



Strategic Business Case

FOR PROPOSED CAPITAL FUNDED PROJECT

Name of Proposed Project:	Garry Viaduct Repairs		
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1. Nature of the Project

To undertake repairs to the Garry Viaduct

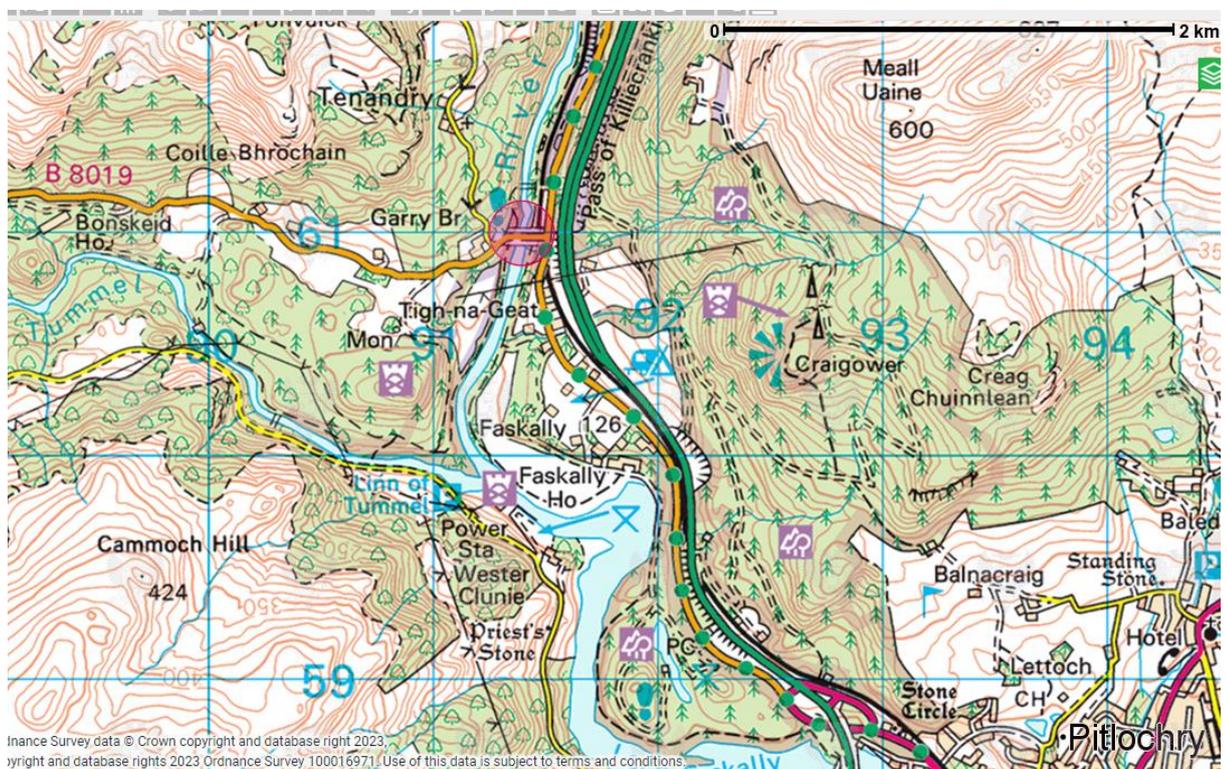
2. Strategic Case

2.1 Rationale for the Project

The B8019 Gary Viaduct is a three-span box beam structure built in 1969 with a central span exceeding 76m and end spans of 35m supporting the B8019 over the Garry River and Highland Rail Line in the Killiecrankie Gorge. The bridge serves to support local business Highland Fling bungee jumping.

The original bridge bearings supporting the deck remain in place from 1969 and are suffering from significant corrosion. It should also be noted that bridge bearings of this type are typically designed with a design life of only 50 years, therefore the design life of the bearings has now potentially been exceeded.

In addition, the existing parapets date from 1969, and since then design requirements for parapets to safeguard vehicles from impact have increased significantly.



2.2 The Case for Change – Business Need

The risks associated with not replacing the bearings are that the corrosion will continue to the extent that a progressive collapse, resulting in risk to the public and unplanned long-term closure, could occur. A timescale cannot be put on this event due to the unpredictable nature of the extent of corrosion within the sealed bearings themselves.

Due to the complexity of the design and works required to allow for road re-opening even on a restricted basis, any unplanned closure is likely to last for a protracted period - several months at best, potentially years at worst.

The result of such an event would have a detrimental impact on the community: the additional vehicle journey time following the recommend diversionary route through Aberfeldy would be in the order of 1 hour.

In addition, any unplanned closure would have a direct economic impact on the Highland Fling company who currently provide bungee jumping experiences from the bridge.

In summary, any unplanned long-term closure due to bearing collapse would result in significant economic and social impact to the communities in this part of Highland Perthshire.

3. Economic Case

3.1 The Preferred Way Forward (what to expect when developed into options appraisal)

Bearings

In order to replace the bearings, it is considered that the deck will need to be strengthened and raised using hydraulic jacks temporarily mounted on the pier and abutment bearing shelves. Prior to this, the bridge will need to be assessed and strengthened to ensure that the structure as a whole can withstand this complex operation. It is likely that these strengthening works will include below deck steel end bracing repair / strengthening as well as structural alterations to the abutments and piers bearing shelves. In addition, water ingress to the West Abutment area and replacement of deck expansion joints will be investigated and repairs carried out as part of these works.

Parapets

In order to determine the risk to the public, the existing deck edge, plinth upstand and parapet will need to be assessed and options considered to mitigate risk. Currently it is considered that the installation of permanent crash barriers to mitigate risk would reduce the footway and/or carriageway cross section and would not fully meet current requirements for vehicle restraint allowing for the height of drop and hazard below. The installation of temporary crash barriers would be considered as a potential interim mitigation after assessment. Taking account of current standards for parapet and plinth upstands, it is currently considered most probable that the deck edge will need to be strengthened, and concrete plinths and parapets replaced to meet current vehicle restraint standards.

3.2 Indicative Cost and Phasing

It should be noted that at this stage costs and timescales have been estimated and that, due to the unpredictable and complex nature of the design and construction associated with this proposed project, these will be subject to significant degrees of change.

Currently, the proposed project cost is estimated at £4.4Million and will be phased for design and delivery over the next five years.

4. Commercial Case

4.1 Procurement Strategy (preferred)

It is anticipated that any design and construction work will be procured through our normal tendering processes.

5. Financial Case

5.1 Indicative Financial Implications of the Proposed Investment (feasibility)

The proposed investment is currently estimated at £4.4Million this will cover all investigation, design and construction works.

6. Commercial Case

6.1 Link to Corporate Strategy/Asset Management Plans/Local Development Plans/BMIP etc.)

The proposed investment will contribute to all the Councils strategic objectives through maintaining effective communication links across Perth and Kinross. The proposal also delivers on the Council's approach to Roads and Associated Infrastructure asset management planning.