Seeing Issues Clearly

Peebles Transport Study – STAG Report

Final Report for Scottish Borders Council

August 2012

mvaconsultancy

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Summary

MVA Consultancy was appointed by Scottish Borders Council to undertake a STAG based study of transport issues in the market town of Peebles. The background to this study is the potential requirement for a second vehicular crossing of the River Tweed in the town. This issue was initially considered in the 'Peebles Transport Study' (2005) which identified six potential alignments for a second river crossing in the town. This study itself emerged from an increasing recognition within the planning process in particular, that a second vehicular crossing may be required to facilitate the medium to long term development and growth of the town on the south side of the River Tweed. The issue here is that the existing Tweed Bridge is the key 'pinch point' on the Peebles road network and records the highest traffic levels locally. In addition, there is a realisation that being dependent on a single river crossing represents an economic and social vulnerability to the town, as the alternative river crossings to the east and west are distant and unsuitable in the case of the latter.

Therefore there are perhaps two main questions underlying this study:

- is there a need for a second Tweed crossing?; and
- if so what potential alignment provides the best balance of costs, benefits and impacts?

The data suggests that traffic levels on Tweed Bridge have continued to rise in recent years against a background of economic recession and falling traffic levels nationally. Although there is some scope for further growth until the theoretical bridge capacity is reached, this continuing growth suggests that it could be only a matter of time until this capacity is approached, leading to two main issues:

- **congestion** in the Tweed Bridge area will be seen on a more regular basis and with greater severity – acting as a constraint on the local economy and increasing inconvenience to residents, businesses and visitors; and
- increasing volumes of south to A703 traffic begin to '**rat run**' through Peebles' unsuitable residential streets – ie avoiding the increasingly congested High Street area by using eg Rosetta Road and March Street / Cross Street.

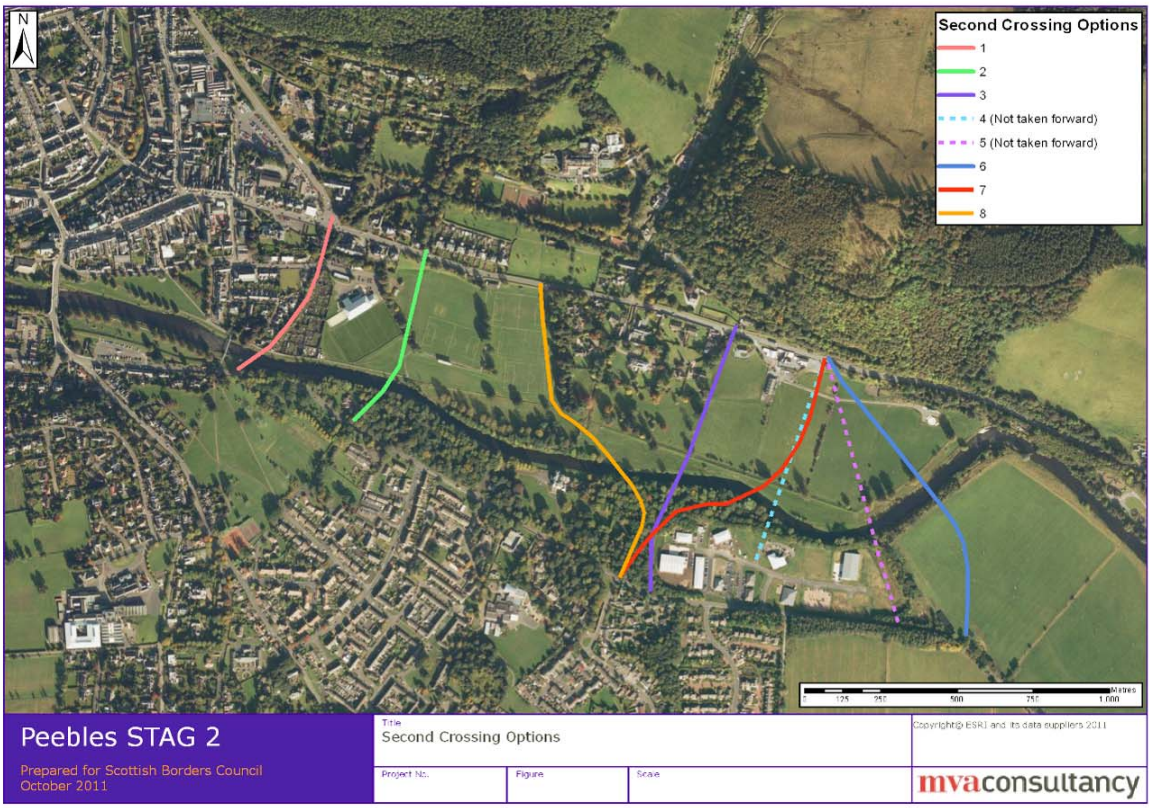
The appraisal undertaken followed the Scottish Government's STAG principles, as this represents recognised best practice in transport appraisal. These key principles include:

- the appraisal should be objective led and not scheme led;
- the appraisal should be evidence based and proportionate; and
- appropriate consultation should be at the core of the process.

STAG requires five main areas of impact to be considered: Environment, Economy, Safety, Integration and Accessibility & Social Inclusion. In addition, a set of specific Transport Planning Objectives should be developed to reflect the local situation and these were set as follows:

- Objective 1- to ensure that traffic demand on Tweed Bridge and its junctions does not exceed capacity and act as a constraint on the economic and general development of the town;
- Objective 2 - to ensure that the town develops based on sustainable travel behaviour in the medium to long term;
- Objective 3 - to maintain the vitality of Peebles as a retail and visitor attraction;
- Objective 4 - to widen the range of travel opportunities available to the residents of Peebles; and
- Objective 5 - to reduce reliance on Tweed Bridge as the only river crossing for motorised traffic in the town.

A 'Pre Appraisal' and 'Part 1' Appraisal was undertaken which considered a wide range of potential transport proposals which could conceivably meet these objectives. A Public Exhibition was then held in Peebles in March 2011 to consult with the public on the planning background and the six bridge alignments. The Exhibition was well attended and a good level of constructive discourse with the public was achieved. A questionnaire survey issued to those attending the Exhibition revealed recognition of the need for a second crossing and broad support for the initiative. Following the consultation, two further potential route alignments were added and two were discounted due to development since 2005 affecting the viability of these routes. The following six bridge options were therefore taken forward to a Part 2 Appraisal together with options for improved bus services and improved local walking / cycling networks and facilities.



The Part 2 Appraisal focussed on a quantitative analysis of traffic in Peebles using a bespoke traffic model to analyse the impact of: (i) a 'Reference Case' situation where there is no new road infrastructure; and (ii) the six bridge alignments, all in terms of traffic routing and

congestion / delay in Peebles. The tables below outline the appraisal of the options taken forward to the Part 2 appraisal against the Transport Planning Objectives and then STAG criteria.

Performance of Options Against Transport Planning Objectives

	Improved Bus Services	Walking & Cycling networks	B1	B2	B8	B3	B7	B6
to ensure that traffic demand on Tweed Bridge and its junctions does not exceed capacity and act as a constraint on the economic and general development of the town	Unlikely to create a big enough modal shift in the face of traffic growth – maybe 1-2 years of growth offset	Unlikely to create a big enough modal shift in the face of traffic growth – maybe 1-2 years of growth offset	The Reference Case forecast suggests that Tweed Bridge will have reached its operational capacity in the peak hours by the 2019 forecast year – assuming full build out of the existing local plan allocations. All bridge options meet the objective of keeping Tweed Bridge traffic levels below capacity throughout the forecast period (2032). However, the extent of traffic reductions on Tweed Bridge resulting from the new crossings diminishes moving from west to east, ie B1 to B6. In 2019, B1 is forecast to reduce traffic levels on Tweed Bridge by 60% from present day levels, reducing to 35% for B2, 20% for B8, B3 and B7, whereas B6 would see traffic on Tweed Bridge increase slightly from the present day.					
to ensure that the town develops based on sustainable travel behaviour in the medium to long term	Better bus services could encourage some switch to more sustainable modes	Better walking and cycling networks and facilities could encourage some switch to more sustainable modes	Providing new road capacity on this scale would in general encourage more car use in the medium terms, so none of the bridge options can be seen positively in this respect. However, the more easterly alignments, and especially B3 and B7 would create an opportunity to re-route the Edinburgh – Peebles – Galashiels bus (no. 62) to serve the area south of the Tweed, where at present, residents have to walk to Eastgate to access this service. This would represent a step change in access to public transport and would encourage more sustainable travel. Alignments which improve cross town connectivity in terms of walking and cycling (most notably B2 and B8) could also encourage more sustainable travel patterns, especially if promoted within the town.					
to maintain the vitality of Peebles as a retail and visitor attraction	Limited positive impact in terms reducing town centre traffic levels, but better local buses could encourage more to access the town centre more often.	Some positive impact if greater town centre footfall results – unlikely to significantly affect traffic levels	Peebles High Street is the focus of the town's retail and pub / café / restaurant offering. The attractiveness of this location / environment to residents and visitors would diminish with increasing traffic levels. This would affect parking and pedestrian activity. The re-routing of *too much* traffic away from the High Street could however be a concern to local retailers. The removal of traffic from the High Street would create a major opportunity for the town to potentially re-allocate road-space and implement environmental improvements which could be beneficial in improving the vitality and attractiveness of the High Street for pedestrians.					
to widen the range of travel opportunities available to the residents of Peebles	Could create new opportunities but only on existing routes	Any new pedestrian / cycle bridge would widen opportunities locally	Option B1 essentially duplicates the current footbridge route in terms of pedestrian access so does the least in terms of widening travel opportunities. Options B2 and B8 would provide significant new meaningful connectivity for pedestrians and cyclists. Options B7 and B3 would create the best opportunity for the re-routing of bus services, which would open up new travel opportunities for those living or working south of the Tweed in Peebles.					
to reduce reliance on Tweed Bridge as the only river crossing for motorised traffic in the town	No impact as buses are also reliant on Tweed Bridge	No impact on motorised traffic	All bridge options would clearly provide a local alternative to Tweed Bridge in the event of its closure. Option B1 would provide the most obvious 'substitute' bridge to Tweed Bridge given its location. A second crossing would also provide an alternative route to / from the south during times when Peebles High Street is closed due to events.					

Performance of Options Against STAG Criteria

	STAG Criteria	B1	B2	B8	B3	B7	B6
Environment	Property	Very significant construction and operation impacts on properties on Innerleithen Road, Tweed Avenue and Walkers Haugh.	Less significant impact – potentially close to Priors Reach at the south end.	Proximity to properties at the west of Kerfield House – although these are separated by a belt of mature trees. Some proximity to Cavalry Park.	Very close proximity to properties at the east of Kerfield House and some proximity to Cavalry Park.	Impacts on Kerfield farm and some proximity to Cavalry Park.	Impacts on Kerfield farm only
	Biodiversity and habitats	Removal of significant green corridor – wide ranging impacts	Removal of mature trees at south end	Woodland impacts at south end of route	Loss of mature trees at south end	Loss of mature trees at south end	Less significant impact
	Amenity	Crossing of River Tweed Path. Also impact on allotments.	Loss / severance of green & sports space in Whitestone Park. Crosses River Tweed Path.	Loss of green & sports space in Kerfield Park. Crosses River Tweed Path.	Crossing of River Tweed Path.	Crossing of River Tweed Path.	Crossing of River Tweed Path.
	Visual Impact and Landscape	Very significant visual impact along the line of the route and at the river crossing although it has been a transport corridor in the past. Wholly in Peebles conservation area.	Very significant loss of high amenity green area. Impacts on properties on Innerleithen Road and visible to traffic from A72. Wholly in Peebles conservation area.	Significant loss of high amenity green area. Visual Impacts on properties on Innerleithen Road and visible to traffic from A72. Wholly in Peebles conservation area.	Further from town centre so less impacting on the fabric of the town. Local visual impacts. Visible to traffic from A72. Partly in Peebles conservation area.	Further from town centre so less impacting on the fabric of the town. Local visual impacts. Visible to traffic from A72. Partly in Peebles conservation area.	Further from town centre so less impacting on the fabric of the town. Local visual impacts. Visible to traffic from A72.
	Flooding	All potential alignments would run in a flood risk area and detailed risk assessments and mitigations would be required					
	Safety (£'000)	£1,185	£1,553	£1,357	£1,393	£1,330	£625
Economy[1]	PVB (£'000)	17,952	10,499	13,422	13,301	12,065	6,787
	PVC (£'000)	3,812	2,831	3,174	2,935	3,071	3,080
	NPV (£'000)	14,140	7,668	10,248	10,366	8,994	3,707
	BCR	4.7	3.7	4.2	4.5	3.9	2.2
	Integration	No significant impacts					
	Accessibility & Social Inclusion	No Impact	No Impact	Potential step change in access to bus services	Potential step change in access to bus services	Potential step change in access to bus services	No Impact

[1] 60 years, discounted to 2002 values and prices

	Transport Planning Objectives					STAG Criteria					
Option	**TPO 1:** to ensure that traffic demand on Tweed Bridge and its junctions does not exceed capacity and act as a constraint on the economic and general development of the town	**TPO 2** to ensure that the town develops based on sustainable travel behaviour in the medium to long term	**TPO 3:** to maintain the vitality of Peebles as a retail and visitor attraction	**TPO 4:** to widen the range of travel opportunities available to the residents of Peebles	**TPO 5:** to reduce reliance on Tweed Bridge as the only river crossing for motorised traffic in the town	**Environment**	**Safety**	**Economy**	**Integration**	**Accessibility & Social Inclusion**	**Costs to Government**
A1 – Improved bus links	✓	✓	✓	✓✓	-	✓	✓	✓	✓	✓✓	×
A2 – Improved cross-river walk / cycle links and network	✓	✓	✓	✓	-	×	✓	-	✓	✓	×
B1 – New Bridge Crossing: Old Rail Alignment	✓✓✓	-	✓	-	✓✓✓	×××	✓✓	✓✓✓	✓	-	×××
B2 – New Bridge Crossing: Whitestone Park	✓✓	✓	✓	✓	✓✓✓	×××	✓✓	✓✓	✓	-	××
B8 – New Bridge Crossing: Whitestone Park (east)	✓✓	✓	✓✓	✓✓	✓✓✓	××	✓✓	✓✓	✓	✓	××
B3 – New Bridge Crossing: Cavalry Park West	✓✓	✓	✓✓	✓✓	✓✓✓	××	✓✓	✓✓	✓	✓	××
B7 – New Bridge Crossing: Cavalry Park to East	✓✓	✓	✓✓	✓✓	✓✓✓	×	✓✓	✓✓	✓	✓	××
B6 – New Bridge Crossing: Whitehaugh	✓	-	-	✓	✓✓	×	✓	✓	✓	-	××

There is of course significant uncertainty surrounding precisely when traffic conditions are likely to deteriorate, particularly in the current economic climate. It is therefore a recommendation that SBC **continue to regularly monitor traffic levels on the key links of Tweed Bridge and the High Street** on at least an annual basis. This traffic monitoring would provide an evidence base to inform decision making for the future.

However, in terms of planning for the medium to long term future, unless historic trends in the growth of traffic are stemmed or reversed, it is **inevitable that traffic levels on Tweed Bridge will continue to grow** in the medium term through the main mechanisms of increasing prosperity, car ownership and reductions in average household size. Further residential or commercial development in the south of the town would clearly materially add to this 'indigenous' growth in traffic. Policies such as improved bus services and walking / cycling networks are very unlikely to have sufficient impact on traffic levels in the context of a growing town to meet the objectives set.

The traffic modelling exercise undertaken here has demonstrated that by the 2019 forecast year, with an assumed full build out of existing Local Plan allocations, traffic levels on Tweed Bridge on an average weekday will have increased by 20-25% compared to 2011 levels. This suggests that the operational capacity of the bridge will be approached or breached on an increasingly regular basis. Note also that the modelling exercise here deals with average weekday traffic from a 'neutral' month. Peebles sees a distinct peak in traffic levels during August and local public holidays etc. On these occasions, traffic issues are likely to emerge more quickly.

A second crossing would bring the following benefits to the town:

- shorter and quicker south-A703 and south-A72 east journeys;
- 'future-proofing' of the town in terms of further physical and economic development across the town;
- reduced traffic levels on the High Street – creating a major opportunity for environmental improvements and road space reallocation;
- reduced traffic levels on unsuitable residential streets, ie reduced rat-running;
- potential step change in access to Edinburgh – Peebles – Galashiels (No. 62) bus services for residents south of the Tweed if re-routed south of the river; and
- New pedestrian and cycle-based cross river connectivity, depending on the alignment chosen.

Which Alignment?

A new road / bridge crossing as outlined above would be a major project for Peebles in terms of the day to day workings of the town, and would be the biggest change to the town for many generations. As such, public support will be of primary importance to successfully taking any of these options forward. Key to obtaining public support would be to ensure that the opportunities created by a new crossing are fully developed and maximised, in a way which involves the local community.

It is not the purpose of STAG to 'pick winners' but in general terms **the economic and traffic benefits and the environmental impacts all reduce as the options move from west to east**. Alignments towards the east offer a less attractive route to the town centre

or the A703 from areas in south west and south Peebles. It is also notable that the more westerly alignments would represent value for money if built today – ie their costs would be outweighed by the benefits associated with today's traffic levels (ie without traffic growth).

- Option B1: provides the greatest economic benefit and traffic impact, but would be most expensive and have the most severe environmental impacts. Its proximity to the town centre would mean it has the greatest visual impact and its alignment takes it very close to a number of properties.
- Option B2: offers the cheapest option and affects fewer properties, but provides an inferior economic case to B1, B8, B3 and B7 and would lead to severance to, and the loss of a large section of Whitestone Park;
- Option B8 and B3 are very similar, impacting in properties to the west and east of Kerfield respectively. B8 would result in the loss of the eastern boundary of Whitestone Park. Both have similar economic and traffic impacts, as does B7;
- Options B7 and B6 have the least property and environmental impacts, but B6 has the weakest economic and traffic case unless substantial additional development were planned for south east Peebles.
- Options B8, B3, B7 and B6 all open up an opportunity for re-routing Edinburgh – Galashiels buses, with B3 and B7 offering the most obvious alignments in this respect.
- All options would require careful flood risk assessment – and all options would cross the Tweed Riverside Path.

Overall, the appraisal against the Transport Planning Objectives and the STAG criteria suggests that of the bridge options considered, Options **B8, B3 and B7** provide the best balance in terms of meeting these objectives.

Alternatives?

Although local opinion (as gauged at the Public Exhibitions) supported the concept of a second crossing, this view could conceivably change as the details of the proposals become clear. If opinion swung against building a second crossing and the demand for motorised travel continues to grow, in the absence of a new crossing, measures would have to be implemented to avoid significant congestion in the Tweed Bridge area. Even with policies such as this in place, there would be no guarantee that river crossing traffic issues would be averted. As such this would represent a significant risk for the future of the town.

1 Introduction

1.1 Introduction

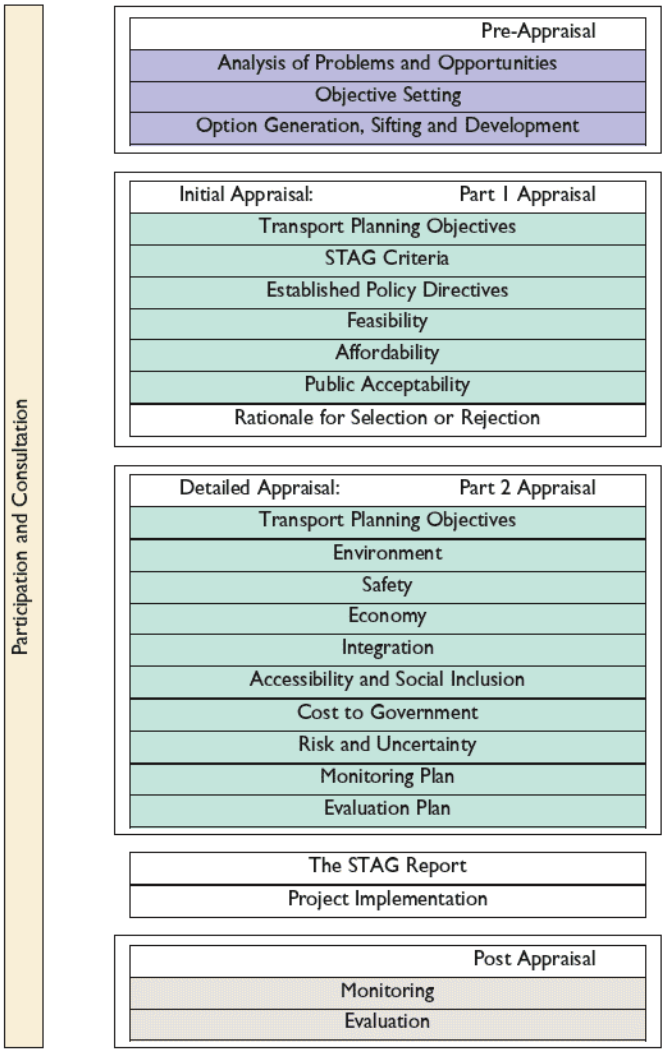
1.1.1 Scottish Borders Council (SBC) commissioned MVA Consultancy in 2010 to undertake an appraisal of the transport issues associated with the medium to long-term development of the town of Peebles, using the Scottish Transport Appraisal Guidance (STAG)[1]. This document is the STAG Report comprising the Part 1 and Part 2 Appraisals. The STAG process is shown in overview below.

1.2 Scottish Transport Appraisal Guidance

1.2.1 It is good practice for Scottish transport related studies to conform to STAG, as it provides a robust and consistent methodology for assessing and appraising transport schemes and policies. Its use is also mandatory where any approval or finance from the Scottish Government is sought.

1.2.2 STAG was 'refreshed' in May 2008[2], but it should be noted that the fundamental approach, philosophy and processes are essentially unchanged. The approach, methodology and techniques adopted in this appraisal are consistent with the present Guidance.

1.2.3 As shown here, STAG essentially consists of four distinct stages:



- **pre-appraisal**, where the problems and opportunities are identified and scoped (with a focus on consultation). Study-specific objectives are identified and an initial 'optioneering' process is undertaken to obtain a list of possible solutions to the problems;
- **initial (Part 1) appraisal**, where a set of potential solutions are appraised against factors such as the study's specific objectives and five STAG criteria, to ensure that

[1] The appraisal uses the 'refreshed' STAG guidance published in June 2008.

[2] http://www.transportscotland.gov.uk/stag/home

they are likely to fulfil the study's requirements. The Part 1 appraisal is a largely qualitative assessment to determine whether options should be taken forward to the next stage;

- **detailed (Part 2) appraisal**, where those potential solutions with a satisfactory initial appraisal are considered in more detail, with a view to defining any recommended interventions that will address the problems of the study area; and
- **post appraisal**, monitoring and evaluation.

1.2.4 A key concept stressed in STAG is **proportionality**. This means that the Guidance should be applied rationally in the context of the study at hand. In practice, this means that different studies will place different emphasis on the various elements within the STAG process. The key is to follow the principles and approach of STAG, without placing undue emphasis or analysis on elements which are of minor importance in the context of the study. STAG is also not concerned with detailed design as such, but should identify and quantify the main impacts associated with the broad approaches to allow a robust, informed decision to be made by policy makers and elected representatives.

1.3 Overview of this Report

1.3.1 This report contains a further seven chapters, as follows:

- **Chapter 2:** Analysis of Problems and Opportunities;
- **Chapter 3:** Objective Setting;
- **Chapter 4:** Options Generation, Sifting and Development;
- **Chapter 5:** Part 1 Appraisal;
- **Chapter 6:** Developments Since STAG Part 1;
- **Chapter 7:** Part 2 Appraisal;
- **Chapter 8:** Summary, Conclusions and Next Steps.

1.3.2 Note that the Part 1 Report was produced as a free standing document in November 2010. The project evolved in the period between that time and the publication of the STAG Report in August 2012.

1.3.3 Some of the analysis used in the Part 1 Appraisal and the findings have been superseded by the analysis undertaken for the Part 2 Appraisal. This analysis has been retained in this Final Report to retain the full timeline of the process undertaken. This report highlights where the Part 1 analysis has been superseded and directs the reader accordingly.

2 Analysis of Problems and Opportunities

2.1 Introduction

2.1.1 The market town of Peebles is situated to the western side of the SBC area on the banks of the River Tweed, and is approximately 23 miles south of Edinburgh. Peebles is a traditional market town set amongst rolling hills and arable land.

Figure 2.1 Location map of Peebles

2.1.2 The town's existing road infrastructure follows the traditional routes along valley floors and consists of the A703 which is the main route north to Edinburgh and the A72 Galashiels to Biggar road which is the key east to west link across the central Borders and runs through

the centre of the town. The River Tweed splits the town, with a historic road bridge the only vehicular crossing for traffic travelling between the north and south of the town.

2.1.3 Peebles is also a main focus for housing development in the Western Borders Strategic Development Area as set out in the Strategic Development Plan (SDP) that is currently being developed by the Strategic Development Planning Authority for Edinburgh and South East Scotland (SESplan). A key factor to the town's recent growth has been its proximity to Edinburgh. The town has seen a significant increase in the rate of residential and commercial development in recent years and will be expected to accommodate a portion of the housing land requirement for the Western Borders SDA in the new Scottish Borders Local Development Plan (LDP).

2.1.4 Much of the future development planned for Peebles lies south of the River Tweed. The town is currently reliant on a single river crossing, the Tweed Bridge and these two factors provide the main context for this study.

2.1.5 The General Register Office for Scotland (GROS) estimate that the current (2008) population of Peebles is 8,160. The other main settlements in the area are Cardrona (640) and Innerleithen (3,000).

