

Executive Summary

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Introduction

AECOM was commissioned by Aberdeenshire Council in autumn 2015 to undertake a study to examine the economic impact of the current Banff Bridge as a route for trips between Peterhead, Fraserburgh and Inverness. This work follows on from a STAG Part 1 study undertaken by AECOM in 2008.

The purpose of this updated initial appraisal study is to examine the economic impact of the current Banff Bridge. Concerns have been raised about the safety of the bridge for local access for all traffic between Banff and Macduff and the impact temporary restrictions or closure due to maintenance works or road traffic accidents may have in economic terms. In addition to this, the resilience of Banff Bridge has been highlighted as a problem to consider. As such, all of these factors will be considered within the parameters of the study.

As part of this study, consultations have been undertaken with key stakeholders, including interviews with local businesses and online surveys with a view to gather perspectives from members of the public. Other key elements of the study include a traffic and active travel demand study, structural and technical feasibility work and cost estimates and an appraisal of options based on STAG. All of this will be with a view to determining the economic impact the current Banff Bridge has on trips between Peterhead, Fraserburgh and Inverness.

Problems, Issues, Opportunities and Constraints

The principal problems, issues, opportunities and constraints associated with Banff Bridge are set out overpage.

PROBLEMS

- Perceived problems are the width of the bridge for the size of vehicles and level of traffic using it, safety concerns for pedestrians and encroachment of vehicles on the footway.
- Space available on the bridge is limited with narrow (sub-standard) footways and a narrow carriageway, causing larger vehicles to span both sides of the carriageway and pedestrian accessibility to be below current standards.
- There is evidence of instances of vehicles on the bridge requiring to slow down, stop or wait, or encroaching on the footway to pass other vehicles. Survey data has shown that over a 12 hour period, there were 112 such instances, 74 of which involved HGVs. There was a total of 14 footway encroachments on the day of the survey. There is therefore a road safety concern relating to the interaction risk of pedestrians/cyclists and vehicles on the bridge.
- There have been two previous incidents of the bridge parapet being hit by vehicles in the last 5 years but no personal injury accidents.
- There is regular intermittent queuing on the approaches to the bridge primarily caused by large vehicles encroaching on opposing traffic streams at the junctions and on the bridge.
- Banff Bridge suffers from scouring of its foundations due to the action of the river, tidal flows and coastal ground conditions.

OPPORTUNITIES

- Both Banff and Macduff are the subject of Town Centre Action Plans by Aberdeenshire Council.
- Banff Bridge is a key link of the regionally strategic A98 route from the regeneration towns of Fraserburgh and Peterhead to Fochabers, Elgin and on to Inverness via the A96.
- Nestrans Active Travel Action plan supports a strategic cycling network along the north Aberdeenshire coast from Fraserburgh to Moray – a Banff-Macduff link would be strategically important to this route and National Cycle Route 1.
- Opportunity to safeguard the existing historic Banff Bridge as an attraction in its own right. This was previously highlighted in the 2008 study.
- Opportunity to use the bridge as a focal point for local celebrations/events, a unique selling point to bring people to the area for anniversaries/promotions/light shows/fireworks.

ISSUES

- The bridge has high traffic flows – with flows on the bridge higher than on the wider road network surrounding the study area (i.e. the A98, A947 and A97), with the bridge directly serving the Banff/Macduff area. 12,500 vehicle movements per day. Origin-destination data from the 2011 census highlights the importance of the bridge, particularly for movements between Banff and Macduff. The bridge is very important for the two towns for typical 'everyday life' activities.
- Surveys have found a 3-hour weekday peak of traffic on the bridge, beginning earlier in the afternoon. (2-5pm). There are up to 180 pedestrian movements per day between Banff and Macduff across the bridge.
- The principal flow of people is from Bridge Road towards Macduff and vice versa, using the north side of Banff Bridge. These movements are tidal (with the majority Macduff-Banff earlier in the day, and Banff-Macduff later in the day).
- Measures have been taken to increase the resilience of the bridge to severe flood events, but as with all similar structures, there remains a potential vulnerability during severe storm / flood events.
- Should there be any need for closure of the bridge, lengthy diversions may take place (via the A947, B9025 and A97) that have an impact on travel times and costs.
- There is understood to be desire within the Banff/Macduff community for a new road bridge or new footbridge (from the public consultation).
- Any full or partial closure and subsequent repair/replacement of the existing bridge would be extremely disruptive to communities and the wider region, as evidenced by the disruption and impact of recent flood events on Deeside and elsewhere during the winter of 15/16. Significant engineering resource would be required to deal with such a situation.

