

ANGUS COUNCIL

ROADS COMMITTEE

24 AUGUST 2000

DUNLAPPIE BRIDGE – OPTIONS FOR CONSIDERATION

REPORT BY THE DIRECTOR OF ROADS

ABSTRACT

Following the Committee's decision on 27 April 2000 to close Dunlappie Bridge in the interest of public safety various proposals including, indefinite closure, five different "Bailey" bridge options, and the immediate installation of a permanent replacement structure have been considered and costed over a 120-year design life period. This report seeks a decision from Committee on the preferred option from a short-list of possible alternatives.

1 RECOMMENDATIONS

It is recommended that the Committee agree: -

- (i) to note that the existing bridge was closed to all vehicular traffic as of 4 June 2000 in the interest of public safety;
- (ii) to note both the long-term and short-term costs of all options listed in Appendix 1 of this report (costings over a 120 year design life period);
- (iii) to note that it is not possible (based on current budgets and existing commitments) for the Council to fund the installation of a permanent structure at this point in time;
- (iv) to decide, in the light of the options and financial analysis given in the report, on one of the proposals for Dunlappie Bridge from the following short-list:-

Proposal A

Further investigations into the provision of the necessary funding for a permanent replacement structure with continued closure in the interests of public safety.

Proposal B

Provision in the current financial year of a "Bailey" Bridge on the line of the existing bridge for an indeterminate period of time.

2 INTRODUCTION

Members will be aware from Report No 457/00 presented to Committee on 27 April 2000 of the situation with Dunlappie Bridge resulting in the need to close the previously weight restricted, listed structure in the interests of public safety.

Further to the ensuing debate at the Committee on 27 April 2000 provision of a “Bailey” bridge has been further examined and costed over a 120 year period (see Appendix 1) and the following short-list of proposals are therefore recommended to the Committee for consideration:

- (A) Further investigations into the provision of the necessary funding for a permanent replacement structure with continued closure in the interests of public safety.

Existing bridge to be kept open and maintained for pedestrian use only. The Director of Roads and the Director of Finance to continue investigating funding options for the installation of a new permanent structure with full load carrying capacity.

- (B) Provision in the current financial year of a "Bailey" bridge on the line of the existing bridge for an indeterminate period of time

Provide a “Bailey” bridge on the existing line with a view to installing a permanent replacement when the necessary funding can be made available taking into account the Council’s other commitments and priorities.

3 CONSIDERATION OF OPTIONS

The two alternative proposals A and B have been drawn from several options which have been considered in terms of both long-term and short-term costs. These options are as follows:

Option 1 – Indefinite Closure (Proposal A).

Option 2 - Temporary “Bailey” Bridge on Existing Line pending the construction of a Permanent Bridge when funds became available.

Option 3 – Semi-Permanent "Bailey" Bridge on the Existing Line and replacement with a Permanent Bridge within 30 Years (Proposal B).

Option 4 – Continuation of Semi-Permanent "Bailey" Bridges on Existing Line and replacement with further "Bailey" Bridges every 30 years (Proposal B).

Option 5 – Semi-Permanent "Bailey" Bridge Upstream of Existing Line, Replacement with further "Bailey" Bridges every 30 years, Maintenance of the Existing Bridge (kept in place).

Option 6 – Semi-Permanent "Bailey" Bridge Upstream of Existing Bridge and Construction of a New Permanent Bridge within 30 Years.

Option 7 – Provide New Permanent Replacement Bridge in the Short Term.

The short-term and long-term costs associated with each option are shown in Appendix 1

Option 1 (Proposal A) is a low cost option in the short-term. It also appears to require significant financial outlay in the long-term due to costs associated with maintaining and prolonging the life of the existing (listed) bridge. However, these long-term costs are unavoidable and are common to all those options which require the long-term preservation of the existing bridge. This option has the obvious disadvantage of being the only one which presumes the continuing closure of the crossing to vehicular traffic.