2.2 Future Plans for Peebles

Consolidated Local Plan

2.2.1 The Consolidated Local Plan incorporates the Local Plan (2008) and the Local Plan Amendment (2011). The Consolidated Local Plan sets out detailed policies and land use proposals to guide planning decisions. In addition the Consolidated Local Plan also identifies a number of potential longer term sites. The Plan contains a range of development opportunities located south of the River Tweed, as shown in Table 2.1.

Table 2.1 Development in Peebles South of Tweed[3]

Site Code / Location	Type	Area (ha) / Capacity
TB7B – Whitehaugh*	Residential	10.1 / 215**
TB13B – Glen Crescent*	Residential	8.7 / 51**
APEEB026 – Dunwhinny Lodge	Residential	0.5 / 14
APEEB027 – Cleland Avenue	Residential	0.3 / 7
RPEEB003 – Tweedbridge Court	Residential	0.5 / 50
APEEB027 – Cleland Avenue	Residential	0.3 / 7
zEL2 – Cavalry Park*	Employment	6.3
zEL46 – South Park	Employment	1.9
zEL204 – South Park	Employment	0.9
zEL204 – South Park	Employment	0.9
SPEEB005 – Peebles East south of river	Long Term Expansion – Mixed Use	32.4 (approx 14ha developable area)
SPEEB003 – South west of Whitehaugh	Long Term Expansion - Housing	4.5
SPEEB004 – North west of Hogbridge	Long Term Expansion - Housing	2.9

* sites under construction

** approved figures

2.2.2 Crucially, the majority of allocated new housing and business allocations in Peebles are south of the river, as are the areas identified for longer term expansion of the town. In contrast, almost all retail (and most leisure) opportunities including the town's two supermarkets are located north of the river. These trends will lead to increasing pressure on cross-river movements in future. More generally, GROS projections of population (2008 based) suggest that between 2008 and 2032, the Scottish Borders will see an increase in population of 17,700, or around 16%. This is associated with a 27% increase in households, from 51,000 to 65,000 and this is particularly important as it has a greater impact on the demand for personal travel. Peebles will be expected to contribute to catering for this increase in population and households.

2.2.3 At the time of writing, SBC was in the early stages of producing a Local Development Plan (LDP) as part of changes to the Scottish planning system. This will replace the Consolidated Local Plan (2011) and will comply with the emerging Strategic Development Plan (SDP). A report was presented to Council on the Scottish Borders Main Issues Report (MIR) in January 2012 and public consultation on the MIR took place in the Spring 2012.

2.3 Transport in Peebles

2.3.1 The section outlines the current situation with transport provision in Peebles.

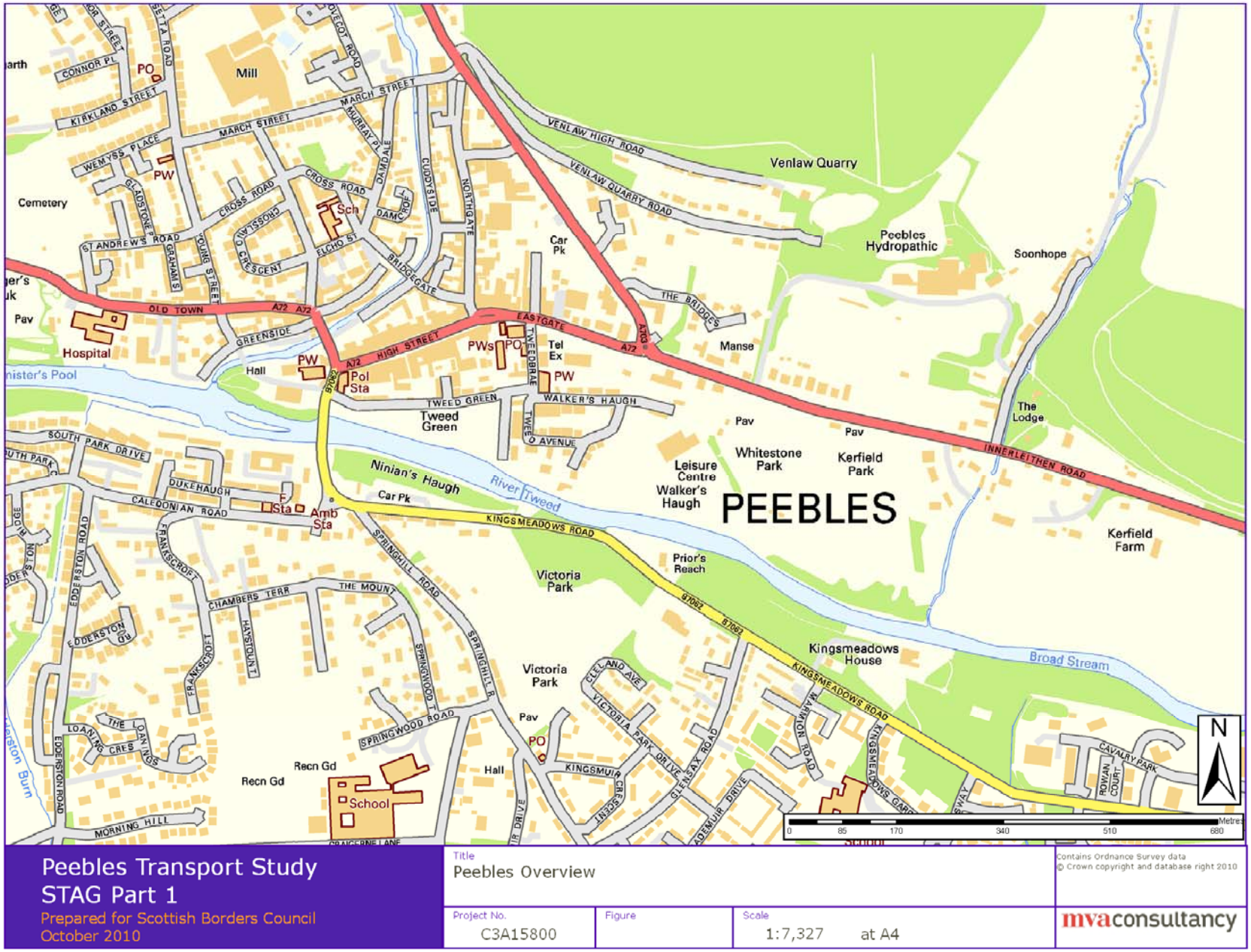
[3] http://www.scotborders.gov.uk/downloads/file/1388/peebles

Key Roads

2.3.2 Peebles sits at the junction of the main Borders east-west route (the A72) and the A703 to Leadburn, Penicuik and Edinburgh. The key routes are:

- the A72, Galashiels to Biggar Road: the A72 is the key east to west link in the central Borders and also acts as an important local distributor road between Galashiels, Peebles and Biggar – it also provides access to the A701, the route used to access the M74 at Moffat for southbound travel from Peebles;
- the A703, Peebles to Leadburn Road: the A703 is the primary route to Edinburgh and the north;
- Peebles High Street (A72): there are road safety and parking concerns on the High Street due to the volume of traffic currently using the route and high levels of activity in this area;
- Tweed Bridge: the existing bridge which links Kingsmeadows Road (B7062) and the High Street is the only vehicular link between the northern and southern parts of the town. This link is critical to the functioning and prosperity of the town;
- the B7062, Peebles to Traquair Road: this route is located on the southern side of the town and the River Tweed, and links Peebles to the local villages of Cardrona and Traquair. The B7062 links a number of existing and proposed housing and industrial development sites in the southern area of the town with the town centre via Kingsmeadows Road. East of Peebles, the route is of a poor standard in terms of horizontal and vertical alignment. It is also narrow in many places and unsuitable for many during severe weather.

2.3.3 Figure 2.2 below shows the key local routes in Peebles Town Centre.



Peebles Transport Study
STAG Part 1
Prepared for Scottish Borders Council
October 2010

Title: Peebles Overview

Project No.: C3A15800

Figure:

Scale: 1:7,327 at A4

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Figure 2.2 Peebles Street Map

Public Transport

2.3.4 Peebles is primarily served by the service 62, currently operated by First Bus. This route links Melrose, Borders General Hospital, Galashiels, Innerleithen, Peebles, Penicuik and Edinburgh. There is an approximately half hourly service between Peebles and Edinburgh throughout the day with a scheduled journey time of just over one hour to Edinburgh St Andrew Square bus station. There is also the X70 service which runs a limited stop service (avoiding Penicuik, via Howgate) from Peebles to Edinburgh, although this is limited to one bus per day north in the AM peak and one south in the PM peak.

2.3.5 It is important to note that the 62 does not directly serve areas of Peebles south of the River Tweed. Its main stop is at Eastgate, and Northgate is used as a loop to link Eastgate with the A703 and A72 east. This means that residents from the south of the town have to walk to Eastgate to catch buses to Edinburgh / Galashiels using the Tweed footbridge off Kingsmeadows Road, or use the local town bus service to link with the 62. For areas to the south and south east of the town, this can be a lengthy walk of up to 1.5km and this is likely to act as a deterrent to use of this service. The X70 does however serve this area for early morning commuters to Edinburgh. The 62 and X70 are run commercially, ie without subsidy from SBC.

2.3.6 In terms of fares, an example is that a four-week ticket covering the necessary six zones to commute to Edinburgh with First Bus currently costs £171 (December 2011), working out at around £8.50 per day (assuming 20 working days)[4]. An equivalent 'One-Ticket' would cost £186. A single fare between Peebles and Edinburgh is £4.80 (2012).

2.3.7 As previously noted, First Bus also operate a town service (90). This runs hourly throughout the day around the town and does provide a link between the two sides of the river.

2.3.8 There is also an irregular service run by MacEwans between Peebles and Biggar (91) and between Peebles, Broughton and West Linton (93).

2.3.9 An improved bus shelter facility was recently provided at the main Eastgate stop. There are also plans to introduce real time passenger information in the Scottish Borders, although the exact locations and corridors to be served are yet to be determined. Given the relatively high volumes of travel between Peebles and Edinburgh it seems likely that the corridor would be included in this initiative however.

Walking and Cycling

2.3.10 Peebles is a popular destination for walkers and there are reasonable pedestrian routes and facilities in and around the town. The High Street has a signalised Puffin crossing and a number of recently constructed build-outs and refuges to help pedestrians cross the road more safely. A new Puffin crossing has also recently been installed on Kingsmeadows Road as part of the 'safer routes to school' strategy. This Puffin crossing links to the pedestrian footbridge between Kingsmeadows Road and Tweed Green. This link is an important 'short cut' between the south east of the town and the town centre.

2.3.11 Cycling is also a popular attraction locally and Peebles / the Tweed Valley is arguably the country's primary mountain biking venue with '7stanes' sites at Glentress and Innerleithen.

[4] http://www.firstgroup.com/ukbus/scotland_east/tickets/firstweek/

There is no dedicated cycle provision in the town at present, although an off-road route from Peebles to Innerleithen is currently under development and is due to be completed in 2013. There is currently an advisory on-road cycle-lane on Kingsmeadows Road and SBC has provided a number of cycle racks for parking in the town centre. Cyclists have to dismount to use the Tweed footbridge described above.

Parking

2.3.12 There are a number of off-street car parks in Peebles, namely Edinburgh Road, Swimming Pool, Greenside and Kingsmeadows. Of these, only Kingsmeadows is south of the river which means that nearly 85% of off-street parking capacity is located north of the river. All but Kingsmeadows charge for parking on Saturdays but are free at other times. It is understood that to date, the monies raised through Saturday parking charges has been retained locally to invest in improving parking facilities in the town[5].

2.3.13 Peebles is a popular destination for day trippers and coach parties particularly in the summer months, and at weekends and local public holidays (particularly Edinburgh). Parking can be a problem at these times and this could potentially deter visitors, and there has been a specific issue relating to the parking of tourist coaches conflicting with local bus parking. Recent changes to Edinburgh Road car park may have helped to resolve this issue though.

Rail

2.3.14 There are currently no rail services in the area. It is assumed that the Borders Railway will be reinstated between Edinburgh and Tweedbank as planned, opening in 2014. This development has very little direct impact on Peebles though, given the distances involved in accessing any of the proposed new stations from Peebles either by car or bus.

Peebles Travel to Work Data

2.3.15 The 2001 Census Travel to Work data provides some valuable context in terms of commuting travel patterns. For Peebles, the key findings are:

- 50% of Peebles resident employed adults work in Peebles, ie the town is relatively self-contained;
- 20% of Peebles resident employed adults work in Edinburgh (the highest proportion of any Borders town reflecting its relative proximity to Edinburgh) and of these:
  - 92% are car drivers or passengers, 6% use the bus and 2% use 'other' (including motorbike); and
- Car driver / passenger accounts for 63% of all commuting journeys made by Peebles residents, with public transport at 4%, walk / cycle 25%, and 'other' 8%.

2.3.16 It is therefore notable that public transport was used for only a very small proportion of commuting journeys in 2001 (and an even lower proportion of those commuting to Edinburgh), and this is unlikely to have changed significantly with the new 2011 Census, the results from which are as yet unavailable. In terms of Edinburgh, one reason for the low share of bus use will be that many will work outwith the city centre or 'Bridges' corridor

[5] http://www.peeblesshirenews.com/news/roundup/articles/2010/08/27/404104-parking-cash-to-be-driven-out-of-peebles-

served the 62 / X70. For them, a further bus journey would be required in Edinburgh and this interchange / additional cost will be a significant deterrent for many.

Accessibility

2.3.17 Figure 2.3 below shows typical travel times from Peebles. Travel times are coloured on a common basis between the two graphics for ease of comparison. These illustrate the very wide differential between car and public transport based accessibility from Peebles. As such it helps to explain the very high modal share of the car for travel from Peebles as noted above.

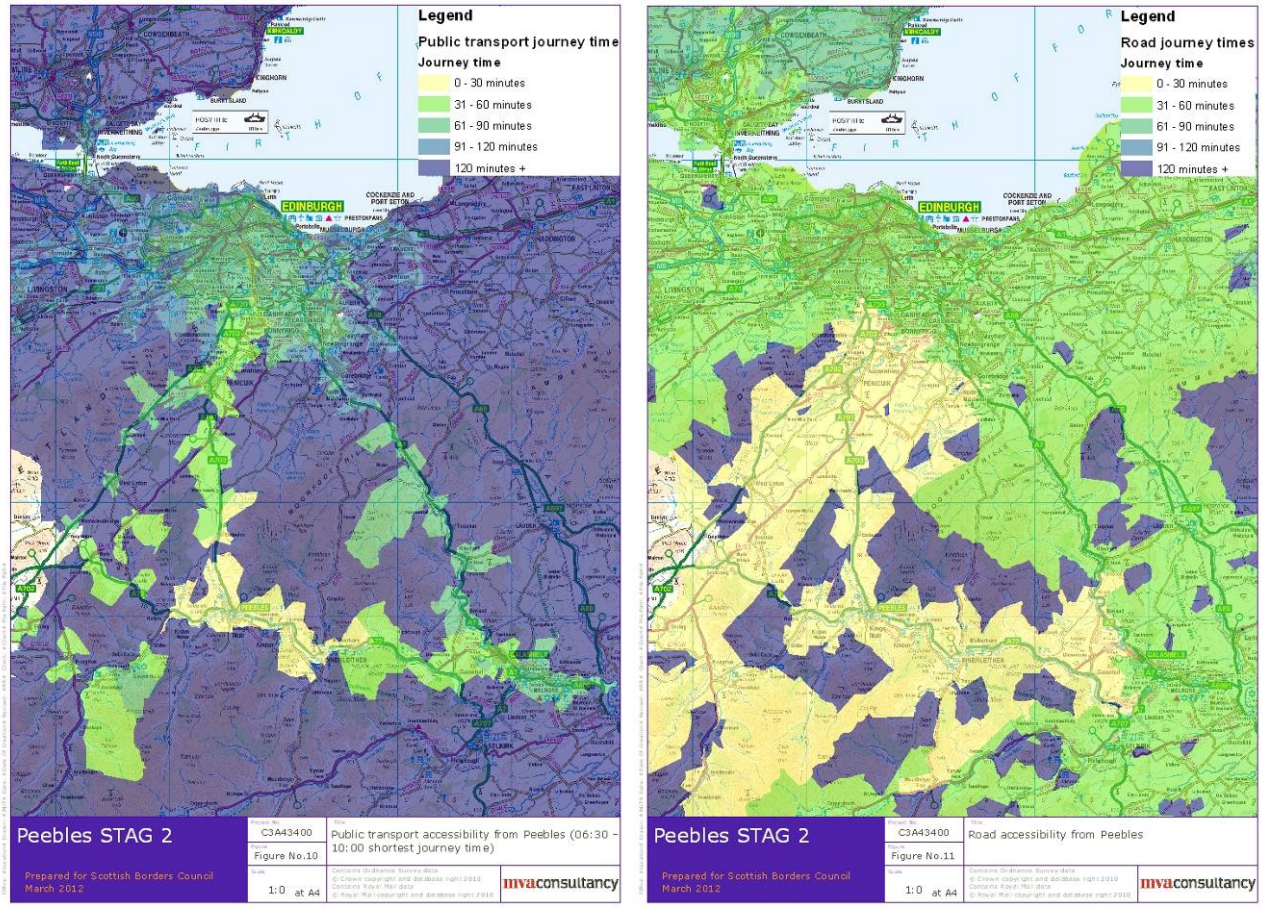

Figure 2.3 Typical travel times from Peebles by Public Transport and Car

2.4 Traffic in Peebles

2.4.1 In recent years, it has been generally recognised locally that there has been an increase in traffic levels in the town on top of what was already perceived to be a busy situation, and there has been concern as to whether the town was capable of absorbing increases in traffic due to future housing development. A number of problems have previously been identified including:

- road safety concerns on the High Street;
- parking management and control in the town centre especially on and around the High Street; and

- limited additional capacity on the B7062 Tweed Bridge and its adjoining junctions.

2.4.2 SBC identified that there was insufficient detailed information on how future developments might impact on traffic flows in the town and that further investigation was needed. The consultancy firm Colin Buchanan was commissioned to undertake a study to provide this information in 2005. A series of surveys and site visits were undertaken to produce detailed data. The results and outcome of the survey were presented in the **Peebles Transport Study – October 2005**.

2.4.3 The broad conclusions that were derived from the 2005 study were as follows:

- traffic flows in the town were relatively high, the highest volumes of vehicles were concentrated on Tweed Bridge, the High Street, Eastgate and between Innerleithen Road and Edinburgh Road;
- traffic levels experienced in 2005 would be further exacerbated by traffic generated by new developments, located primarily to the south of the river. At Tweed Bridge, capacity problems would be experienced and **serious consideration would need to be given to providing an alternative river crossing for general traffic**;
- six possible options for a second bridge alignment were considered. The result of the initial assessment indicated that the recommended location for a new bridge crossing was Option One – The Old Rail Alignment, which would improve accessibility for traffic travelling between the town and the A72 / A703 corridors and also maximise the opportunity for removing traffic from Peebles town centre. The estimated cost of this option was £2.2 million based on 2005 prices;
- there was a high demand for car parking in the town. The expected growth in traffic would increase the pressure on the town centre car parking provision. A number of recommendations regarding parking restrictions and enforcement were made; and
- increased traffic levels in the town centre would exacerbate road safety concerns. A number of recommendations regarding improvements to pedestrian facilities were also made.

2.4.4 The detailed survey work undertaken by Colin Buchanan in 2005 provides a good initial basis for understanding the nature of car traffic movements around Peebles. The 'cordon' data collected as part of this study was used to provide an overview of the main 'strategic' movements on a north / south / east / west basis for the Part 1 appraisal as follows:

- North: Edinburgh Road;
- East: Innerleithen Road;
- South: Kingsmeadows Road, Springhill Road, Caledonian Road;
- West: Neidpath Road; and
- Park: parking in town (assumed north of river).

2.4.5 The origin-destinations of traffic counted coming in at each of these points has been combined and the proportion of this total accounted for by the different movements determined. This is shown below for an approximate 12-hour period. The shaded cells represent cross river traffic.

Table 2.2 Proportions of 'strategic' traffic flow around Peebles

	North	East	South	West	*Park*
North	-	24%	12%	8%	*8%*
East		-	13%	5%	*10%*
South			-	7%	*8%*
West				-	*4%*

2.4.6 The main movement here is therefore north to east, accounting for around a quarter of this 'strategic' traffic. Through east-west traffic on the A72 is much lower at only 5% of total traffic. Traffic using Tweed Bridge accounts for around 41% of this total, underlining the importance of this link. When the individual time periods are considered, the percentage of river crossers is higher, eg 47% in the AM peak - this highlights the influence of commuting traffic. It is therefore clear that cross-river traffic accounts for a substantial proportion of Peebles-related traffic.

2.4.7 **Tweed Bridge** was a particular focus for the 2005 Study. As has been noted, it is crucial to the livelihood of Peebles as it provides the only link for motorised travel between the north and south sides of the town. The south west of the town is essentially a '*cul de sac*' in transport terms (with only a very poor quality (and temporarily closed) single track link to the A72 at Manor Bridge), and areas to the south east have only the option of a lengthy detour via Cardrona if heading north or west.

Figure 2.4 Tweed Bridge in Peebles

2.4.8 In addition, Tweed Bridge is located to the west of the town centre. This means that **traffic from the south east of the town has to make an indirect journey via Tweed Bridge and the High Street** to make north and eastbound movements. This leads to longer journey times than would be the case with a more direct route.

2.4.9 A structural inspection was carried out on the bridge in February 2009 and the structure was found to be in good condition. Nevertheless it is clearly a risk to be dependent upon a single crossing which could be affected by road works, severe weather or structural damage. The consequences of this risk have been seen in other parts of the country in recent years during severe weather in particular.

The Wider Network

2.4.10 As noted above, the focus of the 2005 Study was largely on Tweed Bridge and its theoretical capacity. The potential requirement for a second Tweed crossing has been seen as being triggered mainly by a forecast of traffic exceeding this theoretical capacity. Less emphasis was placed on the surrounding road network and the connections to the bridge. In particular, the junction to the north of Tweed Bridge, with the A72 High Street / Old Town is of a low standard, with poor sight lines, adverse cambers and significant pedestrian activity (see Figure 2.5 below). It is also used by 'u-turning' traffic (eg when searching for parking spaces on the High Street) and the geometry is very tight for this manoeuvre. Current and future capacity issues at this junction are perhaps more significant than capacity issues on the bridge itself.

2.4.11 Both the traffic analysis and the assessment of options therefore require a wider look at traffic conditions at the town's key junctions, rather than being restricted to the bridge flows and its theoretical capacity alone. However, it can be noted that reducing traffic on Tweed Bridge would be likely to also have a beneficial impact on the town centre network, given its significance. So Peebles is dependent on a single river crossing which (together with its associated junctions) is operating close to capacity at specific times of the day / week. As the town grows, this could be expected to become a significant constraint on the development of the town and the economic efficiency of the local economy.

Figure 2.5 Views of roundabout to the north of Tweed Bridge

2.4.12 Peebles High Street is the focus of the town and has been widely recognised as a pleasant and desirable retail area which includes a diverse range of independent retail offerings, including bars, cafes restaurants etc. The High Street is also the main thoroughfare for all strategic traffic movements in the town. Increasing traffic levels on the High Street will have a negative impact on pedestrian movements on the High Street and also the local environment, and as such this must be seen as a risk to the town's future retail vitality.

Traffic Flow Profiles - 2011

2.4.13 Automatic traffic count surveys were undertaken by SBC in Peebles between Monday 21 February and Tuesday 8 March 2011. These surveys provide an hourly breakdown of traffic at the key locations of Tweed Bridge and High Street, in addition to B7062 Kingsmeadows Road and A72 Neidpath Road. The resulting traffic data for Tweed Bridge and the High Street are shown below in Figures 2.6 to 2.9.

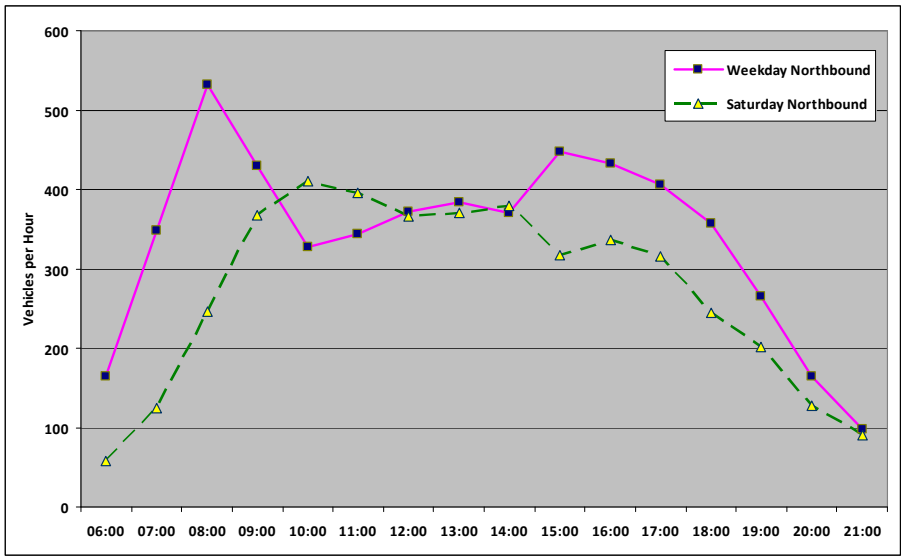

Figure 2.6 Tweed Bridge Northbound Traffic Profiles

2.4.14 The main points to note here are:

- very pronounced 0800-0900 weekday northbound peak of around 525 vehicles, showing commuting traffic from south of the river;
- much less pronounced PM peak of around 450 vehicles between 1500 and 1600, perhaps associated with High School traffic; and
- generally much lower flows on Saturday peaking at around 400 vehicles more evenly spread across the day – Saturday peak is 1000-1100.