CONSTRAINTS

- Footway widths are narrow for pedestrians, particularly on the south side of the bridge.
- No viable alternative route between Banff and Macduff for non-motorised users.
- There is a need to protect the access roads to the bridge, with junctions on the Banff side in particular required as part of planning consent for a supermarket development.
- Constraints associated with the historical listed status of the existing bridge.
- Environmental constraints exist in the vicinity of the bridge including the protected landscape from Duff House. Rare moths inhabit the existing bridge, and otters may be present near the bridge.
- Banff Bridge is exposed to a salt air environment at the mouth of the River Deveron as it meets the North Sea, and is susceptible to stormy weather conditions.

Transport Planning Objectives

The following objectives have been developed, and are considered to be appropriate and relevant in the context of the work that has been undertaken to date.

Table E1 – Transport Planning Objectives

<ul style="list-style-type: none"> Maximise the effectiveness of the link between Banff and Macduff, as the principal enabler of economic and social activity within and between the two towns.
<ul style="list-style-type: none"> Maximise the effectiveness of the link between Banff and Macduff, to provide a viable connection to businesses and communities along the A98 east and west of the bridge.
<ul style="list-style-type: none"> Improve the user experience of the transport link between Banff and Macduff by reducing the risk of conflict between vehicles and non-motorised users, enhancing safety for all.
<ul style="list-style-type: none"> Provide active and sustainable travel opportunities between Banff and Macduff, improving local accessibility and connectivity, helping to improve health and reduce emissions, and providing a historic social connection between two communities.
<ul style="list-style-type: none"> Enhance opportunities to celebrate and sensitively promote the historic local built environment and landscape of Banff Bridge as an asset to the local environment and economy.

Study Options

The initial Banff Bridge STAG study in 2008 considered six options. These were:

- Option 1** – Widen the carriageway within the constraints of the existing deck width.
- Option 2** – Widen existing footway with signal controlled vehicular crossing.
- Option 3** – Widen the bridge deck.
- Option 4** – Hang new footway onto existing parapets.
- Option 5** – Provide new pedestrian/cycle footbridge.
- Option 6** – Provide new road bridge.

In taking forward this initial appraisal update, the original six options for the study have been re-examined, with a principal aim of confirming that they remain viable in technical terms, and ensuring that they provide a response to the problems/issues and objectives that have been developed in this current piece of work.

Changes to Options Since 2008 Appraisal

There have been some amendments to the options since the 2008 work. The table below confirms the changes which have been made, and the reason for these changes.

Table E2 – Changes to Options Since 2008 Appraisal

Original Option	2016 Initial Appraisal Update Changes
Option 1 – Widen the carriageway within the constraints of the existing deck width.	No change to the concept but further design detail investigated.

Original Option	2016 Initial Appraisal Update Changes
Option 2 – Widen existing footway with signal controlled vehicular crossing.	No change to the concept but further design detail investigated. Supporting transport modelling undertaken.
Option 3 – Widen the bridge deck.	No change to the concept but further design detail investigated.
Option 4 – Hang new footway onto existing parapets.	No change to the concept but further design detail investigated.
Option 5 – Provide new pedestrian/cycle footbridge.	Option has been split into two variants: a low level pedestrian/cycle footbridge (Option 5) and a high level pedestrian/cycle footbridge (Option 6).
Option 6 – Provide new road bridge.	This is now Option 7. This option now considers a new road bridge on to the south of the existing Banff Bridge, as opposed to a new bridge downstream (i.e. north of the existing Bridge), which was the focus of the option appraised in 2008, from a design developed in the 1970s. Option 8 (new bypass) is a new option that has not previously been considered.