Options 2, 3 and 4 (Proposal B) all require the removal of the existing bridge and its replacement with a "Bailey" type bridge within the current Financial year. The period of time during which the "Bailey" bridge would have to remain in use will depend on the availability of funding in future years to cover the cost of providing a permanent replacement bridge. A new application for Listed Building Consent would be required for the "Bailey" bridge options as these represent a significant change from the previous proposals, but Historic Scotland's informal view is that they would not oppose this course of action. The NID process would also require to be followed. Option 2 assumes that the erection of a "Bailey" bridge would be a relatively short-term measure and that it would be possible to proceed with the construction of a new permanent bridge within approximately 5 years. There is however currently no provision in the Financial Plan 1999/2003 for this expenditure (see Financial Implications below). Options 3 and 4 require the use of a "Bailey" bridge on a semi-permanent basis – for 30 years in the case of Option 3 and indefinitely in the case of Option 4. All three of these options have the obvious advantage of restoring the link for vehicular traffic at this crossing albeit with a weight restriction of 25 tonnes.

Options 5 and 6 involve retaining the existing bridge *in situ* until such time as it can be replaced with a new bridge, and the provision of a "Bailey" bridge upstream of the existing bridge to restore a crossing over the West Water to vehicular traffic (again subject to a 25 tonne weight limit). These options are not short-listed for further consideration due to the relatively high overall costs in the long-term and, more significantly, the requirement for an initial outlay in the current financial year in excess of the funding available.

Option 7 is the replacement of the existing structure with a new, permanent bridge with full carrying capacity in the current financial year. This option would obviously be highly desirable if it were not for the current budgetary constraints within which the Council is required to operate. It also offers the lowest whole life cost for the restoration of vehicular traffic at this crossing. It has however not been possible to short-list this option for further consideration because the required initial outlay in the current financial year is in excess of the funding available and, in addition, no specific funding has been allowed for this expenditure in 2001/02 and beyond.

The two short-listed alternative proposals A and B are shown as Option 1 (Proposal A) and Options 2, 3 or 4 (Proposal B). Proposal B encompasses Options 2, 3 and 4 as they all require a "Bailey" bridge on the existing line and have an initial outlay for 2000/01 which is affordable within current funding provisions. A decision in favour of Proposal B, would therefore, keep open Option 2, Option 3 and Option 4.

The figures in Appendix 1 are based on current prices and a whole life-costing period of 120 years (ie the design life of a new bridge). The existing bridge is more than 120 years old, and it is estimated to have an extended life expectancy as a pedestrian bridge for a further 60 years at which time further strengthening works would become necessary to guarantee pedestrian safety. The estimated cost of this refurbishment is £100,000 and this has been included under Options 1, 5 and 6 as a necessary financial commitment under these options.

The engineering and planning considerations associated with the two short listed proposals can summarised as:-

Proposal A

Further investigations into the provision of the necessary funding for a permanent replacement structure with continued closure in the interests of public safety

The existing bridge will continue to be maintained for pedestrian use only. The existing traffic diversion/road closure traffic signs will be replaced by fixed, pole-mounted signs to save on the maintenance costs associated with the temporary signage. The existing 6-month temporary road closure Order will be extended to 18 months to allow further investigations into funding to continue between the Director of Roads and the Director of Finance. If the closure was required beyond this 18 month timescale a permanent Order would have to be promoted.

Proposal B

Provision in the current financial year of a "Bailey" bridge on the line of the existing bridge for an indeterminate period of time

A new application for Listed Building Consent would be required for the "Bailey" bridge options as these represent change from the previous proposals, but Historic Scotland's informal view is that they would not oppose this course of action. The Notice of Intention to Develop (NID) process would also require to be followed. The replacement temporary bridge will bring the previous 3 tonne GVW (Gross vehicle Weight) carrying capacity up to 25 tonnes GVW.

4 FINANCIAL IMPLICATIONS

Funding

The funding available within the current financial year is £120,000 within the Roads and Transport Renewal and Repair Fund, and £50,000 not yet legally committed for Bridge Strengthening in the Roads Department Capital Budget.