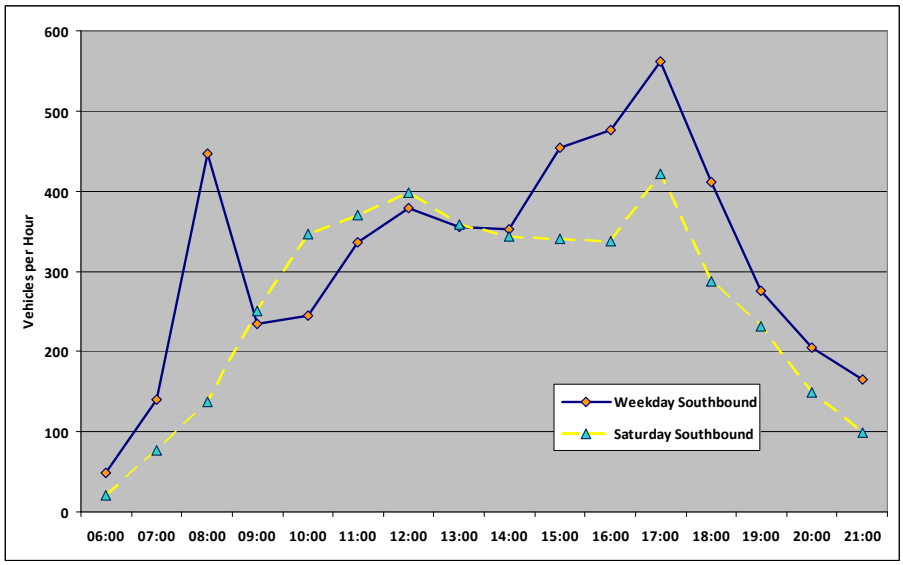

Figure 2.7 Tweed Bridge Southbound Traffic Profiles

2.4.15 The main points to note here are:

- gradual build up to the 1700-1800 southbound peak of around 550 vehicles broadly equivalent in magnitude to AM northbound;

- also a pronounced peak of around 450 vehicles at 0800-0900 possibly associated with High School traffic and employment sites south of the river; and
- Saturday peak is also 1700-1800, although again traffic is much more evenly spread across the day.

2.4.16 The maximum recorded 2-way flow was around **970** vehicles between both 0800-0900 and 1700-1800.

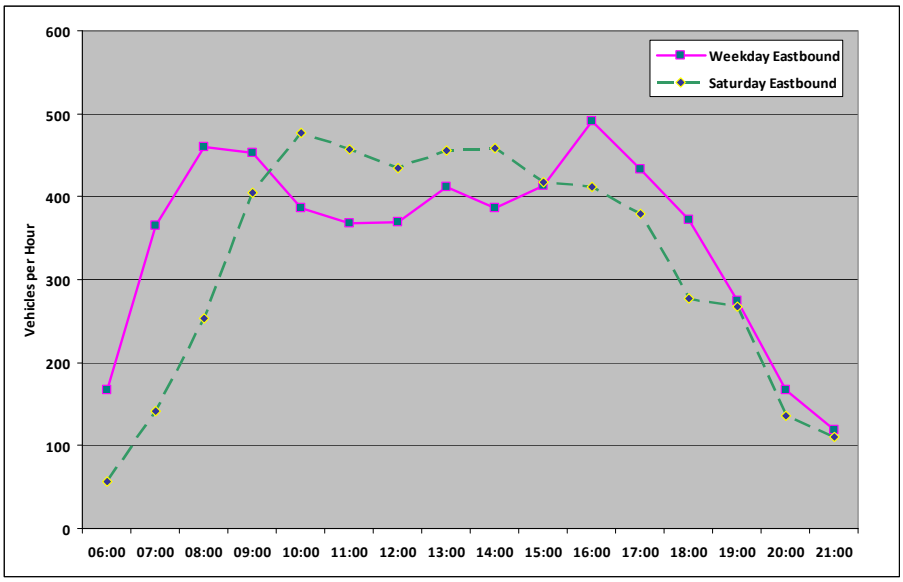

Figure 2.8 High Street Eastbound Traffic Profiles

2.4.17 The main points to note here are:

- Saturday traffic levels are higher than weekday between 1000 and 1500;
- weekday profile is flatter than Tweed Bridge, with an eastbound peak between 1600 and 1700 of around 500 vehicles; and
- High Street traffic generally has a flatter profile than Tweed Bridge.

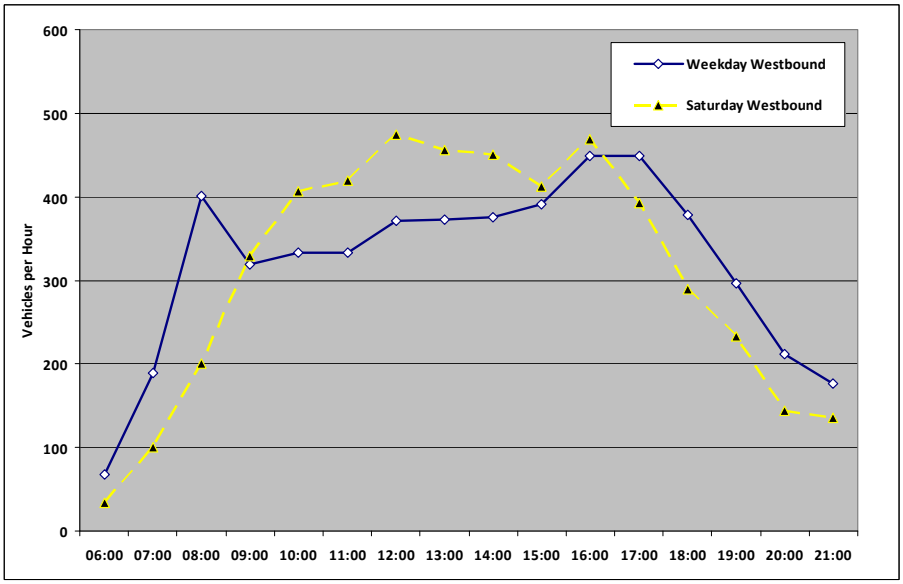

Figure 2.9 High Street Westbound Traffic Profiles

2.4.18 The main points to note here are:

- Saturday traffic levels are higher than weekday from between 1000 and 1600 peaking at around 475 vehicles;
- westbound weekday traffic builds gradually from 0900 to 1800, with a peak of around 450 vehicles between 1600 and 1800; and
- High Street traffic generally has a flatter profile than Tweed Bridge.

2.4.19 On the High Street, the maximum 2-way weekday flow was **940** between 1600 and 1700.

2.4.20 The other counts were undertaken on Kingsmeadows Road (east of Springfield Road) and Neidpath Road (west of Haylodge Hospital). Flows at these locations are much lower. At Kingsmeadows Road the maximum weekday 2-way hourly flow was **465** vehicles and the equivalent figure on the A72 at Haylodge was **345** vehicles. Previous hourly count data from the A72 at Whitestone Park (Peebles Hydro) shows that flows here are higher where a maximum weekday 2-way flow of **825** vehicles was recorded. At Edinburgh Road (Crossburn), the maximum 2-way hourly weekday flow was around **620**.

2.4.21 The Design Manual for Roads and Bridges (DMRB) Volume 5 Section 1 entitled 'Traffic Capacity of Urban Roads' provides some context for the above figures. The two road classes most representative of the main routes in Peebles are 'UAP3' (for say the A72 Innerleithen Road and A703 Edinburgh Road) and 'UAP4' (High Street, Tweed Bridge etc). The implied 2-way hourly capacity of these road classes are **1,500** (UAP3) and **1,250** (UAP4) vehicles per hour. It can therefore be seen that broadly speaking, these main routes are currently operating within their theoretical capacity. On the High Street and Tweed Bridge, there is potentially the scope for **20%-30% growth** before these theoretical capacities are reached. There is more scope for growth on the other routes. Again broadly speaking, if the junction geometries in Peebles are reflective of these road standards, then there ought to be scope for a similar level of growth in this respect.

2.4.22 However, as these capacities are approached through time, there will be more frequent deteriorations in traffic conditions at these locations and traffic will re-route where this is a feasible option. In addition, the closer a network is to operating at its capacity, the greater the impact of incidents or peak traffic days will have. As capacities are approached, journey times also become much less reliable.

Air Quality

2.4.23 At the present time, SBC operate two single-tube diffusion tube sites in Peebles to monitor air quality (oxides of nitrogen). The tubes are changed every four or five weeks in accordance with a national calendar.

2.4.24 The sites are shown in Figure 2.10 below.

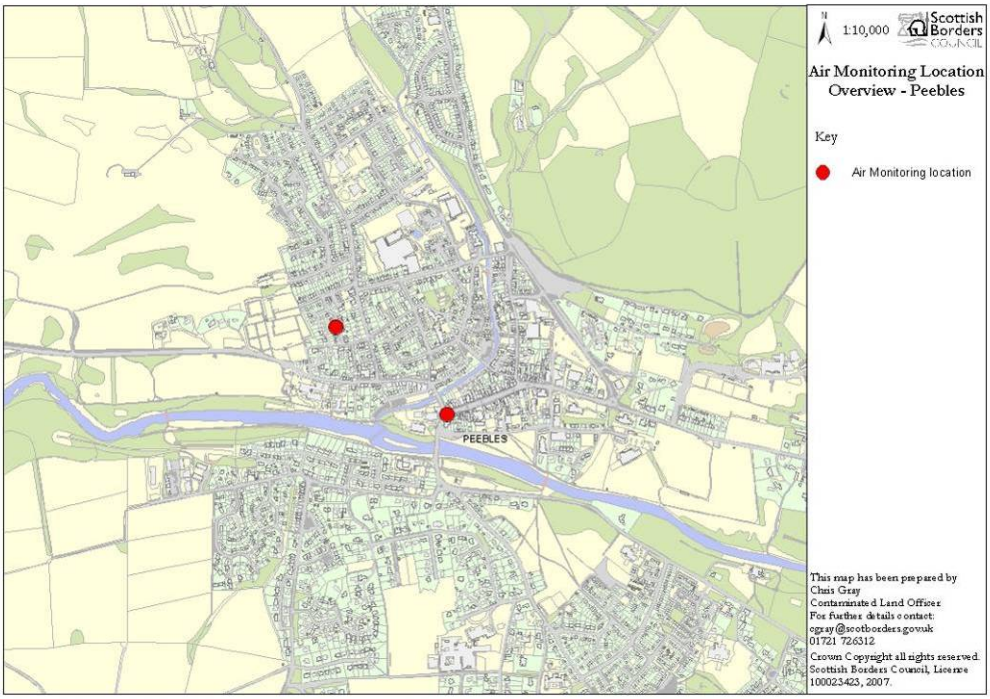

Figure 2.10 Location of Peebles Air Quality Monitoring Sites

2.4.25 Results from these sites show significantly higher levels of NO_2 in Peebles High Street than at the other site in Gladstone Place, but the levels recorded are not deemed to be problematic[6].

2.4.26 Since November 2009, there has also been a real time monitoring station operating in the grounds of the SBC offices in Peebles[7]. This station monitors ground level ozone and oxides of nitrogen.

2.4.27 To date, SBC therefore report that no problems with local air quality in Peebles have been identified. However there is clearly a risk that increased traffic levels and congestion over time could lead to air quality issues in the town. The on-going monitoring would identify this and should be continued.

2.5 Opportunities

2.5.1 The main opportunity of relevance here is the potential to obtain developer contributions (through the Plan development process) towards the transport proposals which may be required to facilitate and support the development of the town. The STAG study provides some of the evidence base to allow SBC to undertake these discussions on a more quantitative basis.

[6] The annual mean level (µg/m3) is around 20 to 25, and the Scottish Air Quality objectives state an annual mean of 40 µg/m3 should not be exceeded.

[7] http://www.scottishairquality.co.uk/#site_info

3 Objective Setting

3.1 Introduction

3.1.1 In STAG, Transport Planning Objectives (TPO) should be set which closely reflect what the study is setting out to achieve. STAG states that they should:

- express the outcomes sought and describe (while avoiding indications of potential solutions) how problems will be alleviated;
- provide the basis for appraisal of alternative options; and
- be used as a basis for Post Appraisal monitoring and evaluation

3.2 Transport Planning Objectives

3.2.1 In this case, the study is setting out to address a range of potential issues associated with population and employment growth (and its impact on traffic volumes) in the town of Peebles. As such, the focus is on the future development of the town in the longer term as much as present day problems. The transport planning objectives must therefore reflect this.

3.2.2 In the light of the problems and opportunities identified, the following Transport Planning Objectives have been specified:

- Objective 1- to ensure that traffic demand on Tweed Bridge and its junctions does not exceed capacity and act as a constraint on the economic and general development of the town;
- Objective 2 - to ensure that the town develops based on sustainable travel behaviour in the medium to long term;
- Objective 3 - to maintain the vitality of Peebles as a retail and visitor attraction;
- Objective 4 - to widen the range of travel opportunities available to the residents of Peebles; and
- Objective 5 - to reduce reliance on Tweed Bridge as the only river crossing for motorised traffic in the town.

3.2.3 These TPOs are considered in conjunction with the five defined STAG criteria: Environment, Safety, Economy, Integration, and Accessibility and Social Inclusion.

3.3 Established Policy Directives

3.3.1 The most important policy context here is provided by the Scottish Borders **Local Plan Amendment**.

3.3.2 The Settlement Profile for Peebles[8] refers to a number of transport proposals / requirements in the context of the long term development of the town, ie the 'areas for longer term

[8] http://www.scotborders.gov.uk/life/planningandbuilding/plansandresearch/26901.html

expansion and protection'. All three areas identified as such are in the south east of the town. It is stated that these areas are indicative at this stage and would require further detailed assessment during the next Local Plan Review. However the plan does state that:

'for these sites to come forward in the longer term there is a requirement for a new bridge linking north and south of the River Tweed.'

3.3.3 There are also a number of references to upgrades being required to Kingsmeadows Road, Glen Road and a new link road between Glen Road and Kingsmeadows Road. These measures would clearly provide part of a package of measures associated with a new river crossing.

3.3.4 The Strategic Development Planning Authority for Edinburgh and South East Scotland (SESplan) has published their Proposed Plan (November 2011)[9]. This Strategic Development Plan will replace the previous Structure Plans developed for Edinburgh and the Lothians (to 2015), Fife (to 2026) and Scottish Borders (to 2018). In this context, Peebles falls within the 'Midlothian / Borders' Sub Regional Area. Across this whole area, an existing housing supply of 15,500 has been identified, with a new additional housing land requirement of 2,300 (2009-24). At this stage, specific locations are not identified, but the Plan indicates an existing housing land supply of 1,000 units in the Western Borders Strategic Development Area (SDA) with a requirement for a further 100 units between 2019 and 2024.

3.3.5 Scottish Borders Council's **Local Transport Strategy 2007/08** lists six key objectives as follows:

- Objective One – To ensure a safer and more sustainable environment;
- Objective Two – To help address the issues highlighted in the Council's Structure and Community Plans;
- Objective Three – To maximise personal mobility and accessibility for all;
- Objective Four – To promote and improve healthy modes of transport;
- Objective Five – To reduce social exclusion throughout the Council area;
- Objective Six – To enhance the local economy and provide improved transport to, from and within the Scottish Borders.

3.3.6 These objectives have been encapsulated within the TPOs set for this study.

Government Economic Strategy

3.3.7 The Government Economic Strategy was published in November 2007 and provides the framework through which the Scottish Government will look to achieve its central Purpose, which is:

- '*to focus the Government and public services on creating a more successful country, with opportunities for all of Scotland to flourish, through increasing sustainable economic growth*'.

3.3.8 Delivering the Purpose is dependent on the realisation of the five Strategic Objectives set by the Scottish Government, namely to make Scotland:

[9] http://www.sesplan.gov.uk/dev_plans.html

- **Wealthier and Fairer** – Enable businesses and people to increase their wealth and more people to share fairly in that wealth;
- **Healthier** – Help people to sustain and improve their health, especially in disadvantaged communities, ensuring better, local and faster access to health care;
- **Safer and Stronger** – Help local communities to flourish, becoming stronger, safer place to live, offering improved opportunities and a better quality of life;
- **Smarter** – Expand opportunities for Scots to succeed from nurture through to life long learning ensuring higher and more widely shared achievements; and
- **Greener** – Improve Scotland's natural and built environment and the sustainable use and enjoyment of it.

3.3.9 The delivery of the Government's Purpose is supported by 15 National Outcomes, which describe in more detail what the Government wants to achieve over a ten year period. The relevant ones here are:

- *2. We realise our full economic potential with more and better employment opportunities for our people;*
- *9. We live in well designed, sustainable places, where we are able to access the amenities and services we need;*
- *14. We reduce the local and global environmental impact of our consumption and production; and*
- *15. Our public services are of a high quality, continually improving, efficient and responsive to local peoples' needs.*

National Transport Strategy

3.3.10 The National Transport Strategy (NTS)[10], published in December 2006 set out the Scottish Government's long-term vision for transport in Scotland, together with some key objectives.

3.3.11 The NTS focuses on three strategic outcomes which set the context for transport policy making for the next 20 years and provide the guiding principles at national, regional and local level, when developing strategies and prioritising resources. These strategic outcomes are shown below with the main indicators (in italics) of progress which are relevant here:

- to improve journey times and connections; to tackle congestion and the lack of integration and connections in transport which impact on our high-level objectives for economic growth, social inclusion, integration and safety;
  - *congestion*
- to reduce emissions; to tackle the issues of climate change, air quality and health improvement which impact on our high-level objective for protecting the environment and improving health;
  - *carbon emissions from the transport sector*
  - *tonnes of carbon saved*
  - *average distance walked and cycled per person per year*

[10] http://www.scotland.gov.uk/Publications/2006/12/04104414/11

- to improve quality, accessibility and affordability; to give people a choice of public transport, where availability means better quality transport services, value for money and a realistic alternative to the car.

  - *passenger numbers on buses*
  - *satisfaction of bus passengers*
  - *walking time to nearest bus stop and frequency of bus service at nearest bus stop*

3.3.12 All of these key strategic outcomes are relevant in this case and are to be considered in the appraisal.

4 Option Generation, Sifting and Development

4.1 Introduction

4.1.1 STAG recommends that options should be generated through the following sources:

- ideas / outputs emerging from consultation;
- previously suggested options / opportunities;
- through the statutory planning process (transport and land use plans)
- ideas flowing from a structured decision making process by the study team.

4.1.2 The study team both independently, and through team workshops, generated a variety of possible options to address the opportunities and constraints identified in Chapter 3 of this report. The starting point for option generation was the outcome of the analysis and review of the identified problems, constraints, uncertainties and opportunities. It was also deemed sensible and appropriate to include, for review, the options identified in the Peebles Transport Study undertaken by Colin Buchanan in 2005.

4.2 Consultation

4.2.1 A successful consultation process is vital in contributing to a scheme or proposal achieving its required objectives. STAG states that it should be central to the planning exercise. This section describes the consultation process that was undertaken in the early stages of the Peebles study.

4.2.2 Following a review of previous work, it was clear that local concerns regarding transport related problems in Peebles had been in existence for a number of years. To allow the study team to appreciate and assess these concerns, it was determined that the first action should be an information gathering exercise from local key stakeholders. These included local councillors, Peebles Community Council, relevant Scottish Borders Council departments (Planning and Economic Development and Technical Services), the emergency services and the various key statutory and non-statutory environmental consultees, such as Scottish Natural Heritage (SNH), Historic Scotland and Scottish Environment Protection Agency (SEPA). A full list of the consultees is provided below in Table 4.1, and those who responded are indicated '(✓)'.

Table 4.1 Key Consultees

Key Consultees	Scottish Borders Council
Lothian and Borders Police (✓)	Planning and Economic Development (✓)
Lothian and Borders Fire and Rescue Service	Economic Development and Regeneration Countryside and Heritage
Scottish Ambulance Service	Planning and Building Standards
Scottish Environmental Protection Agency (SEPA) (✓)	Technical Services (✓)
First Bus	Development Control
MacEwans Coach Service	Traffic Section
Road Haulage Association	Flood Prevention
Freight Transport Association	South of Scotland Timber Transport Officer
National Farmers Union	
Scottish Natural Heritage (✓)	
National Trust Scotland	
Scottish Borders Chamber of Commerce	
Historic Scotland	
Peebles Community Council (✓)	
Royal Mail	
Confederation of Forest Industries (UK) Ltd	
Forest Enterprise	
Peebles Civic Society (✓)	
Scottish Borders Biological Records Centre (✓)	

4.2.3 The majority of consultation was carried out by letter however telephone calls and meetings were also held with a number of the consultees. Note that this consultation was undertaken in the light of the findings of the 2005 study, hence the options relating to a second bridge crossing were already in the public domain.

4.2.4 A summary of the responses received is provided below:

Lothian and Borders Police

- No immediate road safety concerns relating to the existing traffic arrangement in Peebles;
- Would be supportive of the benefits that a second bridge would provide for the town;

- The location of a second bridge should be provided in a location which would encourage people to use it; and
- The view of Police is that financial investment on the A72 would provide greater positive returns.

Scottish National Heritage (SNH)

- The area around Peebles is a Site of Special Scientific Interest (SSSI);
- The River Tweed is a Special Area of Conservation (SAC); and
- The river is resident to a European Protected Species namely the otter.

Scottish Environmental Protection Agency (SEPA)

- If a bridge was deemed to be the most feasible option, SEPA would prefer a single span bridge with abutments set back from the water course;
- If a bridge was the selected option a license would be required under the Controlled Activities Regulations 2005; and
- The flood risk should be assessed.

Peebles Community Council

- Any options to improve transport infrastructure in Peebles should be part of a comprehensive program covering all services and infrastructure;
- A new bridge option would be seen as an attempt to improve the High Street;
- The location of a new bridge crossing would be critical;
- Most obvious route is between Tweeddale roundabout and Kingsmeadows Road following the old railway embankment, this would provide the greatest benefit to Peebles High Street;
- Any options east of this location would be less beneficial; and
- Other options of improving traffic congestion in the Town Centre should also be considered.

Peebles Civic Society

- A bridge option would lead to improvements on the High Street;
- A bridge would also increase the population due to uncontrolled expansion, if developer money was used to fund such a project; and
- Recommend that the Peebles STAG report should complement the Peebles Settlement Capacity Study.

Scottish Borders Biological Records Centre

- Otters been located both upstream and downstream of Kerfield Park;
- River Jelly Lichen located downstream of Kerfield, which is legally protected under the Wildlife and Countryside Act 1981; and
- Kingfishers are also present on The Tweed.

Planning and Economic Development – Scottish Borders Council

- Tree Preservation Orders (TPO) will have to be addressed on whatever option is picked;
- Area of Great Landscape Value (AGLV) will also have to be taken into consideration and any option that affects these will have to follow all guidance in relation to the structure plan;
- Peebles Conservation Area has recently been expanded and this will need to be taken into account;
- Woodland will be directly affected if a bridge crossing was selected as the preferred option;
- There are listed buildings in the area but these would not be directly affected if a second river crossing was the selected option;
- There are no archaeological areas present at the moment;
- The ecology of the area will be required to be checked;
- Not all areas that are highlighted for housing or employment land in the local plan amendment will be developed;
- A large area of land at the east of Peebles is highlighted for development as an area of mixed use beyond 2018; and
- Traffic Management issues in the High Street will also need to be addressed as well as the parking policy in the town.

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- The south east corner of Peebles is earmarked for development, for both residential and employment use;
- Cavalry Park is now almost at full capacity therefore any options that were being considered to use some of the land in this area are now redundant;
- The Peebles Transport Study contains the most accurate reference information for this study;
- To give a more detailed picture of the current traffic situation and future growth with regards to the local plan and local plan amendment, a further traffic study commissioned by SBC would be beneficial;
- In terms of flood risk a new bridge would give the most concerns and the design would have to account for a number of issues. If a new bridge was the preferred option the location and design of the bridge should not increase upstream flooding, it should be able to withstand flood conditions (eg prevention of flood water undercutting abutments); and
- If a bridge was to be picked as the preferred option, flood prevention schemes that are to be developed in the surrounding area would have to be taken into consideration.

4.2.5 These consultation responses were valuable and were used initially in the development of options phase.

4.3 Overview of Options

4.3.1 Given the problems and opportunities discussed above, and the consultation responses, the options generated can perhaps best be thought of in four themes:

- 'Theme A': Options which provide alternatives to cross-river car travel;
- 'Theme B': Options which provide additional crossing opportunities for motorised travel;
- 'Theme C': Options which could reduce other (ie non north-south) car traffic to free up road space; and
- 'Theme D': Options to make more use of (or improve) existing infrastructure.

4.3.2 Each of these themes and their constituent options are now discussed below.

Option Theme A: Specific alternatives to cross river car travel

4.3.3 **Option A1 – Improved bus links** in Peebles between south of the Tweed and the town centre and / or between Peebles / Edinburgh / Galashiels. Areas to the south of the Tweed are served throughout the day by an hourly town bus service only. Improved services could encourage modal shift for travel within and beyond Peebles, relieving traffic on Tweed Bridge and the associated roads.

4.3.4 **Option A2 – Improved cross-river walk / cycle links and network**. Better cross river links for pedestrians and cyclists could encourage modal shift for travel within Peebles, relieving traffic on Tweed Bridge and the associated roads. This could include a further walk / cycle river crossing.

Option Theme B: Additional river crossing opportunities for car travel

4.3.5 The Peebles Transport Study identified six possible locations for a new bridge across the Tweed. These options were detailed as follows and are shown in Figure 4.1.