Option Assessment Criteria

This initial appraisal update was undertaken in accordance with STAG. The key assessment criteria for the Banff Bridge study options were:

- **Do-Minimum:** Each option was appraised overall against a Do-Minimum scenario. For this appraisal, this scenario assumes no changes to the existing Banff Bridge are made (i.e. the status quo is retained).
- **Transport Planning Objectives:** Each option was subject to a qualitative appraisal against the Transport Planning Objectives that have been established for the study.
- **STAG Criteria:** Each option was also subject to an initial appraisal against each of the five STAG criteria (Environment, Safety, Economy, Integration and Accessibility and Social Inclusion).
- **Implementability Criteria:** This assessed the technical and operational feasibility of each option, the affordability of each option and the likely public response to each option.

EALI – Key Outcomes

All options considered as part of the Banff Bridge Initial Appraisal Update have the potential to generate impact in terms of economic activity and location impacts (EALI). EALI analysis aims to describe the impacts of transport investment on the economy using measures of income or employment.

With the exception of the Do-Minimum, which would typically retain the status quo (sustaining the current impacts of Banff Bridge in terms of economic activity), the remaining options would all have varying degrees of impacts on economic activity, and on the Banff-Macduff locale.

The majority of the options considered in the study would have varying levels of beneficial impact on economic activity, by promoting more efficient movement of traffic and in so doing supporting access to employment and promoting income to the local area and to a lesser extent supporting the region. Some options have potential to promote active tourism in the local areas of the bridge, and the majority of options provide a minor although not critical role to supporting wider businesses along the A98 corridor and between Peterhead, Fraserburgh and Inverness.

However, two options in particular – Option 2 (signal controlled crossing) and Option 8 (New bypass) would have negative impacts on economic activity. Option 2 would restrict movement between Banff and Macduff due to traffic signal operation, with Option 8 taking regionally strategic traffic away from the existing bridge, resulting in local businesses potentially losing passing trade.

Overall Outcomes

A total of eight options were appraised in accordance with Scottish Transport Appraisal Guidance against Transport Planning Objectives, STAG criteria (Environment, Safety, Economy, Integration and Accessibility and Social Inclusion) and implementability (Technical, Operational, Affordability and Public Acceptability).

The following options are **not** recommended for further consideration.

Table E3 – Options Not Recommended for Further Assessment

Option	Rationale for Rejection
Option 2 – Widen existing footway with signal controlled vehicular crossing	Option contravenes elements of the TPOs for this study, and has negative impacts against several STAG and implementability criteria (particularly public acceptability).
Option 5 – New low level pedestrian/cycle bridge	Option has negative impacts against several STAG and implementability criteria (particularly operational feasibility).
Option 8 – New Bypass	Option contravenes elements of the TPOs for this study, and has negative impacts against several STAG and implementability criteria (particularly in terms of affordability).

Five options (and a Do-Minimum baseline in which to compare them) have emerged from this initial appraisal update, and are recommended for further consideration by Aberdeenshire Council.

Table E4 – Options Recommended for Further Assessment

Option	Rationale for Selection
Do-Minimum	Provides a basis in which to compare other options.
Option 1 – Widen existing carriageway within constraints of existing deck width	Each of these options has the potential to deliver several of the TPOs for this study, and complement a number of elements of the STAG and implementability criteria.
Option 3 – Extend bridge deck	
Option 4 – Suspend Cantilevered Footway from the Existing Bridge	
Option 6 – New high level pedestrian/cycle bridge	
Option 7 – New road bridge	

It is recommended that further appraisal work is undertaken on the above options in order to determine the strongest performing option of those remaining.