assets ensures that limited funding is allocated to meet the Council's priorities. There is a risk that funding will be diverted from Council priorities if committees look at individual projects on a case by case basis.

(e) Staffing Implications

There are no staffing implications.

(f) Property

There are no property implications.

(g) Equalities

There are no equalities implications relating to this report because the recommended actions do not affect groups of people in different ways. The design of any replacement would comply with disabilities requirements.

(h) Consultations

M Wilson, Head of Financial Services has been consulted and comments have been incorporated into the report.

A McEachan, Legal Services Manager (Property and Contracts) has been consulted and is in agreement with the report.

I Douglas, Moray Access Manager has been consulted and commented that the Garmouth Viaduct is of strategic importance to the Moray Paths Network and beyond; forming part of the Moray Coast Trail (one of Scotland's great Trails) and National Cycle Network Route 1. The bridge is also part of the Statutory Core Paths Network providing a direct link to the Speyside Way. It is imperative that the long term future of the bridge is secured; It's pivotal role in the Moray paths network bringing benefits in terms of activity tourism, community linkage, active travel and improved health through physical activity. The bridge is a key crossing point of the River Spey for all non vehicle users which if lost would result in an extensive detour via Fochabers and a more fragmented paths network in this part of Moray.

I Bruce, Environmental Protection Manager has been consulted and is in agreement with the report and noted that following the repair works that have recently been carried out, the bridge is operational meantime for walkers and cyclists.

5. CONCLUSIONS

GARMOUTH VIADUCT

- 5.1 The plywood walkway panels should be replaced with GRP sections in entirety on whole life cost and level of service grounds. Most timber baulks remain serviceable but those assessed otherwise should be replaced.**
- 5.2 The preliminary project as detailed in APPENDIX I be submitted to Asset Management Working Group as part of the Council's capital plan process**
- 5.3 A full structural inspection of the bridge would be required to assess the condition of the steelwork, the paint system and to check for any scour damage at the substructures prior to the capital submission being considered.**
- 5.4 Replacing the deck at Broom of Moy Bridge can only be justified on aesthetic and deferred maintenance grounds. The costs would substantially outweigh benefits so no action should be taken at this time.**

Author of Report: Neil Fotheringham, Senior Engineer

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Background Papers: None

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APPENDIX I**Garmouth Viaduct – Preliminary Estimate**

Cost Component	Cost	Comment
Replacement of walkway with GRP panels	83,600	Quotation from a local contractor
Replace worst timber baulks	11,000	Based on material costs and labour
Allowance for steelwork repairs	5,500	Nominal sum
Specialist survey of the bridge	20,000	
Sub total	120,100	
Moray Council internal costs (contract admin, supervision etc)	7,500	9 weeks FTE
Sub total	127,600	
Risk allowance (10%)	12,760	
Total Whole Life Cost	£140,360	

APPENDIX II



Typical section of existing walkway



New section of GRP panels



Remains of a rotten timber baulk



Replacement timber in place