4.3.6 **Option B1 – Old Rail Alignment Crossing**. This option would involve the construction of a new junction on the B7062 (Kingsmeadows Road) east of the existing footbridge over the river. The route would then follow the alignment of the old railway line north to the existing roundabout at the A72/A703.

4.3.7 **Option B2 – Whitestone Park Crossing**. This option would require the formation of a new junction on Kingsmeadows Road near the entrance to the existing Victoria Day Care Centre. The route would travel through Whitestone Park and then link into a new junction, close to the entrance to the Peebles Hydro Hotel.

4.3.8 **Option B3 – Cavalry Park West Crossing**. Further east of Option B2, this option would require a new road junction on Kingsmeadows Road (just to the east of the Kingsway Junction). The route would then travel to the west of Cavalry Park and pass through Kerfield Farm, linking into a new road junction on the A72.

4.3.9 **Option B4 – Cavalry Park Central Crossing**. This option would use the existing junction on Kingsmeadows Road into Cavalry Park. The route would then bridge the river and link onto the A72 west of Kerfield Farmhouse.

4.3.10 **Option B5 – Cavalry Park East Crossing**. This option would require a new road junction to be constructed on the B7062 close to the proposed junction to the Whitehaugh Farm Development. The route would then bridge the river and link onto the A72 at the same location as Option B4.

4.3.11 **Option B6 – Whitehaugh Crossing**. The most easterly of the six initial options, a new road junction would be required on the B7062 to the east of the Whitehaugh Development. The route would then link onto the A72 at the same location as Options B4 and B5.

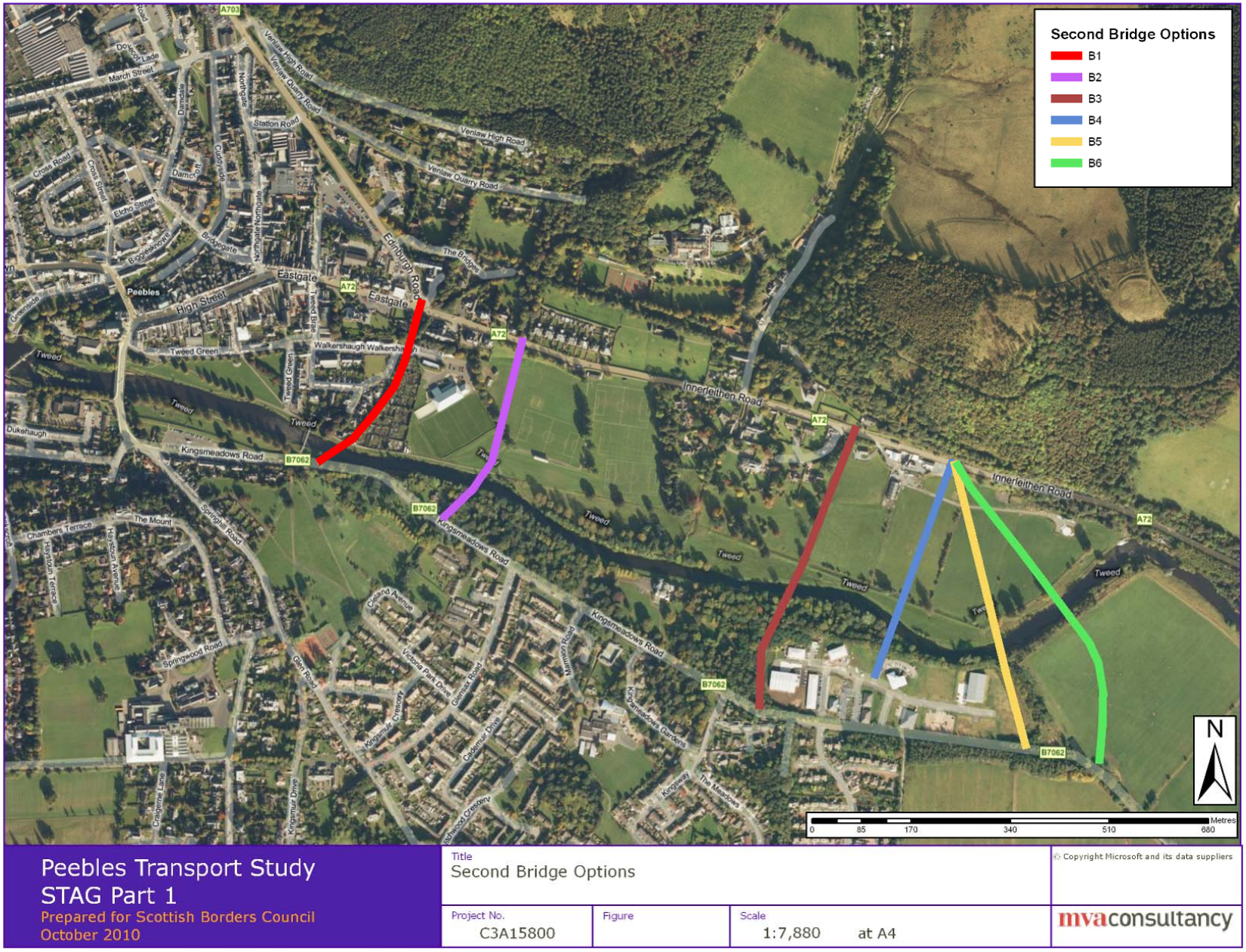

Figure 4.1 Potential Bridge Crossings Location Plan

Option Theme C: Options which could reduce other car traffic to free up road space

4.3.12 **Option C1 – A Western Bypass and new bridge crossing for Peebles**. This option would see the formation of a bypass on the western side of Peebles. The most logical route would be from a new road junction on the A703, near to Crossburn Caravan Park, through Peebles Golf Course and linking into Southpark Industrial Estate via a new road bridge in the vicinity of Haylodge Park.

4.3.13 **Option C2** – **Parking policies**. At present, parking in Peebles is free with the exception of Saturdays in three of the off street car parks. A parking management policy which extended charging to weekdays and / or charged for on street parking in the town could reduce the number of very short car trips which are made within the town by encouraging walking, cycling, bus use or car sharing.

4.3.14 **Option C3** – **Rail link to Edinburgh**. A re-instated rail link to Edinburgh could reduce the level of car commuting to Edinburgh and hence reduce the level of traffic in the town.

4.3.15 **Option C4** – **Active Travel campaign**. A number of towns have undertaken 'smarter choices' campaigns which encourage residents to adopt more sustainable travel. Such a campaign could conceivably lead to sufficient modal shift to reduce the general level of car traffic in Peebles.

4.3.16 **Option C5** – **Park and Ride**. Park and Ride could be an effective means to encourage model transfer to bus, either into Peebles or to other destinations such as Edinburgh or Galashiels.

Option Theme D: Options to make more use of (or improve) existing infrastructure

4.3.17 **Option D1 – Cardrona Bridge Crossing**. This option would encourage additional traffic to use the existing river crossing at Cardrona village. This option would require the existing B7062 road to be suitably upgraded as it is currently of a poor standard.

4.3.18 **Option D2 – Widen the Existing Tweed Bridge**. This option would require the existing Tweed Bridge to be widened to accommodate the estimated increase in traffic volume.

4.4 Option Sifting

4.4.1 A number of schemes that were initially proposed were dismissed at this stage because they were either seen as being unable to address the problems, did not meet the study objectives or had major issues in terms of their implementation. These sifted out options are:

- Option C1 – A Western Bypass for Peebles;
- Option D1 – Cardrona Bridge Crossing;
- Option D2 – Tweed Bridge Widening;
- Option C3 – A New Rail Link for Peebles; and
- Option C5 – Park and Ride

4.4.2 A brief discussion of each of these options and their reasons for rejection at this stage is contained below.

Option C1 - A Western Bypass and new bridge crossing for Peebles

4.4.3 As previously noted, this option would see the formation of a new road bypass on the western side of the town. No detailed survey work was carried out on a prospective route. However, from an initial review, the most logical route would be from the A703, near to Crossburn Caravan Park, through Peebles Golf Course and linking into Southpark Industrial Estate via a new road bridge in the vicinity of Haylodge Park.

4.4.4 This option was discarded for the following reasons;

- the construction cost of this option would be excessively expensive;
- the environmental impact on Haylodge Park and Peebles Golf Course would be unacceptable to a wide range of public and private bodies and especially local residents and local interest groups;
- the construction of a new bridge upstream of the existing Tweed Bridge may not significantly reduce the amount of traffic travelling along the High Street and therefore would not necessarily meet the objectives of the study; and
- the scale of the proposal seems disproportionate in the context of the problems to be addressed.

Option D1 – Cardrona Bridge Crossing

4.4.5 South Peebles traffic would be encouraged to use the B7062 route and the existing road bridge at Cardrona, especially for south to east movements. This traffic configuration is periodically used when Peebles High Street and Tweed Bridge are closed, eg during the annual Beltane celebrations and other events. This option was however discarded for the following reasons:

- the existing bridge at Cardrona is around four miles from Peebles (Tweed Bridge) and therefore motorists travelling to Edinburgh or to the west of the town would not benefit from this option and would continue to use the existing bridge, apart from in an emergency situation; and
- significant upgrading works would be required on the B7062 between Peebles and Cardrona if additional traffic travelling east were to be encouraged to use this route – this route is narrow with poor horizontal and vertical alignment.

Option D2 – Tweed Bridge Widening

4.4.6 This option was discarded for the following reasons:

- the widening of Tweed Bridge would not be a simple exercise to achieve and would require the whole structure to be completely rebuilt. This would effectively cut off the town for a considerable time and would be unacceptable to local businesses and the wider community;
- no detailed costing exercise on widening the existing bridge has been undertaken. However, it is likely that providing a like-for-like design incorporating existing design features would be very expensive to achieve;
- to achieve additional vehicular capacity, the bridge would have to be widened significantly. The existing road infrastructure to the north and south of the river

would have to be suitably modified to accommodate this improvement, noting that additional traffic would be encouraged to use this route. Noting the present road layout, this would be very difficult to achieve; and

- a bridge widening exercise would not necessarily improve conditions on Peebles High Street and may encourage more traffic into the centre of the town. An improved route from Peebles Town Centre to the A703, avoiding the High Street would be very difficult to achieve without significant disruption to local residents and existing traffic management arrangements.

Option C3 – New Rail Link for Peebles

4.4.7 This option was discarded for the following reasons:

- The development of a rail service to Peebles would be excessively expensive to achieve and is a unrealistic expectation in today's financial climate; and
- It is likely that if a new station facility were to be built, it would be located to the north of the town, unless significant demolition and infrastructure improvement works were undertaken to allow a route into the town centre. Therefore, the introduction of a new rail facility would partially satisfy some of the key objectives of the study, but would not improve access from the south of the town and would not significantly decrease the levels of traffic crossing Tweed Bridge and travelling along the High Street, as many rail users would have drive to the new station.

Option C5 – Park and Ride

4.4.8 This option was discarded for the following reasons:

- Park and Ride for travel to Edinburgh or Galashiels is already possible given the unrestricted off-street weekday parking in Peebles. Also, anecdotal evidence suggests that informal Park and Share is already taking place in Peebles and this is encouraged by SBC through web based marketing such as the Tripshare Borders Website; and
- Park and Ride sites are normally found on the periphery of much larger settlements such as Edinburgh, close to where traffic congestion regularly occurs and public transport can have a competitive advantage thorough bus priority, and where parking charges are in place. Park and ride is not a realistic proposition to serve a town of the size of Peebles. There is also an existing Park and Ride site on the A701 at Straiton which is well placed to serve Peebles residents travelling to Edinburgh.

4.5 Options to be Taken Forward

4.5.1 Having sifted out the five options discussed above, there are 10 options left to be taken forward: the six bridge alignments, improved bus links, improved walking / cycling networks, new parking management measures and active travel campaigns. These are discussed in a bit more detail below.

4.5.2 **Option A1 – Improved bus links** between south of the Tweed and Peebles / Edinburgh / Galashiels. Areas to the south of the Tweed are served throughout the day by an hourly town bus service. Improved services could encourage modal shift for travel within and beyond Peebles, relieving traffic on Tweed Bridge and the associated roads. In particular an

increase in the frequency of the town-based service would make this a much more attractive option as an hourly service relies on a degree of 'planning' by passengers. Also, the south of the town is not served by the main bus service (No 62). Any option which could re-route this service south of the river could be an attractive option. Service frequency on the No 62 could also conceivably be increased from two to three buses per hour during the day. Fare incentives could also be offered to encourage bus use.

4.5.3 **Option A2 – Improved cross-river walk / cycle links and network**. Better cross river links for pedestrians and cyclists could encourage modal shift for travel within Peebles, relieving traffic on Tweed Bridge and the associated roads. A shared well graded walk / cycle route / bridge linking both sides of the town (east of the existing footbridge) could be particularly beneficial. Depending on its location, this facility could also improve access to the existing bus network on Innerleithen Road.

4.5.4 **Option B1 – New Bridge Crossing: Old Rail Alignment Crossing**. South of the river, this option would involve the construction of a new junction on the B7062 (Kingsmeadows Road) east of the existing footbridge over the river (see Figure 4.2 below). The route would then broadly follow the alignment of the old railway embankment north to form a new arm on the existing roundabout at the A72 / A703 (Figure 4.3). The former rail alignment south of this junction is shown in Figure 4.4. Given the level differences on this alignment, a second bridge structure would be required to cross Walkers Haugh, which provides access to the Gytes Leisure Centre. This alignment is the closest to the town and runs close to properties and allotments. As such it is the most constrained of those considered.

Figure 4.2 Existing footbridge and proposed location of crossing B1 (to right)

Figure 4.3 Existing A72 / A703 roundabout looking south from Edinburgh Road

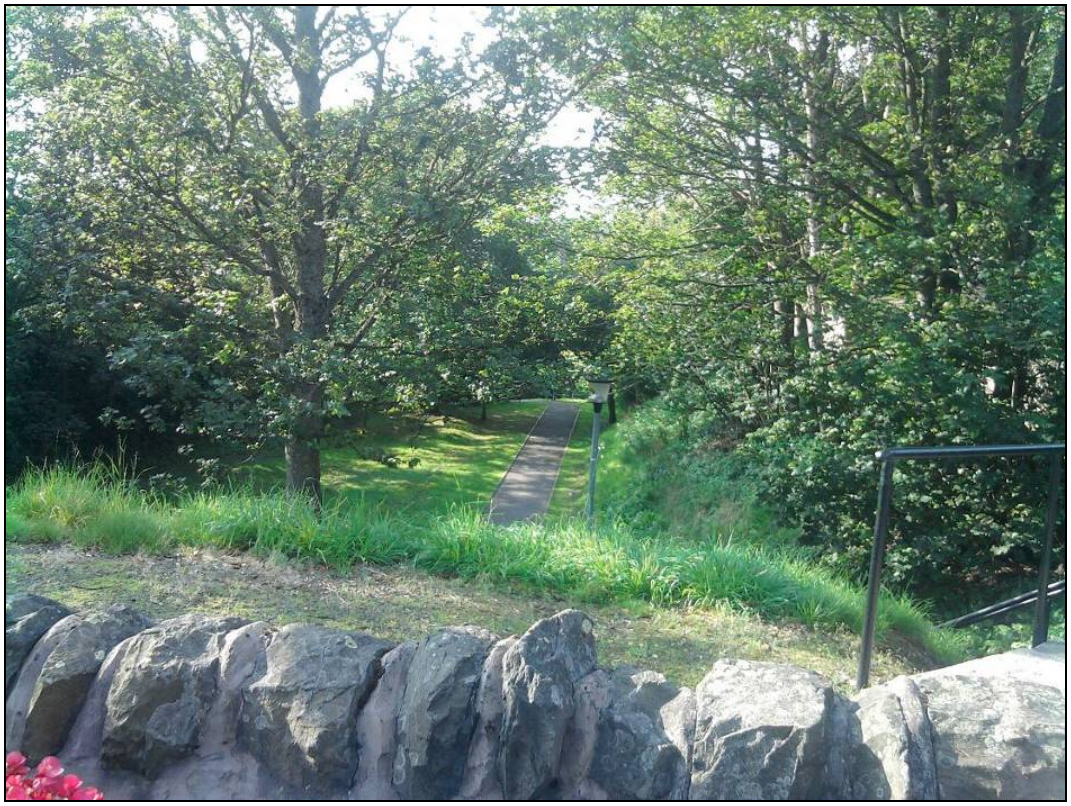

Figure 4.4 View south from A72 / A703 roundabout along proposed alignment

4.5.5 **Option B2 – New Bridge Crossing: Whitestone Park Crossing**. This option would require the formation of a new junction on Kingsmeadows Road near the entrance to the existing Victoria Day Care Centre (Figure 4.5). The route would then run through Whitestone Park and link into a new junction, close to the entrance to the Peebles Hydro Hotel (Figure 4.6). The area of Whitestone Park which would be affected is shown in Figure 4.7. At the north end of this route, an embankment would be required due to the change in level between Whitestone Park and the A72.

Figure 4.5 Looking west along Kingsmeadows Road with B2 Southern Access on right

Figure 4.6 Location of B2 Northern Access on A72

Figure 4.7 Whitestone Park looking South from A72

4.5.6 **Option B3 – New Bridge Crossing: Cavalry Park West Crossing**. Further east of number two, this option would require a new road junction on Kingsmeadows Road (just to the east of the Kingsway Junction – Figure 4.8). The route would then travel to the west of Cavalry Park and pass through Kerfield Farm, linking into a new road junction on the A72 (Figure 4.9).

Figure 4.8 Looking east - Kingsmeadows Road, B3 Access on Left (from Kingsway)

Figure 4.9 Looking west along A72 – B3 access on left at cottage

4.5.7 **Option B4 – New Bridge Crossing: Cavalry Park Central Crossing**. This option would use the existing junction on Kingsmeadows Road into Cavalry Park (Figure 4.10). The route would then bridge the river and link onto the A72 west of Kerfield Farmhouse (Figure 4.11).

Figure 4.10 Existing entrance to Cavalry Park business park

Figure 4.11 Looking west along the A72 – B4 / B5 / B6 Access on left

4.5.8 Figure 4.11 shows the view looking west on entering Peebles on the A72 from the Innerleithen / Galashiels direction. The proposed northern access point for options B4, B5 and B6 would be in the foreground on the left hand side. As with the other options, there is a significant difference in levels between the road and the fields. Thus a significant embankment would be required here.

4.5.9 It should be noted that with these options, the 'urban' boundary of the town would need to be extended to the east. The 30mph limit and street lighting starts near the eastern access to Peebles Hydro at present. This boundary would have to be extended west to safely cover the approach to the new junction for those travelling from the east.

4.5.10 **Option B5 – New Bridge Crossing: Cavalry Park East Crossing**. This option was envisaged to require a new road junction to be constructed on the B7062 near the eastern boundary of the current Kingsmeadows housing development. The route would then skirt the eastern boundary of Cavalry Park, bridge the river and link onto the A72 at the same location as Option B4.

4.5.11 **Option B6 – New Bridge Crossing: Whitehaugh Crossing**. The most easterly of the six initial options, a new road junction would be required on the B7062 to the east of the Kingsmeadows Development (Figure 4.12) near the existing bend on the B7062. The route then links onto the A72 at the same location as Options B4 and B5.

Figure 4.12 Proposed southern access point for B6 (looking north west)

4.5.12 There has been some additional development since 2005 in the area previously considered as a southern access point for Option B6. However there is still land available to the east which could accommodate this route.

4.5.13 Note that the more easterly bridge alignments could potentially be used to allow the No 62 bus service to access Kingsmeadows Road and undertake a 'loop' of the town. Coming from the east, the buses could use the new bridge, accessing Kingsmeadows Road before crossing at Tweed Bridge and going along the High Street to the Eastgate / Northgate and onto Edinburgh Road. A new 'northbound' bus halt may be required on the High Street in this eventuality. This has the potential to significantly improve public transport access south of the river without imposing an unduly large time penalty on the end to end journey times and could therefore be attractive to bus operators.

4.5.14 In addition to this, a second bridge towards the east would also allow the No. 90 town service to potentially improve its route round the town.

4.5.15 Further to this, any of the bridge options could incorporate well defined and designed walk / cycle provision together with connecting networks to enhance the value of the option. This would not necessarily add significantly to the costs associated with the scheme.

4.5.16 Note that due to the locations of all of these options, the new bridge and its proposed link roads would be very unlikely to lead to any further 'urbanisation' of Peebles in terms of leading to frontage development along the routes or accessing new development sites. As such the new routes should be regarded as 'distributor' roads.

4.5.17 **Option C2** – **Parking policies**. A parking management policy which extended charging to weekdays and / or charged for on street parking in the town could reduce the number of very short car trips which are made within the town by encouraging walking, cycling, bus use or car sharing. The 2005 Peebles Transport Study made a number of recommendations regarding parking although this did not include the wider implementation of parking charges.

4.5.18 **Option C4** – **Active Travel campaign**. A number of towns have undertaken 'smarter choices' campaigns which encourage residents to adopt more sustainable travel behaviours. Such a campaign could conceivably lead to sufficient modal shift to reduce the general level of car traffic in Peebles to acceptable levels. These campaigns (particularly if undertaken as a Personalised Travel Planning (PTP) exercise) are labour intensive though. The Scottish Government is currently funding a number of pilot studies across Scotland and the results of these studies will provide a clearer indication of the likely scope of impacts of this type of intervention.

4.5.19 These options are appraised at the Part 1 level in the next Chapter.

5 Part 1 Appraisal

5.1 Introduction

5.1.1 The Part 1 Appraisal is an initial appraisal of the sifted options generated during Pre-Appraisal and involves a qualitative assessment of their likelihood of meeting the Transport Planning Objectives, and subsequently proceeding to the more detailed Part 2 Appraisal. STAG states that the Part 1 Appraisal should comprise:

- an initial appraisal of the likely impacts of the options against TPOs;
- an initial appraisal of the likely impacts of the options against the STAG criteria;
- an initial appraisal of the fit of the options with established policy directives; and
- an initial appraisal of the feasibility, affordability and likely public acceptability of the options.

5.2 Bridge Options – Time Savings and Traffic Impacts[11]

5.2.1 The 2005 Peebles Transport Study was focused primarily on options for a second river crossing in Peebles. To recap, the six alignments put forward were as follows:

- B1 – Old Rail Alignment Crossing;
- B2 – Whitestone Park Crossing;
- B3 – Cavalry Park West Crossing;
- B4 – Cavalry Park Central Crossing;
- B5 – Cavalry Park East Crossing; and
- B6 – Whitehaugh Crossing.

5.2.2 This section uses the traffic data collected in 2005 to make an initial assessment of each of the six alignments in traffic terms. The first question to be considered is which traffic would benefit from a second crossing?

5.2.3 The main movements likely to benefit from a new crossing (and hence considered 'in scope' here) are:

- south of Tweed to / from north (A703); and
- south of Tweed to / from east (A72).

5.2.4 West-north and east–west movements would be unaffected except through benefiting from reduced traffic on Peebles High Street, and east-north movements would be unaffected. South-west movements would continue to use Tweed Bridge.

5.2.5 Traffic moving south to east also has the option of using the B7062 to join the A72 near Cardrona. In terms of road distance, the 'tipping point' is around Glensax Road, ie for traffic

[11] Note that the analysis presented in this section (5.2) represents the Part 1 Appraisal – it is largely superseded by the more detailed analysis presented in the Part 2 Appraisal,

to the east of Glensax Road, (ie Marmion Road, Kingsway and Whitehaugh), the shortest (although not necessarily the quickest) route to the A72 east is via the B7062 and the new bridge at Cardrona, but as discussed previously, this route is of a poor quality.

5.2.6 A simplified analysis of the potential impact on travel times of the six proposed new bridge alignments is shown in Table 5.1 below, focussing on the key south-east and south-north movements discussed above. 'Reference points' on Kingsmeadows Road were defined at the junctions with Caledonian Road, Springhill Road, Glensax Road, Marmion Road, Kingsway and Whitehaugh. Other reference points were taken at Edinburgh Road / Dean Park and Innerleithen Road (near Janet's Brae). Travel times between these reference points for each cross-river trip were estimated (based on a GIS analysis of route distances) for (i) the present day situation then (ii) for each of the six new bridge alignments.

5.2.7 For simplicity, a speed of 30mph was assumed except for Tweed Bridge, High Street and Northgate where a speed of 20mph has been assumed.

5.2.8 In the table below, the greater the number of ticks, the greater the travel time saving which would arise for the movement in question. Where the ticks are shown in red, this indicates the quickest option for each movement (including the present day). The approximate proportion of all relevant cross river traffic is also given (based on the Buchanan 2005 surveys) although over time, these proportions would be expected to change.

Table 5.1 Overview of New Bridge Alignment Impacts

			Alignment Option – Time Savings						Share of in scope Cross River Traffic
			B1	B2	B3	B4	B5	B6	
North - South	Caledonian Rd	Edinburgh Rd	✓	-	-	-	-	-	11%
	Springhill Rd	Edinburgh Rd	✓	-	-	-	-	-	18%
	Glensax Rd	Edinburgh Rd	✓	✓✓	-	-	-	-	*4%*
	Marmion Rd	Edinburgh Rd	✓	✓✓	-	-	-	-	*4%*
	Kingsway	Edinburgh Rd	✓	✓✓	✓	✓	-	-	*4%*
	Whitehaugh	Edinburgh Rd	✓✓	✓✓	✓✓	✓✓	✓	✓	6%
South - East	Caledonian Rd	Innerleithen Rd	✓	✓	✓	✓	-	-	13%
	Springhill Rd	Innerleithen Rd	✓	✓	✓	✓	✓	-	22%
	Glensax Rd	Innerleithen Rd	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	*5%*
	Marmion Rd	Innerleithen Rd	✓✓	✓✓	✓✓✓	✓✓✓	✓✓	✓✓	*5%*
	Kingsway	Innerleithen Rd	✓✓	✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	*5%*
	Whitehaugh	Innerleithen Rd	✓✓	✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	3%

'✓': <1 minute saving

'✓✓': 1-2 minutes saving

'✓✓✓': >2 minutes saving

5.2.9 By way of example, the table suggests that for movements between eg Glensax Road and Edinburgh Road, Alignment B1 offers a <1 minute saving on the present day, while B2 offers a 1-2 minute reduction and is shown in red as it is the 'best' option of the six potential alignments for this movement. None of the other alignments create a saving for this movement.