It should be noted that there is currently provision for Bridge Strengthening of only £49,000 for 2001/02 and £300,000 for 2002/03 in the Financial Plan 1999/2003 to cover any such work required in these financial years on all the bridges maintained by Angus Council.

Historic Scotland have stated that they are not in a position to grant funding towards the preservation/re-use/relocation of the existing bridge.

Commitment

The short-term and long-term financial implications for all seven options are summarised in Appendix 1.

The initial outlay in the current financial year for Option 1 (Proposal A) is £2,500; for Option 2 (Proposal B) is £97,500 (second hand “Bailey” bridge); and for Options 3 and 4 (also Proposal B) is £118,000 (provision of new “Bailey” bridge with 30 year working life). The initial outlay for both Proposals (A and B) could therefore be contained within the funding available in the current financial year.

The Committee should also take into account the long-term costs of the options under consideration in terms of value for money.

Option 1 (Proposal A) has a very low initial outlay, but significant long-term costs associated with the preservation and continued use of the existing bridge as a pedestrian facility.

Options 2, 3 and 4 (Proposal B) are, in the short-term, affordable in terms of the funding allocated in the current Financial Plan for bridge strengthening. All of these options however carry significant financial implications for future years.

5 **CONSULTATION**

The Chief Executive, the Director of Law and Administration, the Director of Finance and the Director of Planning and Transport have been consulted in the preparation of this Report.

6 **CONCLUSION**

Departmental budgetary constraints, together with the short term costs and Planning considerations of each option, lead to the Director of Roads requesting a decision on the following short-list of proposals:-

- (A) Investigations into further funding for a full and permanent structure with continued closure in the interests of public safety

Bridge to be kept open and maintained for pedestrian use only. The Director of Roads and the Director of Finance to continue investigating funding options for the installation of a permanent structure with full carrying capacity.

- (B) Provision in the current financial year of a "Bailey" bridge on the line of the existing bridge for an indeterminate period of time

Provide a "Bailey" bridge on the existing line with a view to installing a permanent replacement when the necessary funding can be made available taking into account the Council's other commitments and priorities.

Dr Bob McLellan
DIRECTOR OF ROADS

NOTE

The following background papers, as defined by Section 50D of the Local Government (Scotland) Act 1973 (and not containing confidential or exempt information) were relied on to a material extent in preparing the above Report: -

Report No 457/00 – Angus Council Roads Committee – 27 April 2000.

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APPENDIX 1

DUNLAPPIE BRIDGE – OPTIONS FOR CONSIDERATION 120 YEAR WHOLE LIFE COSTING

COST ITEM	OPTION	1 £'000	2 £'000	3 £'000	4 £'000	5 £'000	6 £'000	7 £'000
Install Permanent Signage		2.5	-	-	-	-	-	-
Install “Bailey” Bridge Upstream of Existing		-	-	-	-	400	400	-
Repair, Paint and Waterproof Existing Bridge		80	-	-	-	80	80	-
Install “Bailey” Bridge on Existing Alignment		-	97.5 #	118 *	118 *	-	-	-
Maintain Existing Bridge –Paintwork every 15 years		210	-	-	-	210	210	-
Upgrade Existing Bridge at 60 Years to Prolong Design Life for Pedestrian Usage		100	-	-	-	100	100	-
Replace “Bailey” Bridge Every 30 Years		-	-	-	255	255	-	-
Provide New Bridge		-	425 +	425 +	-	-	425 +	425 +
Maintain New Bridge		-	180	105	-	-	105	180
Initial Outlay (2000/2001)		2.5	97.5	118	118	400	400	425
Early Outlay (>1 to 5 years)		80	425	-	-	80	80	-
Subsequent Outlay (>5 to 120 years)		310	180	530	255	565	840	180
TOTAL COST		<u>392.5</u>	<u>702.5</u>	<u>648</u>	<u>373</u>	<u>1045</u>	<u>1320</u>	<u>605</u>
SHORTLIST PROPOSAL		A	B	B	B			

Using 2nd Hand Bailey Bridge (for up to 5 years)

* Using New Bailey Bridge (for up to 30 years)

+ Without re-using trusses from existing bridge