5.2.10 This analysis suggests that in broad terms:

- Alignment B1: best option for around 65% of current in-scope cross river traffic, but time savings are generally small, all movements (north-south and east-west) benefit to some extent;
- Alignment B2: best for around 18% of in-scope current cross river traffic, provides benefits to nearly all movements, except south west - north;
- Alignment B3: best route for none of the movements, provides mainly south-east movements;
- Alignment B4: best for around 18% of in-scope current cross river traffic, but large savings for those movements affected;
- Alignment B5: best route for none of the movements, provides mainly south-east movements; and
- Alignment B6: best route for none of the movements, provides benefits to mainly south-east movements.

5.2.11 By looking at the time savings associated with each alignment for each movement, it is possible to estimate the proportion of current Tweed Bridge traffic which would switch to the new route in each case, and hence the impact on Tweed Bridge traffic can be estimated.

5.2.12 The south-east and south-north movements considered here account for around 65% of total traffic on Tweed Bridge, hence up to 65% of Tweed Bridge traffic could conceivably divert to a new alignment.

5.2.13 The resulting analysis is shown in Table 5.2.

Table 5.2 Estimated impact on Tweed Bridge flows

Alignment Option	Estimated Share of 'In Scope' Bridge Traffic for whom new route is faster	Potential Reduction in Tweed Bridge flow
B1	100%	65%
B2	71%	46%
B3	63%	41%
B4	63%	41%
B5	24%	30%
B6	24%	30%

5.2.14 Here for example it can be seen that Alignment B2 provides a faster route than the present day for around 70% of in-scope (ie north-south and east-south) cross river movements. If it is assumed that this 70% of traffic switch to the new alignment, then this would result in a

46% drop in traffic on Tweed Bridge (ie 70% of the 65% noted above). It can therefore be seen that the more easterly alignments produce less than half the traffic reductions on Tweed Bridge as Option B1.

5.2.15 *Note that this initial Part 1 analysis is expanded through a quantitative traffic modelling exercise used for the Part 2 Appraisal.*

5.3 Transport Planning Objectives

5.3.1 This section considers each of the remaining options against the Transport Planning Objectives which have been defined. STAG recommends that the appraisal at this stage is wholly qualitative based on the likely impact of each of the options against the transport planning objectives. It does state that where quantitative information can be used, it should be. It was to this end that the analysis in Section 5.2 was carried out.

5.3.2 A seven-point scale of assessment is also recommended as follows:

- **Major benefit** (✓✓✓): these are benefits or positive impacts which, depending on the scale of benefit or severity of impact, the practitioner feels should be a principal consideration when assessing a option's eligibility for funding;
- **Moderate benefit** (✓✓): the option is anticipated to have only a moderate benefit or positive impact. Moderate benefits and impacts are those which taken in isolation may not determine an option's eligibility for funding, but taken together do so;
- **Minor benefit** (✓): the option is anticipated to have only a small benefit or positive impact. Small benefits or impacts are those which are worth noting, but the practitioner believes are not likely to contribute materially to determining whether an option is funded or otherwise.
- **No benefit or impact** (-): the option is anticipated to have no or negligible benefit or negative impact.
- **Small minor cost or negative impact** (×): the option is anticipated to have only a moderate cost or negative impact. Moderate costs/negative impacts are those which taken in isolation may not determine an option's eligibility for funding, but taken together could do so.
- **Moderate cost or negative impact** (××):- the option is anticipated to have only a moderate cost or negative impact. Moderate costs/negative impacts are those which taken in isolation may not determine an option's eligibility for funding, but taken together could do so;
- **Major cost or negative impacts** (×××): these are costs or negative impacts which, depending on the scale of cost or severity of impact, the practitioner should take into consideration when assessing an option's eligibility for funding.

5.3.3 The tables below assess each of the Transport Planning Objectives in turn, followed by a brief discussion of the rationale for these ratings in each case. Note that the new bridge options here have been appraised under the assumption that there is no change to public transport services.

TPO 1 - to ensure that traffic demand on Tweed Bridge and its junctions does not exceed capacity and act as a constraint on the economic and general development of the town	Rating
A1 – Improved bus links	✓
A2 – Improved cross-river walk / cycle links and network	✓
B1 – New Bridge Crossing: Old Rail Alignment	✓✓✓
B2 – New Bridge Crossing: Whitestone Park	✓✓
B3 – New Bridge Crossing: Cavalry Park West	✓✓
B4 – New Bridge Crossing: Cavalry Park Central	✓✓
B5 – New Bridge Crossing: Cavalry Park East	✓✓
B6 – New Bridge Crossing: Whitehaugh	✓✓
C2 – Parking policies	✓
C4 – Active Travel campaign	✓

5.3.4 The scale of potential traffic reductions on Tweed Bridge (and hence the junction between Tweed Bridge and High Street / A72) was illustrated in Section 5.2. The new bridge options would clearly have the most direct impact on traffic levels. The other options are all rather more indirect, and are potentially of a similar order of magnitude.

TPO 2 – to ensure that the town develops based on sustainable travel behaviour in the medium to long term	Rating
A1 – Improved bus links	✓✓
A2 – Improved cross-river walk / cycle links and network	✓
B1 – New Bridge Crossing: Old Rail Alignment	-
B2 – New Bridge Crossing: Whitestone Park	-
B3 – New Bridge Crossing: Cavalry Park West	-
B4 – New Bridge Crossing: Cavalry Park Central	-
B5 – New Bridge Crossing: Cavalry Park East	-
B6 – New Bridge Crossing: Whitehaugh	-
C2 – Parking policies	✓
C4 – Active Travel campaign	✓

5.3.5 Options which are solely based on improving car-based travel cannot be seen as positively contributing to this objective. Indeed where car-based accessibility is significantly improved, it would be anticipated that car-based travel would increase over time relative to the position

where no new bridge is in place, increasing local and global emissions. This is likely to be the case with all bridge options.

5.3.6 However the new bridge options could present additional sustainable travel options in terms of walking, cycling and public transport (depending on the design of the structure and the surrounding network), and shorter car journeys would mean reductions in emissions in the short term, which means that the bridge options are scored neutrally here.

5.3.7 Of the other options, improved bus links have the scope to affect intra-town travel and travel between Peebles and other destinations, hence it is scored with two ticks. All four options would encourage more sustainable travel however.

TPO 3 - to maintain the vitality of Peebles as a retail and visitor attraction	Rating
A1 – Improved bus links	✓✓
A2 – Improved cross-river walk / cycle links and network	✓✓
B1 – New Bridge Crossing: Old Rail Alignment	✓
B2 – New Bridge Crossing: Whitestone Park	✓
B3 – New Bridge Crossing: Cavalry Park West	✓
B4 – New Bridge Crossing: Cavalry Park Central	✓
B5 – New Bridge Crossing: Cavalry Park East	✓
B6 – New Bridge Crossing: Whitehaugh	✓
C2 – Parking policies	-
C4 – Active Travel campaign	-

5.3.8 The vitality of Peebles is dependent on the main retail and visitor areas providing an attractive, safe and pedestrian friendly environment. Removing through traffic from Peebles High Street is one element of this. However, the removal of town centre traffic is often seen as a negative factor by local retailers as it reduces the 'visibility' of their businesses.

5.3.9 The impact of extending parking management is balanced. On the one hand, parking charges can create a higher rate of parking turnover in the town, and through modal shift improve parking supply, but on the other hand it can be seen as a deterrent to visiting the town centre. When considered previously in Peebles, there was a negative response from local traders and the public. However, Peebles does not have a nearby retail competitor as such to which people could easily switch, so a neutral rating is given here.

5.3.10 Better local bus services could encourage more use of the town centre and also reduce car traffic, and better walking and cycling access could also add to town centre vitality.

TPO 4 - to widen the range of travel opportunities available to the residents of Peebles	Rating
A1 – Improved bus links	✓✓
A2 – Improved cross-river walk / cycle links and network	✓
B1 – New Bridge Crossing: Old Rail Alignment	-
B2 – New Bridge Crossing: Whitestone Park	✓
B3 – New Bridge Crossing: Cavalry Park West	✓
B4 – New Bridge Crossing: Cavalry Park Central	✓
B5 – New Bridge Crossing: Cavalry Park East	✓
B6 – New Bridge Crossing: Whitehaugh	✓
C2 – Parking policies	-
C4 – Active Travel campaign	✓✓

5.3.11 Increasing the travel choices available to people can be good for both economic efficiency and sustainability. Improved bus services would clearly improve peoples' travel choices and active travel campaigns are effective in increasing the flow of travel information to individuals, allowing them to make more informed decisions.

5.3.12 The new bridge options (except B1 as this would largely duplicate the current footbridge) would provide some new travel opportunities to residents, as long as the structure has shared access links built into the design.

TPO 5 - to reduce reliance on Tweed Bridge as the only river crossing for motorised traffic in the town	Rating
A1 – Improved bus links	-
A2 – Improved cross-river walk / cycle links and network	✓
B1 – New Bridge Crossing: Old Rail Alignment	✓✓✓
B2 – New Bridge Crossing: Whitestone Park	✓✓✓
B3 – New Bridge Crossing: Cavalry Park West	✓✓✓
B4 – New Bridge Crossing: Cavalry Park Central	✓✓✓
B5 – New Bridge Crossing: Cavalry Park East	✓✓✓
B6 – New Bridge Crossing: Whitehaugh	✓✓✓
C2 – Parking policies	-
C4 – Active Travel campaign	-

5.3.13 Clearly, any new crossing has a major impact on the current reliance on a single bridge. A new walk / cycle route would also have a minor impact here though. The other options have no impact here.

5.3.14 A summary of the Part 1 Appraisal against the Transport Planning Objectives is shown in Table 5.3 below.

Table 5.3 Summary of Impacts Against Transport Planning Objectives

Option	TPO 1: Traffic Levels	TPO 2: Sustainable Development	TPO 3: Town centre vitality	TPO 4: Widen travel opportunities	TPO 5: Tweed Bridge Reliance
A1 – Improved bus links	✓	✓✓	✓✓	✓✓	-
A2 – Improved cross-river walk / cycle links and network	✓	✓	✓✓	✓	✓
B1 – New Bridge Crossing: Old Rail Alignment	✓✓✓	-	✓	-	✓✓✓
B2 – New Bridge Crossing: Whitestone Park	✓✓	-	✓	✓	✓✓✓
B3 – New Bridge Crossing: Cavalry Park West	✓✓	-	✓	✓	✓✓✓
B4 – New Bridge Crossing: Cavalry Park Central	✓✓	-	✓	✓	✓✓✓
B5 – New Bridge Crossing: Cavalry Park East	✓✓	-	✓	✓	✓✓✓
B6 – New Bridge Crossing: Whitehaugh	✓✓	-	✓	✓	✓✓✓
C2 – Parking policies	✓	✓	-	-	-
C4 – Active Travel campaign	✓	✓	-	✓✓	-

5.3.15 The options here can be considered in three sub sets:

- New bridge options;
- Other non bridge options; and
- 'package' options.

5.3.16 By definition, only a second bridge would entirely remove the reliance on Tweed Bridge. In addition, a new bridge is likely to have a far greater impact on Tweed Bridge traffic levels than any of the other initiatives considered which would produce much more marginal change in traffic levels, although these proposals have their own benefits.

5.3.17 As such, the essential question here is if / when a new crossing is required. Should traffic levels on Tweed Bridge reach capacity on a regular basis, the non bridge options are only likely to provide minor impacts or short term relief to the problem.

5.3.18 Unless the historic trend of growth in vehicular traffic is halted or reversed, traffic problems on and around Tweed Bridge will become much more prevalent. This would act as a severe constraint on the local economy and be of significant inconvenience to residents and visitors.

5.3.19 It is therefore probable that the non-bridge options should be seen as supplementary to bridge proposals or as free standing policies in their own right. Taken on their own, they would be very unlikely to have the same effect on local traffic as that provided by a new crossing.

5.4 STAG Criteria

5.4.1 Table 5.4 below shows the Part 1 appraisal of each option against the STAG criteria. This assessment is then discussed below.

Table 5.4 Summary of Impacts Against STAG Criteria

Option	Environment	Safety	Economy	Integration	Accessibility & Social Inclusion
A1 – Improved bus links	✓	✓	✓	✓	✓✓
A2 – Improved cross-river walk / cycle links and network	×	✓	-	✓	✓
B1 – New Bridge Crossing: Old Rail Alignment	×××	✓✓	✓✓✓	✓	-
B2 – New Bridge Crossing: Whitestone Park	×××	✓✓	✓✓✓	✓	-
B3 – New Bridge Crossing: Cavalry Park West	××	✓✓	✓✓✓	✓	-
B4 – New Bridge Crossing: Cavalry Park Central	××	✓✓	✓✓✓	✓	-
B5 – New Bridge Crossing: Cavalry Park East	××	✓✓	✓✓	✓	-
B6 – New Bridge Crossing: Whitehaugh	××	✓✓	✓✓	✓	-
C2 – Parking policies	✓	✓	-	-	-
C4 – Active Travel campaign	✓	✓	-	✓	✓

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Environment

5.4.2 Any of the new bridge crossing options would involve the construction of significant new infrastructure.

5.4.3 In their consultation response, SNH noted that the River Tweed is a declared Site of Special Scientific Interest (SSSI) and home to European Protected Species (including the otter). It is also a Special Area of Conservation (SAC). SEPA pointed out that if a bridge was the selected option, a license would be required under the Controlled Activities Regulations 2005, and the flood risk would need to be assessed. Peebles itself also lies within an area of Great Landscape Value. Options B1-B3 also lie within the Peebles declared Conservation Area. Option B1 would have a significant environmental impact on the town centre and involve the loss of significant woodland and some local allotments. Option B2 runs across what is currently Whitestone Park, an area of playing fields and sports pitches. Options B3-B6 are further from the town and are therefore rated as having a lower local environmental impact. Note though that most of the options would also affect woodland, raising issues in relation to Tree Preservation Orders.

5.4.4 As such, there are clearly significant environmental (and townscape) issues associated with any of the bridge options which may be selected here to a greater or lesser extent. It would be essential that a detailed environmental appraisal is undertaken at the Part 2 stage and mitigation strategies would clearly be required to be developed. Disturbance caused during construction would also have to be considered and mitigated against.

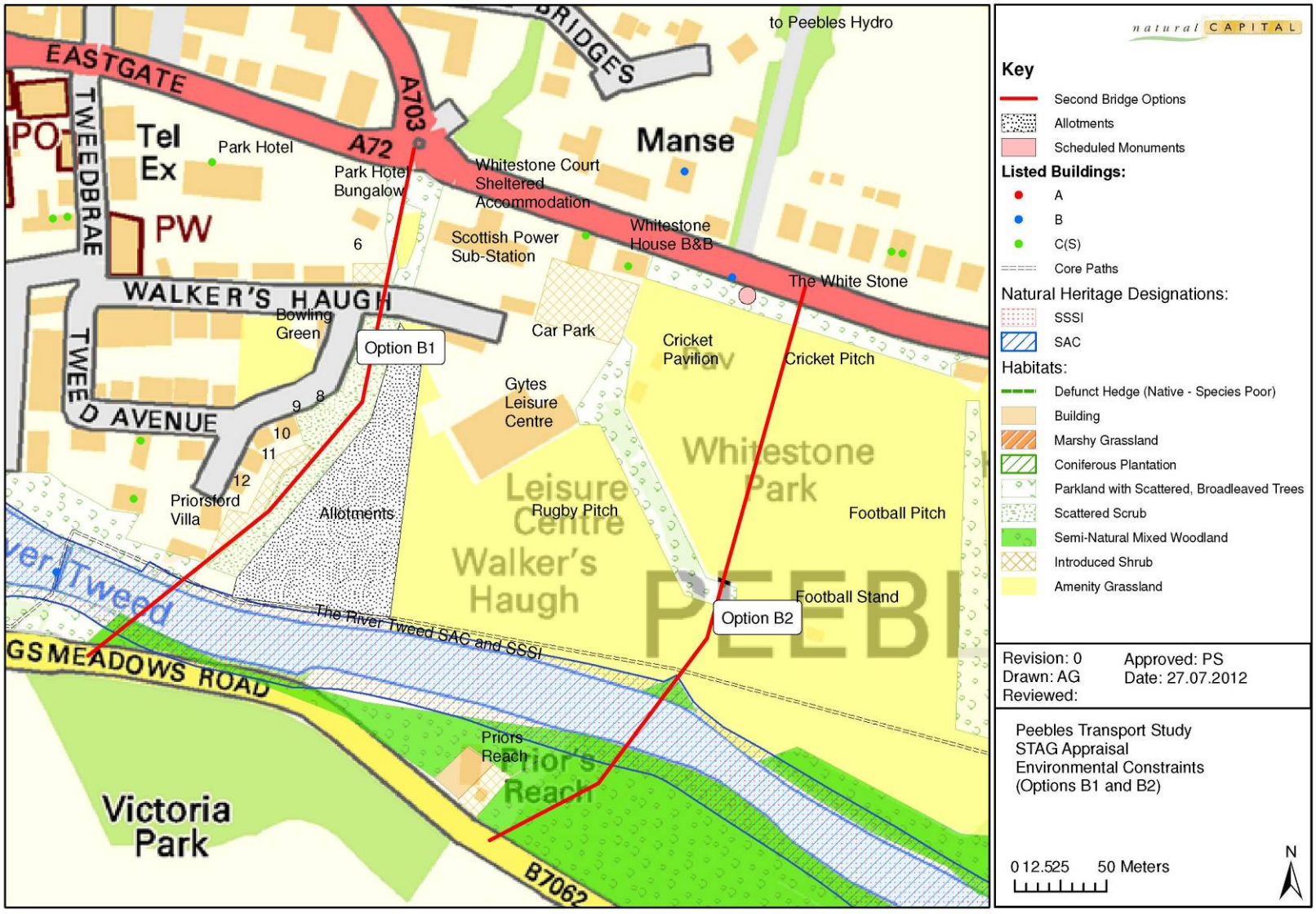
5.4.5 In general however, alignments to the east would appear to have less impact on the fabric of the town than those to the west.

5.4.6 In addition to the impact on the physical environment, new bridge options would be likely to lead to an increase in car travel and thus greenhouse gas emissions. However many cross-river journeys would be shorter as a result (reducing fuel consumption), and traffic would be removed from the main pedestrian areas which could be beneficial in terms of local air quality in Peebles.

5.4.7 Any new cycle / pedestrian bridge would also face the same environmental constraints from a construction viewpoint. The scale of this infrastructure would be significantly less than that associated with a road crossing however. This measure could also lead to a degree of modal shift and hence reductions in car travel and associated emissions.

5.4.8 In Option A1, improved bus links would lead to environmental improvements assuming there is a net reduction in emissions. This would depend on the scale of modal shift from car achieved to offset the additional emissions from increased bus kilometres travelled. Any re-routing of buses to the High Street could also have an impact on local air quality. Parking policies and active travel campaigns would also be expected to lead to a degree of modal shift and hence reductions in emissions.

5.4.9 Figures 5.1 and 5.2 below show the six bridge options in terms of their **indicative alignments**, in the context of the main local environmental features and 'constraints' in the area.



Contains Ordnance Survey Data Crown Copyright and Database Right 2011

Figure 5.1 Environmental Constraints (B1 & B2)

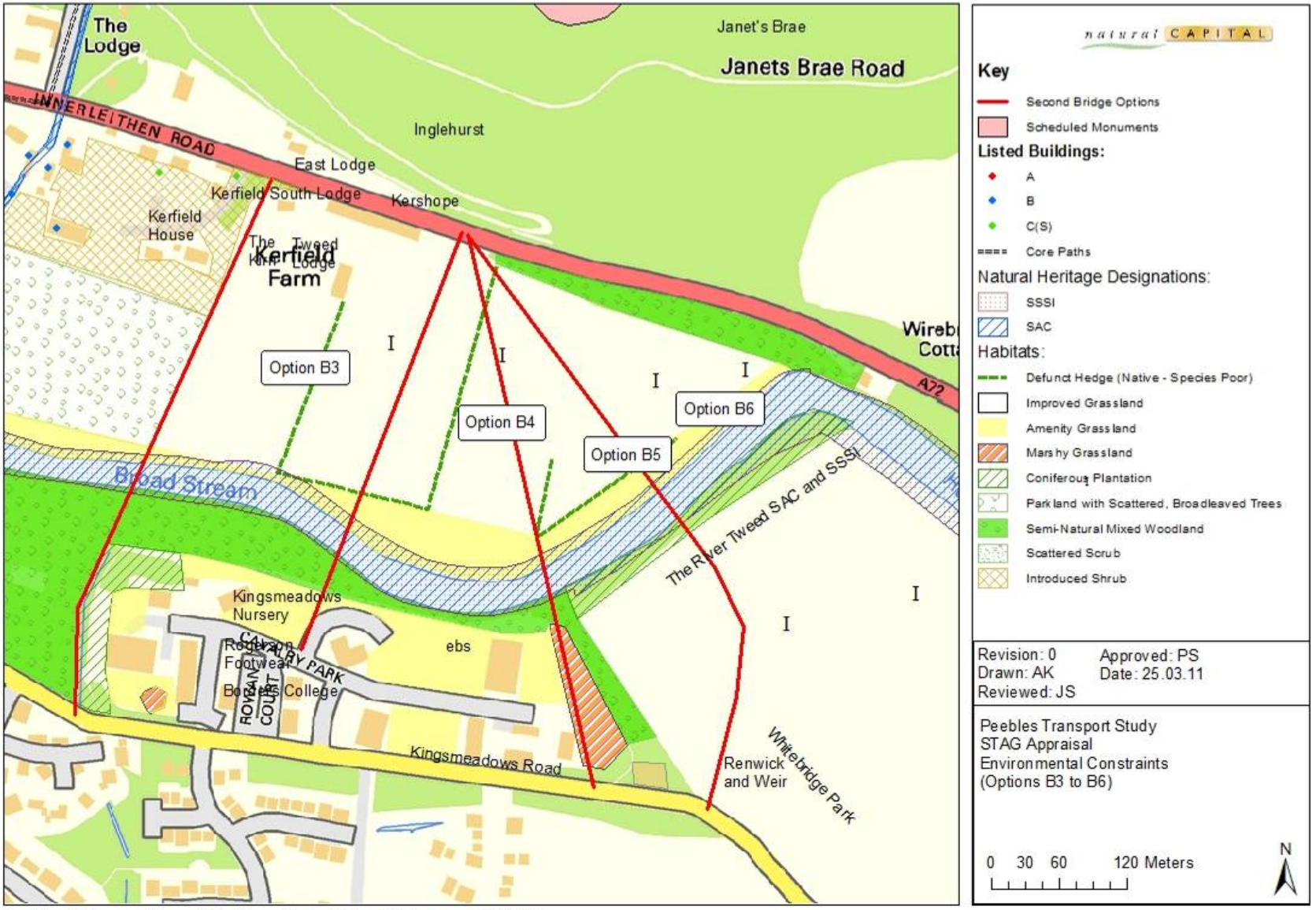


Figure 5.2 Environmental Constraints (B4 – B6)

Safety

5.4.10 The safety criterion comprises two sub-criteria, accidents and security. Benefits to **safety** would arise primarily through reduced traffic levels on Peebles High Street. All of the options would contribute to some extent to reducing traffic levels on Peebles High Street, but the bridge options clearly have the most direct impact. The proportion of High Street traffic which uses Tweed Bridge is not yet known (estimates from previous data suggest well over 50% though) so it's difficult to estimate the likely reduction in traffic on the High Street as the result of the new bridge alignments, but this could clearly be significant. If significant reductions were secured, consideration could be given to additional re-allocation of road-space in Peebles town centre to further enhance the pedestrian environment. The Part 2 appraisal uses a local traffic model to determine the impacts of the different alignments on traffic levels on Peebles High Street.

5.4.11 Figure 5.3 below shows the locations of road traffic accidents in Peebles between 2006 and 2008. These are shown in terms of fatal, serious and slight (personal injury) accidents. It can be seem that there are clusters of accidents at the north and south ends of Tweed Bridge and at the Eastgate / Northgate junction.

5.4.12 The impact of reduced traffic levels on accidents in these areas has been quantified during the Part 2 appraisal.

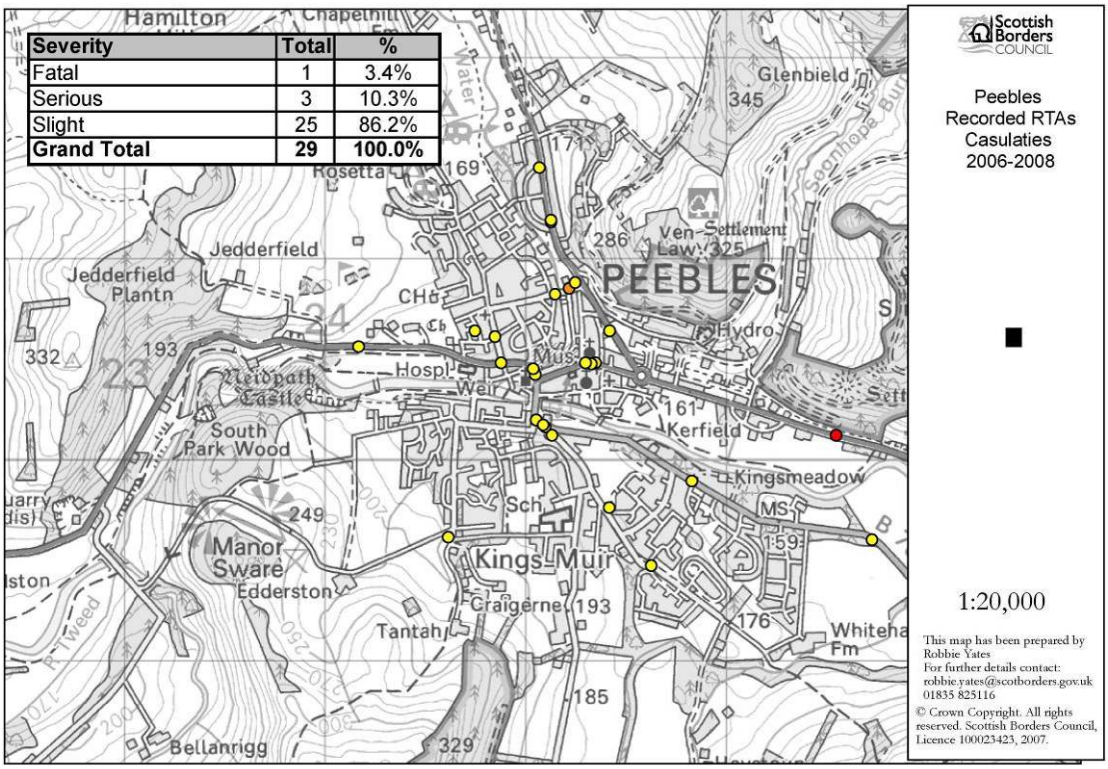


Figure 5.3 Location of Fatal, Serious and Slight Road Traffic Accidents in Peebles

5.4.13 **Security** for users is a less significant issue here as none of the options here are likely to have a significant impact on personal security.

Economy

5.4.14 The Economy criterion covers the three areas of:

- Transport Economic Efficiency (TEE): ie cost benefit analysis;
- Wider Economic Benefits (WEB): additional to the benefits traditionally captured in cost benefit analysis, these relate to agglomeration and productivity. These benefits are typically associated with large schemes linking major urban areas; and
- Economic and Location Impacts (EALI): considers the impact of an option in terms of the net effects on the local / national economy.

5.4.15 As suggested above, the consideration of WEB is not materially important here. TEE forms the basis of much of the appraisal at the Part 2 stage. EALI could be of significance at the margin here too if some of the options were to make Peebles a more attractive place in which to locate and operate a business. However the focus is on TEE benefits.

5.4.16 The new bridge alignments would bring economic benefits but to different degrees depending on the alignment chosen. These benefits would be in the form of travel time and vehicle operating cost savings arising from shorter and faster journeys across the Tweed, and associated decongestion benefits on roads which see reductions in traffic. With present day traffic volumes and patterns, the more westerly alignments are likely to lead to benefits to the most people, and the more easterly alignments provide higher benefits to a smaller number of travellers. With the development planned to take place in south east Peebles, this balance may therefore change over time.

5.4.17 Initial analysis based on the 2005 traffic data and the estimated travel time savings described previously suggests that option B2 would provide the most substantial travel time savings, followed by options B1, B3 and B4 which provide similar benefits and then options B5 and B6 which produce the smallest benefits.

5.4.18 **Improved bus links** would also bring economic benefits to users but this would have to be weighed against any subsidy which may be required to support these services.

5.4.19 The other options are less likely to lead to material economic benefits except for those associated with any reduced congestion resulting from modal shift brought about by parking policies, active travel campaigns or improved walking / cycling networks.

5.4.20 In terms of EALI, the bridge options could have a significant impact on the attractiveness and / or marketability of the business sites south and particularly south east of the river. Making these sites more attractive could be a factor in encouraging investment in Peebles which may not have taken place in the Scottish Borders. This would in turn provide employment opportunities which could be taken up by local residents. Increasing employment in the town would also help make the town more self-contained and less reliant on other locations, including Edinburgh for employment opportunities.

Integration

5.4.21 The integration criterion comprises three elements:

- Transport integration: the degree to which a proposal fits with other transport infrastructure and services;

- Transport and land use integration: the fit between options and land use plans and land use and transport planning guidance; and
- Policy integration: the fit of the option with wider local and national government policies.

5.4.22 There are no obvious conflicts here associated with transport integration. In terms of bus improvements, easterly road bridge alignments could integrate with public transport if bus services were diverted round a 'loop' in Peebles as discussed previously. Improved bus frequencies would also improve integration with other bus services. Active travel would raise awareness of travel options (eg journeys involving interchanges) which people had not considered in the past and hence add to transport integration in particular.

5.4.23 There is a clear fit between the new road bridge crossing and the stated position of the present Scottish Borders Council Local Plan. However, many other aspects of local, regional and national transport (and planning) policy would generally favour walk / cycle and public transport based interventions over road building solutions, although river crossings could provide an exception to this. The issue here is whether any of the non road bridge solutions can suitably meet the study objectives set?

5.4.24 The above discussion also covers Established Policy Directives.

Accessibility and Social Inclusion

5.4.25 This criterion comprises:

- Community accessibility: the impact of the options on public transport accessibility; and
- Comparative accessibility: the impact of the options on different sections of the community and different areas.

5.4.26 Option A1, improved bus services has the most positive impact here as it would clearly improve public transport accessibility. However if a new bridge were combined with re-routed buses, this could have a much more significant positive impact here. Option A2 also provides benefits as it would improve access by walking / cycling to local services (as indeed could some of the bridge alignments depending on their location and design). Option C4 would also provide some marginal benefits through greater awareness and information of travel options.

5.4.27 In terms of comparative accessibility, STAG notes that the impacts on policy sensitive areas such as areas defined as deprived in the Scottish Indices of Multiple Deprivation (SIMD) should be considered. No areas of Peebles are ranked within the top 20% of deprived datazones in Scotland. A brief review of Scottish Neighbourhood Statistics confirms that Peebles North and Peebles South 'out-perform' the national average by most socio-economic indicators. As such there are no material issues to consider here.

5.5 Feasibility, Affordability and Public Acceptability

5.5.1 All of the options considered here are deliverable from a technical **feasibility** perspective. The 2005 Peebles Transport Study considered bridge alignments from this perspective and the six options selected have come through a sifting process for technical feasibility at that

stage. Any walk / cycle only bridge would be a less significant engineering undertaking so can also be assumed to be technically feasible. There are no new technologies or approaches associated with any of the options.

5.5.2 From the perspective of **affordability**, the six bridge options and associated road and junction improvements were costed in the 2005 study. The construction costs ranged from £2.2m for Option B1 to £3.0m for Option B6 (all based on 2005 prices). The other options have not been costed at this stage but the costs are not likely to be prohibitive in this context. The costs associated with A1, improved buses could be more long-term in nature, as on-going revenue support may well be required. This is often seen as less desirable than short term capital expenditure. It is assumed that SBC would be seeking significant developer contributions towards funding the option(s) taken forward.

5.5.3 The six bridge options have the potential to have significant **public acceptability** issues, particularly in terms of those living in close proximity to the potential alignments. As discussed previously options B1-B3 lie wholly or partly within the Peebles Conservation Area, and B2 would have a highly significant impact on Whitestone Park, a well-used local recreational area. It is perhaps surprising that the early consultations undertaken by SBC did not uncover any wider sense of public opposition to these alignments. Looking ahead, it would be important that further consultation is undertaken post STAG to ensure residents and stakeholders 'buy in' to the process of selecting the option which will be of key importance for the future of Peebles.

5.5.4 The other option which is likely to have public acceptability issues is C2, which is focussed on extending the scope of parking charges in the town. The introduction of weekday on-street and off-street parking charges would in all probability be unpopular with residents, retailers, other stakeholders and visitors, despite any benefits which may arise from increased parking turnover / footfall etc. It is unlikely that this option could be implemented in isolation, but it may be more acceptable to the public if part of a wider programme across all Borders towns, perhaps run in conjunction with a decriminalised parking enforcement (DPE) scheme.

5.6 Summary of Options

5.6.1 Table 5.5 below shows the outcome of the Part 1 appraisal.

Table 5.5 STAG Part 1 Recommendations

Option	Accept / Reject
A1 – Improved bus links	✓
A2 – Improved cross-river walk / cycle links and network	✓
B1 – New Bridge Crossing: Old Rail Alignment	✓
B2 – New Bridge Crossing: Whitestone Park	✓
B3 – New Bridge Crossing: Cavalry Park West	✓
B4 – New Bridge Crossing: Cavalry Park Central	✓
B5 – New Bridge Crossing: Cavalry Park East	×
B6 – New Bridge Crossing: Whitehaugh	×
C2 – Parking policies	×
C4 – Active Travel campaign	×

5.6.2 Note that although these options have been considered independently in the Part 1 Appraisal, there is clearly the scope to combine these into packages for the Part 2 Appraisal, a point which will be returned to at the end of this section.

5.6.3 Option A1**,** improved bus links has been shown to make a modest contribution to the transport planning objectives and each of the STAG criteria. The only objective to which this option makes no contribution is reducing reliance on Tweed Bridge. As such the option of improved bus services will be taken forward to the Part 2 Appraisal.

5.6.4 Option A2, investment in walking / cycling networks including a new pedestrian / cycle bridge in the east of Peebles also makes a contribution across a range of objectives, at a lower cost than for a road crossing. Given this result, the extent to which this approach could provide the degree of modal shift required to reduce car traffic in Peebles significantly is considered further in a Part 2 Appraisal.

5.6.5 Of the six bridge options, it has been shown that the options can be grouped together as B1 / B2, B3 / B4 and B5 / B6, and with present day traffic, the benefits associated with each option gradually reduce broadly in that order.

5.6.6 The appraisal of the six alignments is similar in most respects and does comprise a number of tensions. A second crossing has been identified in development plans, yet the wider policy context favours other, non-road, interventions. A new bridge would in all probability provide the greatest level of traffic reduction within the town (and also economic benefits), yet there are a range of environmental and townscape issues associated with building such a significant piece of infrastructure in a sensitive environment such as Peebles (despite the potential for air quality improvements in the town centre). Taken in isolation, a new bridge would not have a positive impact on any aspect of public transport, but would potentially allow buses to be re-routed to improve public transport accessibility. Crucially any new crossing will clearly reduce the reliance on Tweed Bridge. As such, at least one bridge option has to be taken forward to Part 2 analysis and these are discussed below.

5.6.7 Option B1 provides time benefits for all north-south and east-west movements and would hence provide the greatest relief to Tweed Bridge and the High Street. As such it must be taken forward to Part 2 Appraisal.

5.6.8 Option B2 also provides time savings for most movements and the initial analysis undertaken here suggested that this alignment provided the highest level of aggregate time savings. It is therefore considered that this option should be taken forward to Part 2 appraisal. The key issue for this option which would have to be extensively tested is the public acceptability of its alignment through Whitestone Park with the resulting loss in recreational space.

5.6.9 Options B3 and B4 provide similar outcomes but B4 links the Cavalry Park business development directly to the A72, which could be desirable but on the other hand may not be acceptable in the context of the occupiers of the business park. Option B4 is also slightly cheaper than B3, and indeed B5 and B6. Both would provide a good alignment for any potential diversion of the No 62 bus service via Kingsmeadows Road and Peebles town centre. It is therefore proposed to take B3 and B4 forward to Part 2 Appraisal.

5.6.10 Options B5 and B6 provide the lowest traffic benefits based on present day traffic. Even if south east Peebles were fully developed as envisaged in the long term, there is no significant advantage from these alignments compared to B4. They are more expensive than B4 and would involve a bigger diversion for any re-routed bus service. As such they have no obvious merit compared to other bridge options and are therefore not taken forward for Part 2 Appraisal.

5.6.11 Option C2, parking management policies have a positive impact on only a small number of objectives. It is therefore not envisaged that in isolation they could meet the objectives set for the study. This is therefore not taken forward for further appraisal at Part 2. Nevertheless this policy option remains open to SBC as something which could potentially be implemented in the future, particularly if the associated enforcement issues can be overcome.

5.6.12 Similarly, Option C4, Active Travel campaigns have been shown to have a limited (and uncertain) impact on the study objectives, and therefore be insufficient in isolation. This approach (including personalised travel planning) also remains an option for the council to consider in the future. It is something SBC may wish to consider further when more evidence of the outcomes of these types of initiative becomes available in the near future from the Scottish Government's pilot studies.

5.6.13 C2 (Parking management) and C4 (Travel Campaigns) can therefore be regarded as positive supplementary measures, which could be introduced at a later date, albeit that they would be aimed at their own set of objectives.

5.7 Options to be Taken Forward

5.7.1 The options to be taken forward are therefore stated below.

Table 5.6 Options to be Taken Forward

Option	Accept / Reject
A1 – Improved bus links	✓
A2 – Improved cross-river walk / cycle links and network	✓
B1 – New Bridge Crossing: Old Rail Alignment	✓
B2 – New Bridge Crossing: Whitestone Park	✓
B3 – New Bridge Crossing: Cavalry Park West	✓
B4 – New Bridge Crossing: Cavalry Park Central	✓

5.7.2 The options described in Table 5.6 are taken in isolation. As noted above though, there can be a degree of overlap or combination between the options which is developed further in the Part 2 Appraisal. Each option could conceivably be implemented in isolation or in combination with others.

5.7.3 The key point here however is that any new vehicular crossing would ***facilitate*** improved bus links and improved walk / cycle networks in the town, ie improvements could be made which would not necessarily be possible without a new link.

5.7.4 As such, improved bus links could be implemented in isolation using existing infrastructure, or revised routes could be developed based on the new bridge crossing.

5.7.5 Also, improved cross-river walk / cycle links could be implemented in isolation or with a new pedestrian / cycle bridge, or new links could be developed based on the new vehicular bridge crossing.

5.7.6 This is illustrated in Table 5.7 below where a number of packages are highlighted.

Table 5.7 Potential Combinations of Options for STAG 2

	Possible Packages					
Option	1	2	3	4	5	6
Improved bus links (existing infrastructure)	✓	✓				
Improved bus links (new vehicular bridge)			✓	✓	✓	✓
Improved cross-river walk / cycle links and network (current)	✓					
Improved cross-river walk / cycle links (new foot/cycle bridge)		✓				
Improved cross-river walk / cycle links (new vehicular crossing)			✓	✓	✓	✓
New Bridge Crossing: Old Rail Alignment			✓			
New Bridge Crossing: Whitestone Park				✓		
New Bridge Crossing: Cavalry Park West					✓	
New Bridge Crossing: Cavalry Park Central						✓

5.7.7 Other options, such as parking management and 'smarter choices' programmes would also be beneficial in combination with any of the above packages.

6 Developments Since STAG Part 1

6.1 Introduction

6.1.1 This chapter describes the developments which took place during 2011 as the study progressed from a Part 1 to a Part 2 Appraisal.

6.2 Consultation - Public Exhibition

6.2.1 As noted above, the STAG Part 1 process took, as its starting point, the six road bridge alignments proposed in the 2005 Peebles Transport Study. Some of the outputs from the Part 1 Appraisal formed the basis of a public exhibition, which was held over two days on 30 / 31 March 2011 at the Eastgate Theatre in Peebles (1300-2000 each day). Although the early analysis had suggested that Options B5 and B6 should not be taken forward, it was decided to include these options in this consultation process to ensure the public had the full set of options to comment on.

6.2.2 The Exhibition, which was well publicised locally in advance, featured a number of display boards which illustrated the main issues in terms of the current Local Plan, the STAG process, and all six of the potential bridge crossings together with an environmental constraints map. Staff from SBC and MVA Consultancy were on hand to discuss the proposals with the public and answer queries, and in general there was a good level of constructive engagement with the public on both days.

6.2.3 A total of 270 people signed into the exhibition, and each was handed a brief questionnaire to complete after viewing the exhibition. Some 169 completed surveys were returned, a high response rate of over 60% of those attending, although some of these completed surveys may have come via other distribution channels. The main findings from these questionnaire surveys are outlined below.

Key Results

6.2.4 People were asked '*What are the key traffic and transport related issues in Peebles for you*?' and presented with a number of options of which they had to rank the top three.

6.2.5 Figure 6.1 below shows the results if the responses are weighted based on importance (ie '3' for top ranked, '2' for second and '1' for third).

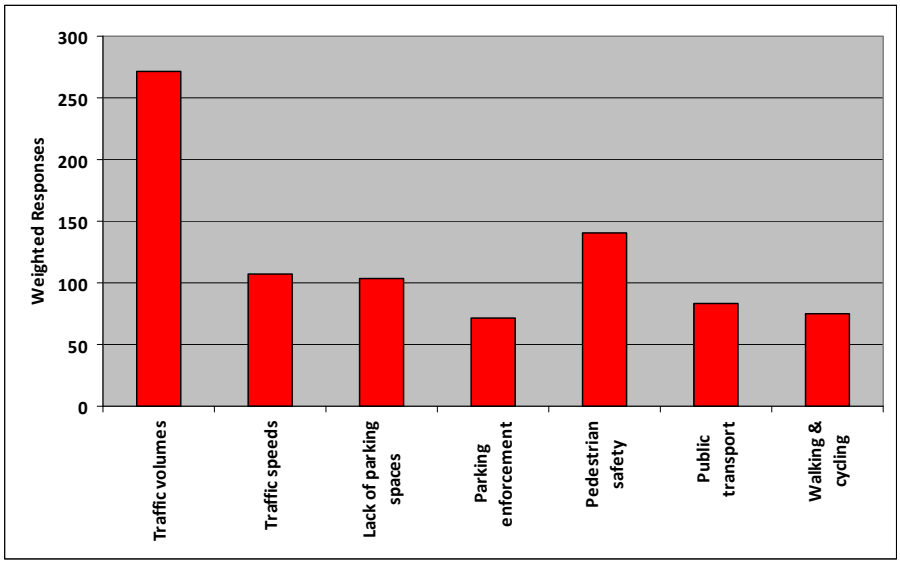


Figure 6.1 Importance of traffic and transport issues

6.2.6 Traffic volumes are therefore by some distance the main concern of those completing the questionnaire. The issues others saw a similar level of response with pedestrian safety being the next most important issue.

6.2.7 People were then asked if they agreed or otherwise with the statement: '*There is a need for a new road bridge crossing of the River Tweed in Peebles, now or in the future*'. The results are shown in Figure 6.2 below.

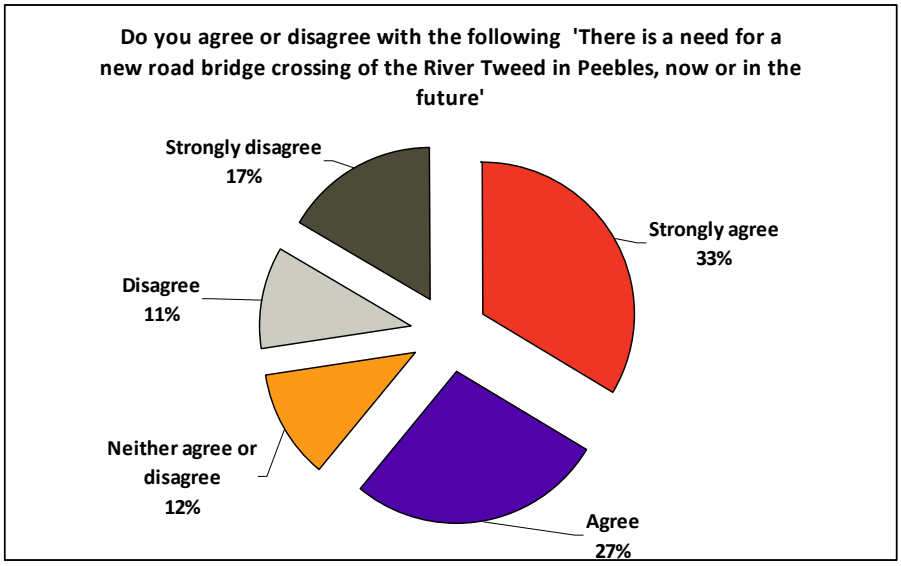


Figure 6.2 Need for a new road bridge crossing

6.2.8 These figures show that 60% of those returning questionnaires agreed that there was a need for a new bridge, whilst 28% disagreed.

6.2.9 People were then asked: 'In general, are you *in favour of* a new road bridge crossing the River Tweed, now or in the future?' The results are shown in Figure 6.3 below.

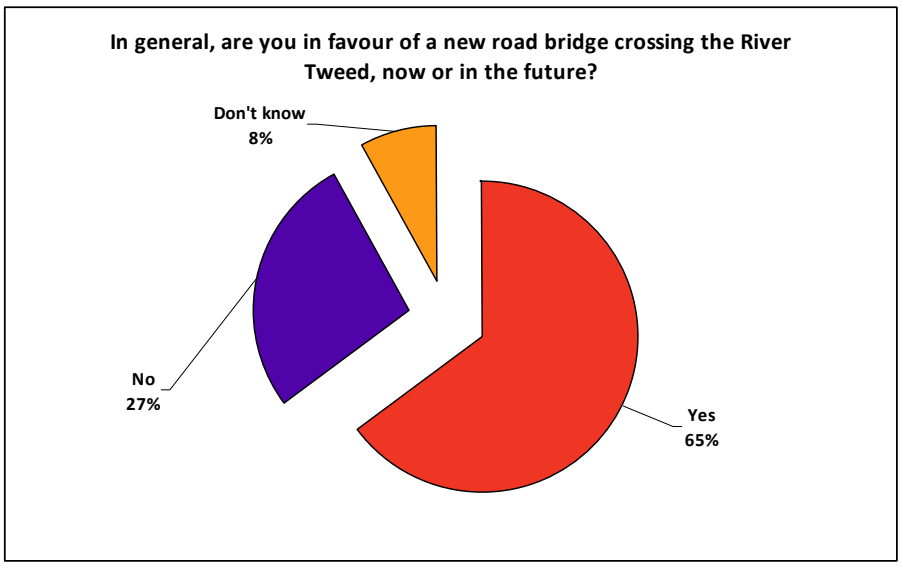


Figure 6.3 Desire for a new road bridge crossing

6.2.10 Figure 6.3 shows that nearly two thirds of respondents were in favour of a new bridge for Peebles with just over a quarter opposed.

6.2.11 Finally people were asked if they had a preference for any of the six alignments proposed. The results are shown in Figure 6.4 below.

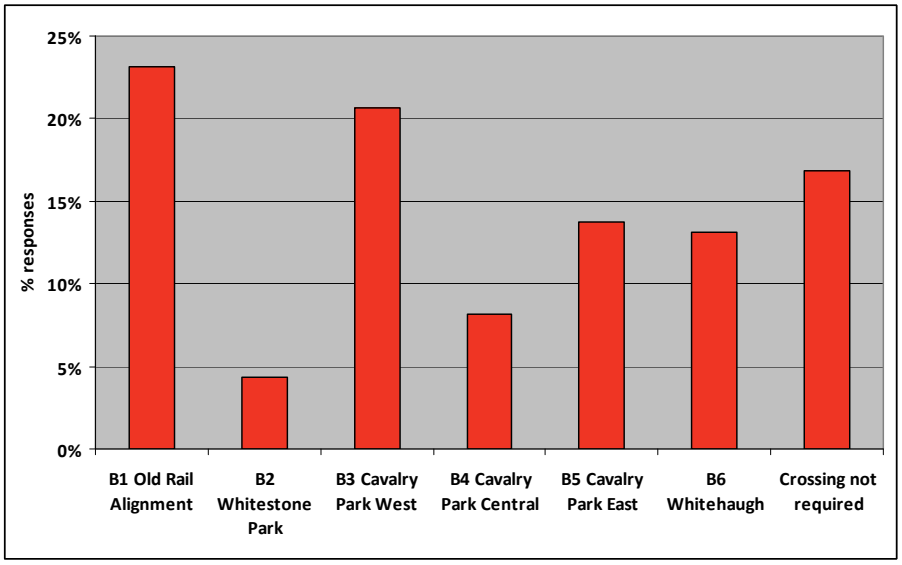


Figure 6.4 Bridge alignment preferences

6.2.12 These figures suggest that there is no clear consensus amongst respondents in terms of a preferred alignment for the new route. Option B1 was narrowly the preferred option ahead of B3. The third most common response was 'no crossing required' followed by similar proportions for B5 and B6. Option B2 through Whitestone Park was the least popular option by some margin. Some 17% indicated that they felt a crossing was not required.

6.2.13 The questionnaire responses can be regarded as providing a reasonable representation of the views of Peebles residents, although this should not be taken as definitive. There is however

nothing to indicate any particular bias in the sample and the Exhibition was well publicised. The Exhibition itself and its aftermath raised the profile of the study and brought about greater awareness of the issues involved. There was also extensive reporting in the local media including the Peeblesshire News. Note that the new alignments (see Section 6.2 below) did not feature in the questionnaire as they emerged during, and not before the consultation process. STAG provides the flexibility to incorporate new options in this way.

Supplementary Responses

6.2.14 Further to the Exhibition, written representations were received from a number of organisations, as follows:

- Historic Scotland: noted that option B2 would be in close proximity to the White Stone on Innerleithen Road;
- Lothian and Borders Police: noted a preference for option B1 and the potential need to consider parking restrictions on the A703;
- Peebles Community Council: made a lengthy and wide-ranging discussion which concluded that '*the CC felt that support may be more likely for options 5 and 6 however neither route was felt to be ideal and further discussion is necessary before any decision can be made*'.
- Peebles Civic Society: also made a comprehensive submission which came down in favour of an amended version on B4 – they also expressed a wish that: '*a full Master Plan to describe how the future of Peebles is to be realised is produced now before any firm decision is made on the second bridge*.'
- Scottish Natural Heritage: noted the issues surrounding the River Tweed and also the need for consideration of the potential impacts on flooding and floodplain (refer to SPP7 and PAN69);
- Conservation Area Bridge Action Group (CABAG): made a comprehensive submission covering many aspects of the STAG process (focussed on an objection to the more westerly alignments); and
- Tweedgreen: opposed the need for a second bridge.

6.2.15 These submissions can be found in full in Appendix A.

6.2.16 Further meetings were also held between SBC and CABAG, Kerfield residents and Cavalry Park businesses.

6.3 Further developments & alternative routes

6.3.1 The six routes were originally developed in the 2005 study but by late 2011, the continuing physical development of the town had materially affected two of the routes identified at that stage. Cavalry Park Business Park, to the south east of the town is now almost fully built out. Alignment B4 was originally envisaged as routing through the business park, but this met with a negative response from the current occupiers of the business park. At present the sole undeveloped site is opposite Rowan Court and this site could conceivably provide a route as per originally envisaged for B4. However this site (referred to as PE003 in the 2010 Employment Land Audit) has been the subject of a planning application which has been

approved, and this would appear to rule out this option as a realistic proposition. As such, option B4 can be discounted from further consideration. Option B5 was routed through land to the east of Cavalry Park. When proposed, it was noted that the route would serve an area which was at that time zoned for employment land. This land has now been developed and is knows as Whitebridge Park. As such a route would have to be found between the new construction at Whitebridge Park and Cavalry Park where there is now insufficient space. Alternatively, the route would have to move further east and this would essentially duplicate B6. So this route can also be discounted at this stage.

- **Options B4 and B5 were therefore not taken forward to STAG Part 2.**

6.3.2 Two new potential alignments emerged from the public engagement at, and subsequent to, the Exhibition:

- Option B7: would run from the A72 at the same location as B4, B5 and B6, and run south as per B4 before swinging south west to cross the river and turn south again at the western edge of Cavalry Park to a new junction on the B7062 with Kingsway. Direct access would also be provided with Cavalry Park via a junction off the new road; and
- Option B8: would run from a new junction with the A72 along the east edge of Kerfield Park adjacent to the tree line, before curving round to cross the river and link to the B7062 at a new junction with Kingsway.

6.3.3 The set of alignments to be taken forward is therefore shown in Figure 6.5 below.

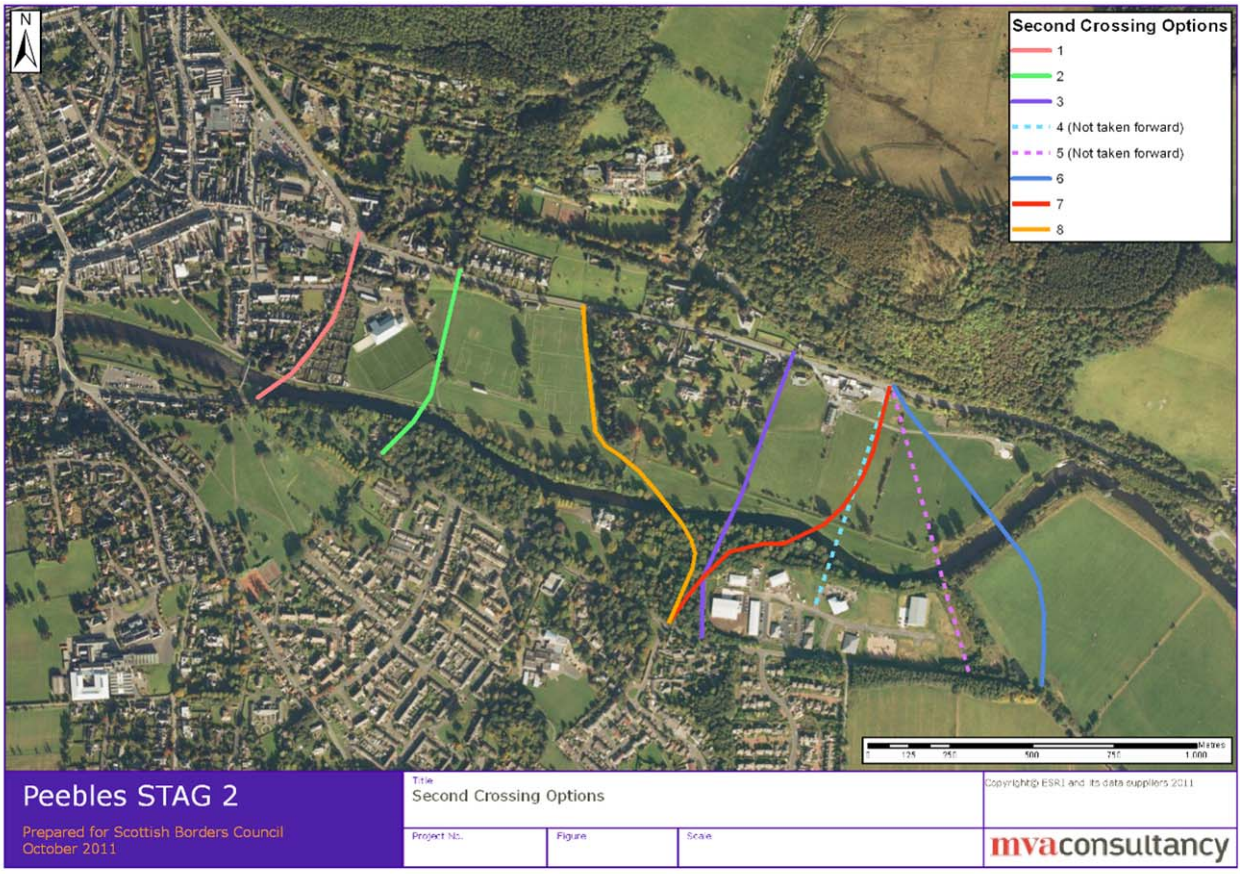


Figure 6.5 Indicative Location Plan for Potential Alignments

6.3.4 The newly proposed routes use the same access points as the other options with the exception of the north end of B8, at the east end of Kerfield Park. This location is shown in Figure 6.6 below.

Figure 6.6 Northern A72 Access point to Option B8

6.4 Options Taken Forward

6.4.1 The revised set of options to be taken forward to the Part 2 Appraisal is shown in Table 6.1 below.

Table 6.1 Revised options for consideration in Part 2

Option (west to east)	Accept / Reject
B1 – New Bridge Crossing: Old Rail Alignment	✓
B2 – New Bridge Crossing: Whitestone Park (west)	✓
B8 – New Bridge Crossing: Whitestone Park (east)	✓
B3 – New Bridge Crossing: Cavalry Park West	✓
B7 – New Bridge Crossing: Cavalry Park to East	✓
B4 – New Bridge Crossing: Cavalry Park Central	×
B5 – New Bridge Crossing: Cavalry Park East	×
B6 – New Bridge Crossing: Whitehaugh	✓
A1 – Improved bus links	✓
A2 – Improved cross-river walk / cycle links and network	✓
Do Nothing / No Bridge	✓

6.4.2 The Part 2 Appraisal focuses on two key questions:

- is there a requirement for a second bridge crossing?; and
- if so which route provides the best balance of costs, benefits and impacts?

6.4.3 If the answer to the first question is 'yes', **then it is highly unlikely that the non-bridge options (A1, A2) in isolation would provide sufficient reductions in traffic to bring traffic back down to acceptable levels in the long term**. They could however form part of a package of measures to bring associated improvements to the town.

6.4.4 If the case for a second crossing is not made, then A1 and A2 could provide valuable benefits in their own right.

6.4.5 The Part 2 analysis focuses on these two questions. A traffic modelling exercise was undertaken to provide a quantitative basis for the analysis of the options in line with the requirements of STAG and this is described together with the Part 2 Appraisal in the chapter which follows.

7 Part 2 Appraisal

7.1 Introduction

7.1.1 The Part 1 analysis adopted a largely qualitative approach to the assessment of the various options. The purpose of the Part 2 Appraisal is to undertake a more detailed appraisal of the options taken forward from Part 1. The Part 2 Appraisal includes detailed analysis of each option's performance against:

- Transport Planning Objectives;
- STAG Criteria;
- Costs to Government; and
- Risks and Uncertainty.

7.1.2 A key part of the Part 2 analysis is to use a more robust, quantitative approach to forecast future traffic conditions in Peebles and estimate the traffic impacts and economic benefits associated with each potential new bridge alignment. This data is then combined with the costs associated with each option to produce a Benefit Cost Ratio (BCR), a key measure of the value for money associated with each option. This sort of modelling tool is essential in meeting the Transport Economics Efficiency (TEE) requirements of STAG, ie to estimate the impacts of the options on economic welfare.

7.1.3 This Chapter briefly describes the traffic model which was developed for the Part 2 Appraisal followed by the traffic forecast obtained and the Part 2 Appraisal itself.

7.2 Peebles Traffic Model

7.2.1 The purpose of building a traffic model of an area is to provide a quantitative forecast of traffic conditions on the network and allow the impact of new schemes to be modelled in terms of traffic routeing, volumes and travel times. The model comprises a representation of the road network and a 'matrix' of traffic movements across the town. As noted above, the outputs from this process also form the inputs to specialist economic appraisal software which calculates the social welfare 'benefits' associated with the scheme. These benefits comprise in the main monetised travel time savings and potentially reduced vehicle operating costs.

7.2.2 The model development process is described in more detail in Appendix B but its main features are:

- 2011 Base Year, with three forecast years of 2019, 2024 and 2032;
- contains the whole Peebles town road network;
- model is calibrated to reproduce key 2011 traffic flows in the town;
- the matrix development process is based on census data and the 'cordon' traffic data collected by Colin Buchanan in 2005;
- shares the basic design features and characteristics of the wider SEStran Regional Model (SRM), within which the Peebles model nests into a regional and national modelling hierarchy;

- covers AM peak hour, inter peak hour and PM peak hour **average weekday** traffic conditions;
- comprises 54 'internal' model zones and four 'external' or route zones;
- uses 'SATURN' traffic modelling software and consists entirely of 'simulation' coding – ie all junctions are explicitly represented in terms of their geometry, capacity and turning movements;
- has a detailed definition of different road types, capacities and speed-flow characteristics;
- forecasts traffic conditions under a 'Reference Case' and the re-routing of traffic with the various bridge alignments; and
- produces outputs suitable for the Department for Transport's TUBA economic appraisal software.

7.2.3 The zone system and networks are shown in Figures 7.1 - 7.3 below.

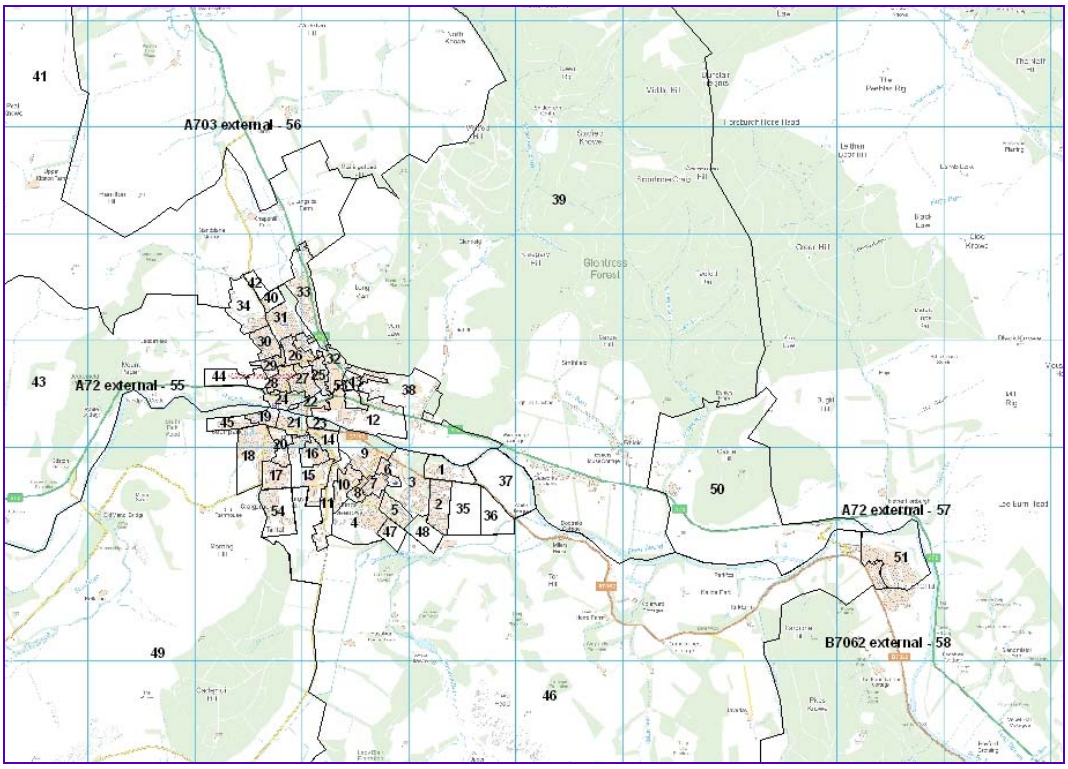


Figure 7.1 Model Zone System – Area

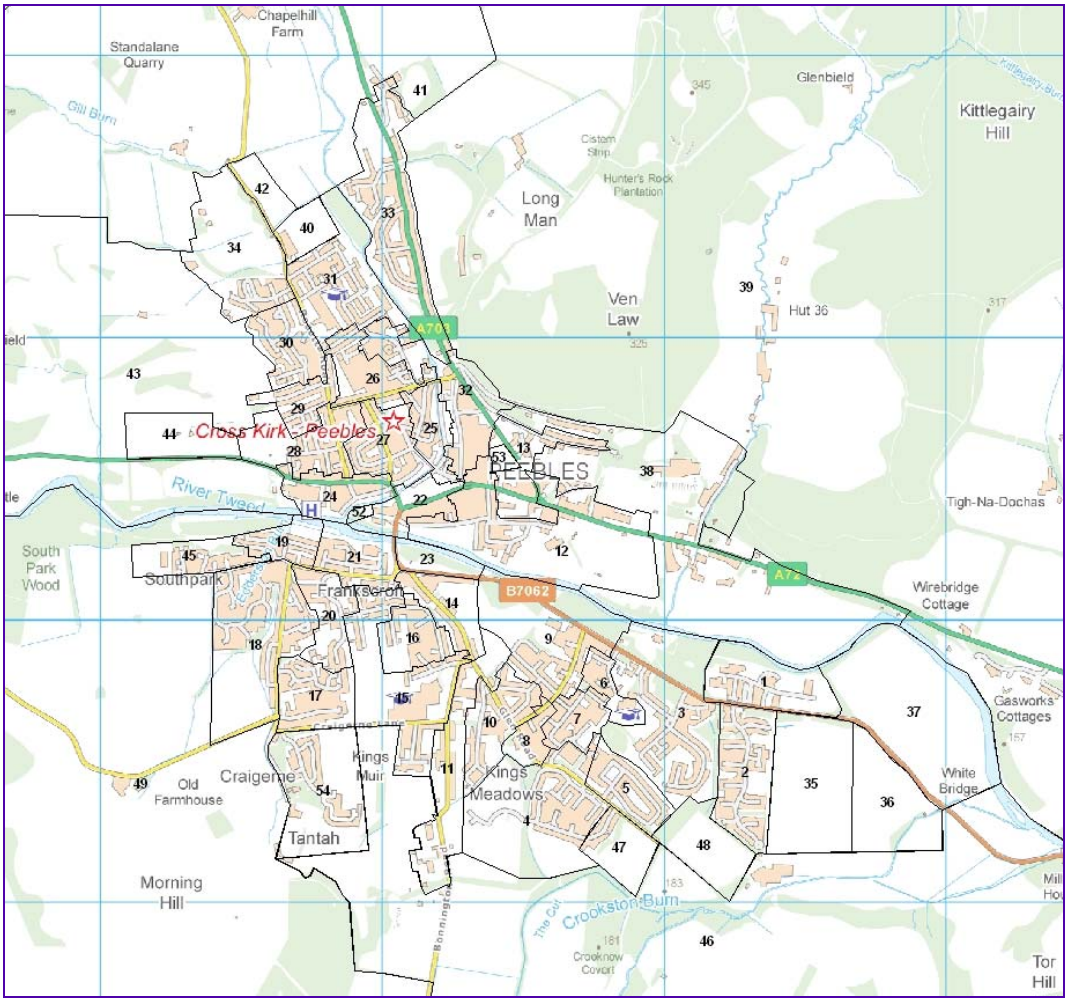


Figure 7.2 Model Zone System – Town

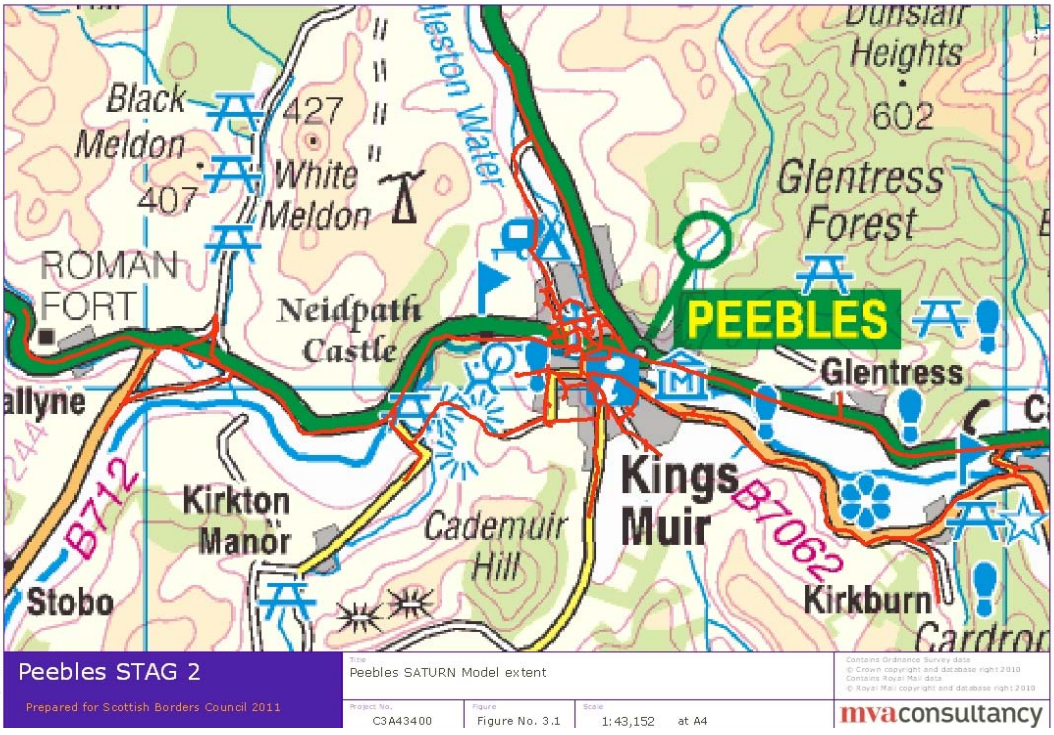


Figure 7.3 Model Network - Town

7.2.4 It can therefore be seen that the model has a detailed zonal representation of Peebles, including specific zones allocated to allocated development areas and car parks. The model contains an estimate of vehicular travel volumes between all zone pairs for each time period. These movements are 'assigned' to the road network to produce traffic flows on the individual model links. This combination of network and zoning allows an accurate representation of traffic movements around Peebles to be developed.

Local Context - Traffic Trends

7.2.5 Before describing the methodology used to produce traffic forecasts, some context is provided in terms of the trends in traffic levels in recent years. Between the early 1990s and 2007, road traffic (measured in terms of vehicle kilometres) at the Great Britain level grew at an annual rate of around 1.5% per annum. This trend was interrupted only by the fuel price protests of 2000 and the national outbreak of Foot and Mouth Disease in 2001. Since 2007 however, road traffic levels have dropped by 0.8%, 1.0% and 1.6% so that by 2010, traffic had dropped by 3% from its peak in 2007, reflecting the economic downturn. Provisional figures for the first two quarters of 2011 suggest a continuing reduction in road traffic at the GB level.

7.2.6 The release of traffic figures for Scotland (and specifically the Scottish Borders) lag behind that of the GB. Figure 7.4 below shows traffic growth levels for all roads across GB, Scotland and the Scottish Borders, indexed with 1999=100. This shows how the GB trend is repeated in Scotland and the Scottish Borders with both showing low growth or decline in 2008 and 2009.

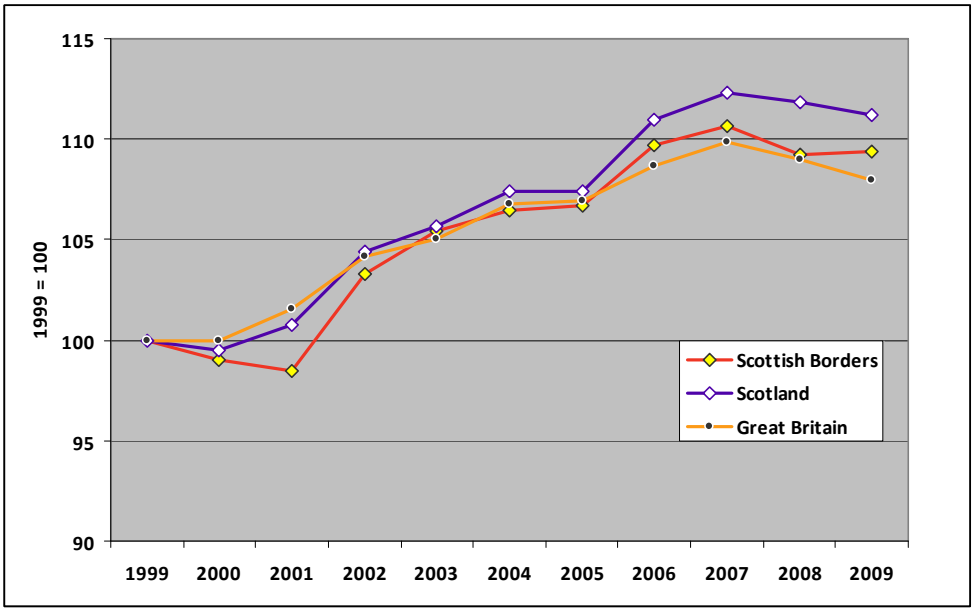


Figure 7.4 Change in Traffic – GB, Scotland and Scottish Borders

7.2.7 At the SBC level, traffic therefore grew consistently between 1999 and 2007, (except for 2000 / 2001 for the reasons cited above). Assuming this dip was recovered by 2002, the average rate of traffic growth across the area was 1.3% per annum (in total vehicle kilometres).

7.2.8 More locally, a focus for this study in traffic terms is Tweed Bridge. Traffic counts have been undertaken periodically in recent years. The results are summarised below.

Table 7.1 Tweed Bridge Traffic

	AM PEAK 0800 – 0900			PM PEAK 1600 - 1700		
	North bound	South bound	Total Flow	North bound	South bound	Total Flow
Feb 2005	441	335	**776**	268	360	**628**
Feb 2006	530	408	**938**	412	544	**956**
Feb 2007	518	378	**896**	419	550	**969**
Jan 2008	510	430	**940**	415	537	**952**
Mar 2011	531	447	**978**	407	562	**969**

7.2.9 In spite of the recession, it can be seen that traffic on Tweed Bridge has grown from January 2008 to March 2011 by 4% in the AM peak and by 2% in the PM peak (although some of this may be due to seasonal variation). Over the longer term, from 2005 to 2011, traffic has grown by 2.2% per annum in the AM peak, well above the national and also the Scottish Borders trend. From the available traffic count information, it appears that traffic levels on Tweed Bridge have continued to rise in recent years despite the economic downturn. The reasons for this apparent growth could be wide-ranging, however it is likely that this growth in traffic is a reflection of both the general prosperity of Peebles as a town and the development of the town to the south of the river over this period.

7.2.10 As such, it is reasonable to assume that, unless there is a major change to the long term historic trend of increasing traffic levels over time, there will come a time when the finite capacity of Tweed Bridge and the immediate connecting road network will be reached on an increasingly regular basis. At that time congestion in the town will increase rapidly, peak period traffic will 'spread' across a longer period and strategic traffic may start to route away from the A72 / A703 to unsuitable, residential streets. As well as a major inconvenience locally, this would act as a significant constraint on the local economy and the future development and prosperity of the town.

7.2.11 Clearly, the rate of traffic growth in the town and on the bridge in particular will determine when this point in time is reached. However, in the current economic climate, there is significant uncertainty surrounding any traffic forecast. As such, it is of key importance that regular traffic counts are undertaken by Scottish Borders Council on Tweed Bridge to monitor traffic levels on at least an annual basis.

- **On the evidence of the available count data, traffic levels on Tweed Bridge have continued to grow through the UK recession, going against the trend seen nationally and at the SBC level. This reflects the relative prosperity of Peebles and the levels of development in the town.**

Forecasting Methodology

7.2.12 The traffic growth forecasts developed for the STAG study have made the best use of the available data, particularly that obtained from the SEStran Regional Model.[12]

7.2.13 In general, the main sources of traffic growth over time are:

- increasing prosperity amongst residents (and reductions in the real terms cost of motoring) leading to higher car ownership and increased car usage;
- a trend towards lower density living (ie fewer people per household);
- general demographic change;
- higher employment levels; and
- specific new residential, business, retail and leisure development and hence increased population, commerce and activity in the local area.

7.2.14 Traffic forecasts have been produced for the Peebles area for three forecast years: **2019, 2024 and 2032**. These forecasts are based on three distinct elements:

- 'indigenous' growth in car travel by existing Peebles households;
- traffic generated by new development in Peebles; and
- growth in through traffic, ie A72 east west and A72 / A703 traffic.

7.2.15 The key steps in determining the forecasts here are as follows. The SEStran Regional Model produces forecasts of vehicle-kilometres for Scottish Borders for 2019, 2024 and 2032. These derive from a SESplan-wide scenario reflecting the Strategic Development Plan (SDP) and GRoS 2008-based SESplan wide household and population projections.

7.2.16 As part of the above process, the accompanying land use and economic model (TELMoS) produces population forecasts for 2019, 2024 and 2032. From this data, average vehicle kilometres per person for the Scottish Borders area in each forecast year can be determined and this figure increases over time, reflecting the greater propensity to travel in future.

7.2.17 In addition GRoS produce projections of population and total households for SBC area, thus the average household size (ie persons per household) can be also be determined. There were 8,160 (GRoS) residents of Peebles in 2008, approximately 3,700 households. So to determine the '**indigenous**' growth rate, it is assumed that:

- no further households are added in Peebles, so population declines; and
- indigenous traffic growth then reflects the implied population and vehicle-kilometre per person rates – as the growth in vehicle-km per person is greater than the reduction in resident population, a modest 'background' growth rate is obtained;

7.2.18 For **through traffic**, ie traffic not originating or destined for Peebles, itself the prevailing rate of traffic from the SRM is used.

[12] Note that the 2005 Study produced some short term traffic forecasts of traffic in relation to Tweed Bridge. The forecasts produced for this STAG study should be seen as superseding those produced for the earlier study.

7.2.19 For **new development sites**, car trips per household are derived from the TRICS database and the pattern of travel is taken from adjacent 'typical' zones. The full Local Plan is assumed to be built out for the 2019 forecast. Additional employment development was also separately accounted for at Southpark to the south west of Peebles.

7.2.20 In addition, a '**High Growth'** scenario was identified where the potential 'longer term development sites' identified in the Consolidated Local Plan 2011 on the southern side of the river were included in the model. It must be noted at this stage that there is no guarantee that these sites will be developed as part of the Local Development Plan process. However, it was agreed that this modelling exercise would be beneficial in terms of trying to predict the potential impact of future development on the local road network in Peebles. The sites were represented by benchmarking their approximate land area with existing allocated development sites, but this should be regarded as indicative at this stage. This forecast applies to the 2032 forecast year only and subsequent years for the calculation of benefits. This results of this specific exercise are referred to in this document as the High Growth (HG) Scenario.

- **A traffic modelling exercise which includes four different scenarios has been carried out to test the effect of development on the local road network in the future. The scenarios that have been tested are 2019, 2024, 2032 and 2032 (High Growth) and are based on the best available data.**

7.2.21 At present, as discussed in Chapter 2, traffic levels in Peebles are generally relatively low with a few key exceptions, at least in terms of average weekday traffic. This means that across much of the network, there is scope to cater for a reasonable level of growth. This is explored further below.

7.3 The Reference Case Scenario

7.3.1 This section describes the testing of the 'Reference Case' scenario. The Reference Case refers to the situation where there is no change to road infrastructure in Peebles over the forecast period, 2011-32. **This scenario is necessary to assess the situation in Peebles where no second vehicular crossing is provided**. These tests are considered here from three perspectives:

- network wide statistics;
- growth in traffic in terms of the routing of traffic; and
- flows on key links.

7.3.2 **Network wide statistics** relating to traffic volumes (vehicle kilometres) and congestion (vehicle hours) provide the best indication of how in general traffic conditions are forecast to change over time. Figures 7.5 and 7.6 show the following:

- **vehicle kilometres** travelled on the network for each time period and test year (and 2032 HG), and growth from the 2011 base by time period and for an aggregate 12-hour period; and
- the total vehicle hours of **delay** on the network for each time period and test year (and 2032 HG), and growth from the 2011 base by time period and for an aggregate

12-hour period – this delay represents the difference between forecast travel conditions and the traffic conditions relating to a 'free-flow' situation.

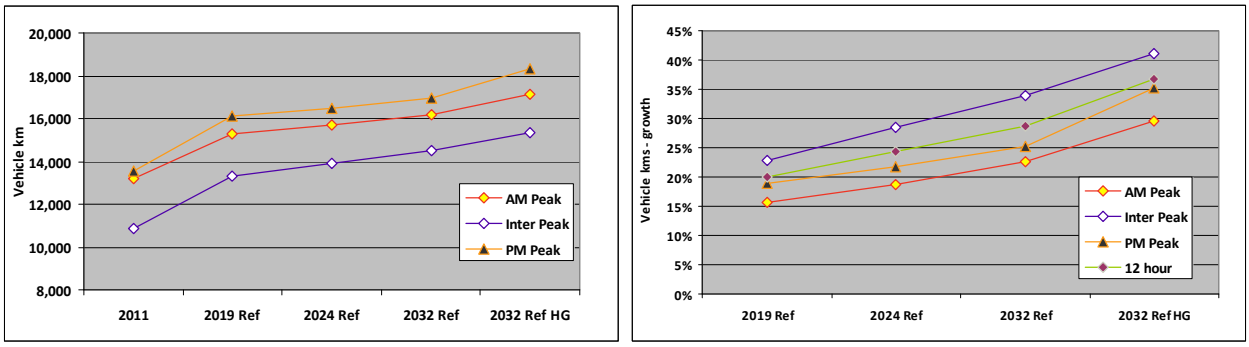


Figure 7.5 Modelled vehicle kilometres, and % change from 2011

7.3.3 The highest traffic growth is seen in the inter-peak period. Over the 12-hour period, vehicle kilometres are forecast to grow by around 28% by 2032, with the High Growth scenario adding significant additional traffic volumes to the local road network.

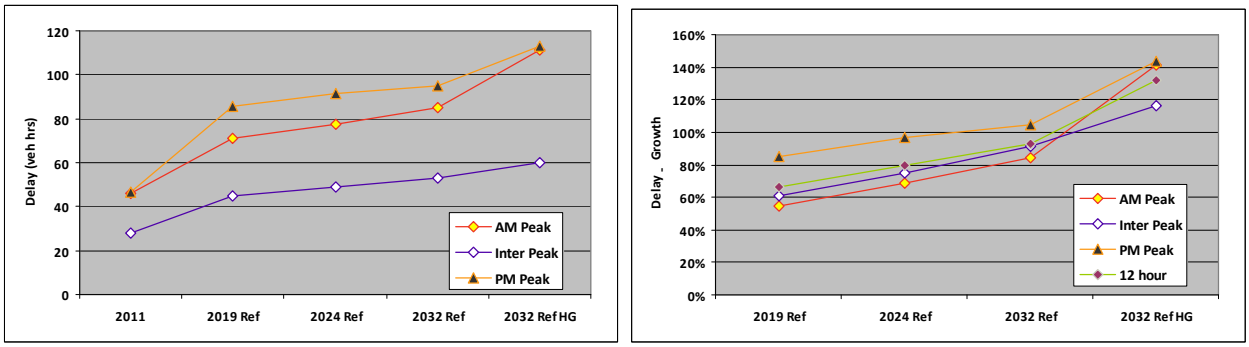


Figure 7.6 Modelled delay (vehicle hours) and % change from 2011

7.3.4 The total delay across the network is forecast to increase significantly. By 2032, the total hours of delay are forecast to grow by around 130% at the 12-hour level. AM and PM peak delays grow faster but the inter peak period also sees a significant increase in delay, albeit from a lower base, ie there is very little delay on the inter peak network at present.

- **Traffic in Peebles is forecast to grow by 28% by 2032 with traffic congestion increasing by 90% - in the 2032 HG scenario these values increase further to 37% and 115% respectively – ie the HG scenario adds significantly to traffic and congestion levels.**

7.3.5 Having established the aggregate picture, Figure 7.7 (a-d) overleaf shows graphically how this **traffic growth is distributed around the network** during the AM peak hour for each forecast period: 2011-19, 2011-24, 2011-32 and 2011-32 HG.

7.3.6 The scale is in vehicles and the darker shades of yellow, orange and red show the streets where forecast traffic growth is highest.

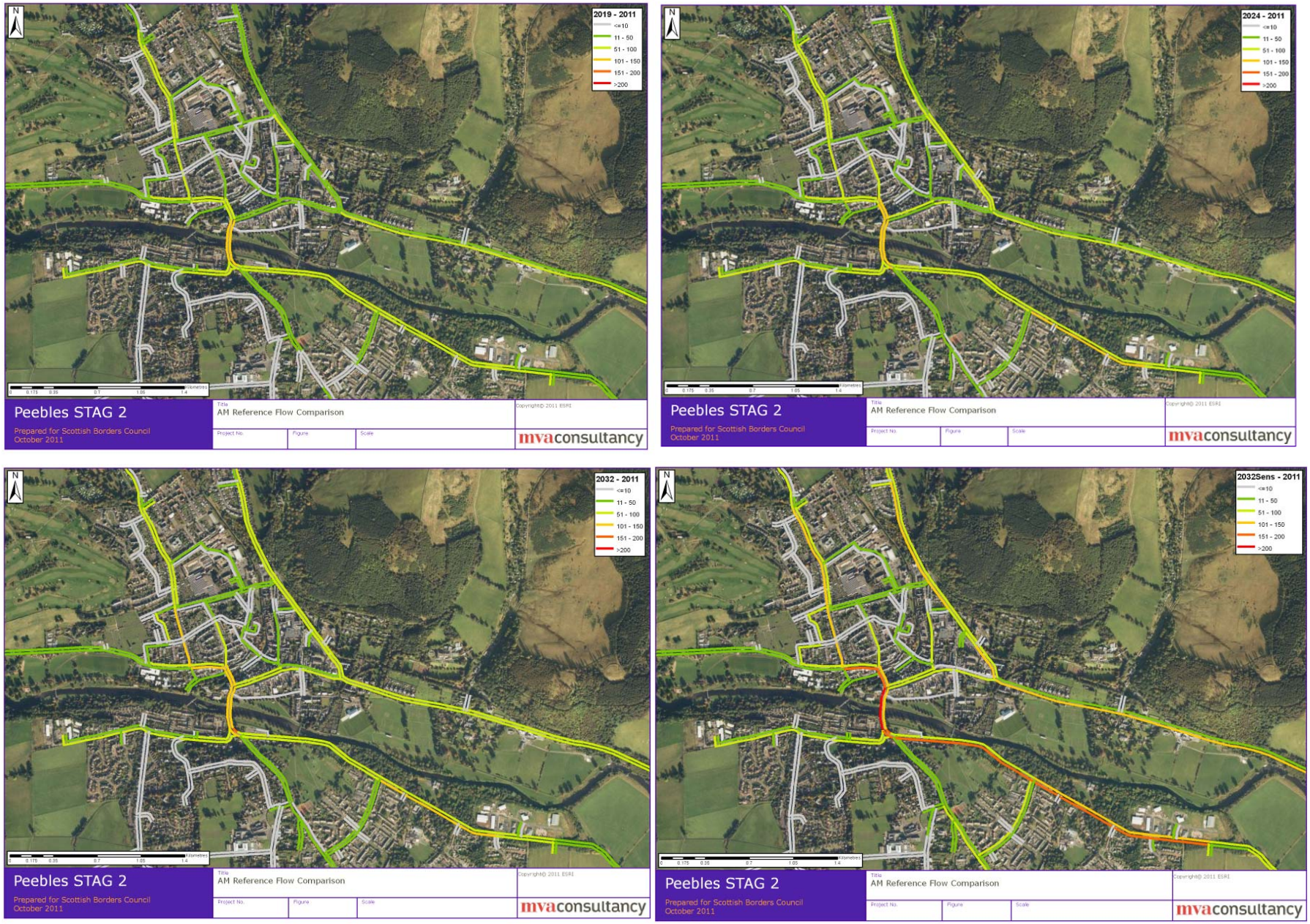


Figure 7.7 Reference Case Forecast Growth on Peebles Network (AM Peak)

7.3.7 From Figure 7.7 it can be noted from the modelling exercise that the following roads experience the greatest future traffic growth, based on the 2032 reference case scenario:

- Tweed Bridge and Old Town (north and southbound);
- Young Street and Rosetta Road (northbound);
- East end of Kingsmeadows Road (westbound);

7.3.8 It can also be noted that the following roads experience high levels of traffic growth by 2032 in the Reference Case:

- Edinburgh Road (north and southbound);
- Cross Street (southbound);
- A72 Innerleithen Road; and
- High Street.

7.3.9 These results suggest that there is likely to be more re-routing of traffic in the future to use Young Street / Rosetta Road / March Street northbound and potentially March Street / Cross Street southbound. This would also be associated with slower vehicle speeds and higher traffic volumes on the High Street and the A703.

7.3.10 This would be an undesirable outcome as these streets are not designed to accommodate through traffic in this respect. All strategic traffic should be using the A72 / A703 and not rat-running through residential streets, some of which have a 20 mph limit.

7.3.11 This pattern is further exacerbated with the 2032 HG scenario. The highest growth is seen on Tweed Bridge northbound with high growth along the length of Kingsmeadows Road and Old Town. Further traffic growth is seen on Rosetta Road.

- **From the modelling exercise, the highest levels of future traffic growth are seen on Tweed Bridge in all forecast years. It can also be noted that there will be increased traffic levels on residential streets as traffic re-routes to avoid the High Street in particular.**

7.3.12 From the modelling exercise it can be noted that the key pinch point in Peebles is the river crossing. Figure 7.8 below shows the forecast **traffic flows on Tweed Bridge** for each scenario together with the theoretical capacity. It can be seen that this capacity is almost reached in the AM and PM peak hours in 2019, and by the 2032 HG, the capacity is breached in all three time periods.

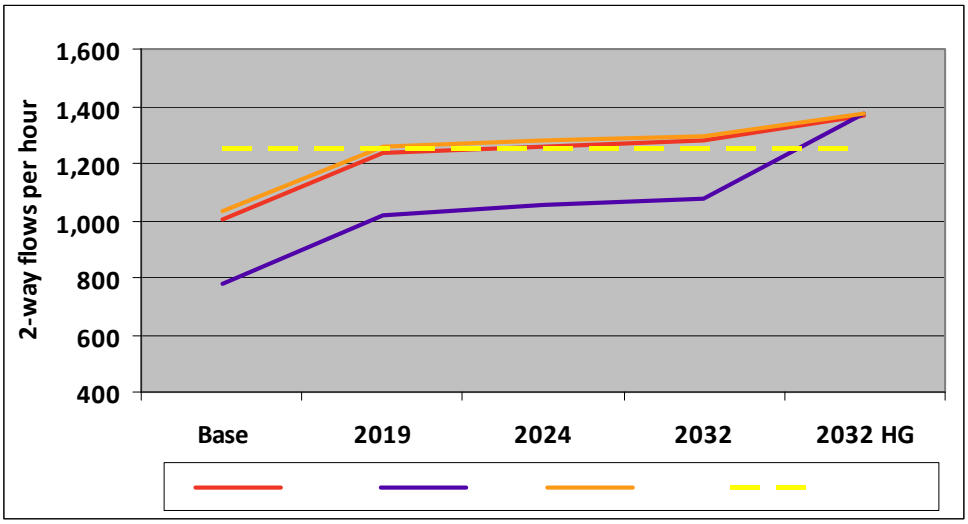


Figure 7.8 Forecast Traffic Flows on Tweed Bridge – Reference Case

7.3.13 Reflecting the above flows, Figure 7.9 below shows how **travel times** across a route from the south east of Peebles across Tweed Bridge to the A703 boundary northern of Peebles are forecast to grow over time by time period for each scenario.

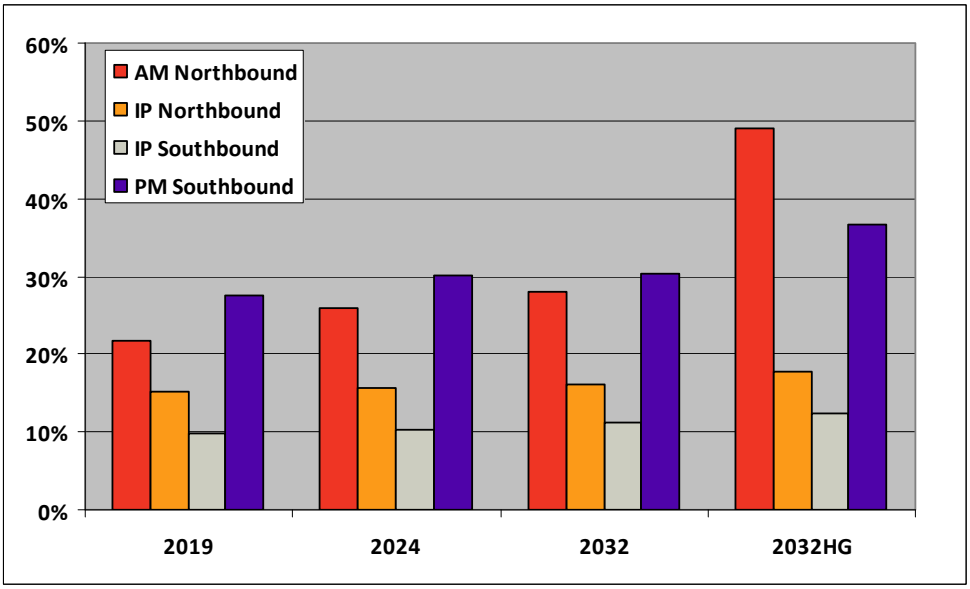


Figure 7.9 Forecast Changes in Cross River Journey Times

7.3.14 AM peak northbound and PM peak southbound journey times follow a similar pattern, with growth of around 20% by 2019 and 30% by 2032. Journey times are then forecast to grow by nearer 50% in the HG scenario for AM northbound trips. Even in the inter-peak period, some modest increases in journey times of between 10% and 20% are proposed from the modelling exercise.

7.3.15 Other routes in Peebles are less affected by traffic growth in terms of travel times as there is more on-road capacity available. For example, A72 eastbound traffic and westbound PM traffic would experience a journey time increase of up to 15% by 2032 HG.

7.3.16 Note that the modelling exercise is based on **traffic levels on an average weekday**, in a 'neutral' month – in line with best practice. Analysis of traffic count data held by SBC suggest that August is the peak month for traffic on the A703 and A72 around Peebles. During August, traffic levels on an average weekday are around **13% higher** than an average weekday in March. Based on the figures in Table 7.1, this would suggest that peak hour flow on Tweed Bridge in August would be around 1,100 vehicles per hour. Over the summer period, there will be days when traffic levels in Peebles will be much higher than this. Local public holidays and periods of good weather see visitor numbers to Peebles rise considerably. This should be borne in mind when considering the average weekday results above, ie there will be times of the year when flows and delays are significantly higher than those reported above**.** Note also that as parts of the network approach capacity in terms of average weekday traffic, it will be more prone to localised congestion at certain times of the year.

- **The theoretical capacity of Tweed Bridge is forecast to be reached by 2019 in the peak hours. As a result of this, traffic conditions deteriorate and cross-river journey times are forecast to increase significantly over time with AM northbound and PM southbound journeys seeing the largest increase. At certain times of the year the local road network will be more prone to localised congestion..**

7.3.17 This section has provided a forecast of how traffic levels and routing may change over time in Peebles in the absence of any new road infrastructure and assuming similar levels of public transport provision. As anticipated traffic growth over time is most concentrated around Tweed Bridge, as this is the key pinch point on the network.

7.4 Modelled Traffic Impacts of New Bridge Alignments

7.4.1 The model was used to test the impact of the six remaining potential new bridge options (B1, B2, B8, B3, B7 and B6) on traffic in Peebles. This impact is seen primarily in terms of traffic routing and congestion. Each of the proposed alignments was coded into the traffic model, using appropriate distances, road classifications, speed / flow relationships and junction configurations. The model was then run to provide estimates of the impacts of each bridge option on traffic volumes, routing and delays. Note that the tests here were undertaken on a 'fixed matrix' basis[13]. In the longer term, it is likely that a significant change to the local road network would 'generate' some additional traffic.

7.4.2 Given the higher traffic flows on the A72, it was assumed that the junctions for all the new alignments would be roundabouts. Priority junctions were assumed to be suitable on the connections to the B7062 Kingsmeadows Road.

Network Wide Statistics

7.4.3 The principal benefit of a second bridge crossing in Peebles would be reduced journey times compared to the Reference Case. Figures 7.10 and 7.11 below show the forecast impact of each of the six alignments in terms of network wide 12-hour figures for total travel time and total delays on the network. These percentage changes are relative to the Reference Case.

[13] This means that the volume of car trips made in each time period is the same in the 'Reference Case' and the 'Test Case' in each forecast year.

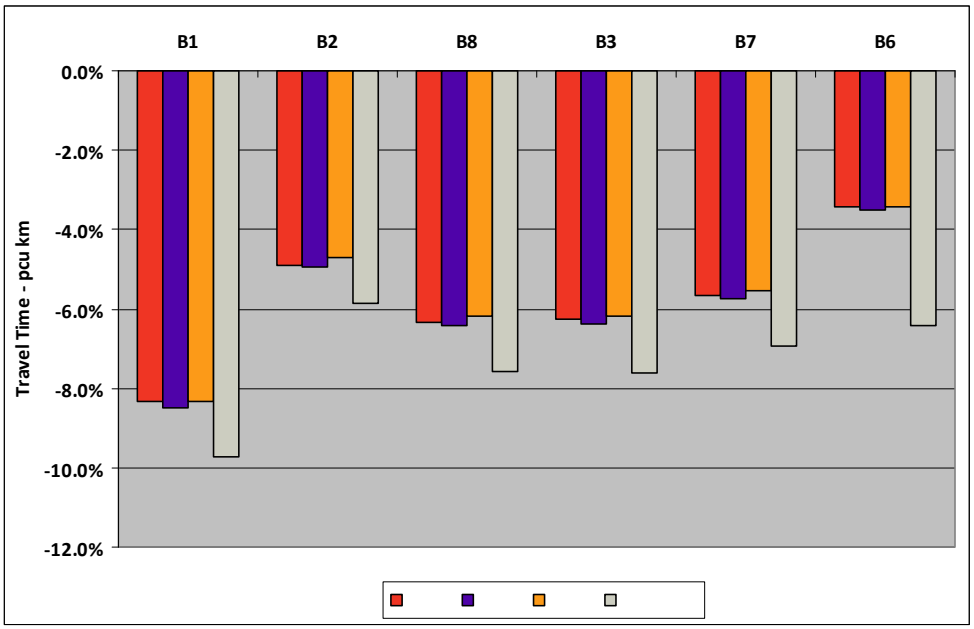


Figure 7.10 Modelled change in total travel time, % change versus Reference Case

7.4.4 Travel time savings are the key source of economic benefits, as the time savings are monetised based on 'values of time'.[14] For each of the options, there is a similar percentage reduction in total travel time on the network in each of the three years 2019, 2024 and 3032, then there is a step change, with greater percentage travel time savings for the 2032 HG scenario, reflecting the more severe congestion in that case. These savings arise directly from users of the new bridge benefitting from faster journey times and also from reduced congestion on other routes due to reduced traffic levels. It can be seen that B1 provides travel time savings of around 8-10% across the Peebles network. Options B8, B7 and B3 provide broadly the same outcomes. Option B6 is strongly affected by the HG scenario, and the time savings associated with B6 double with this scenario. Figure 7.11 shows how the six alignments affect the level of traffic delays on the local network.

[14] Travel time savings as a result of the new crossing in minutes are re-expressed in £ based on standard research based valuations of peoples' time. This value of time differs significantly between 'in work' and 'non work' time, ie the value of time for 'in work' time is much greater reflecting its significance in terms of the performance of companies.

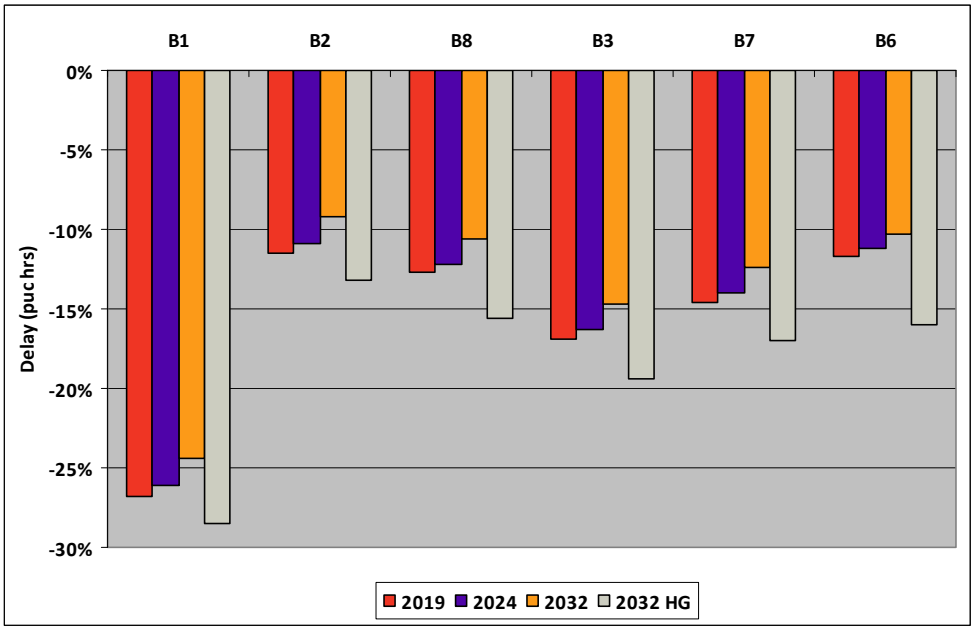


Figure 7.11 Modelled change in total delay, % change versus Reference Case

7.4.5 Network-wide changes in total delay follow a similar pattern as time savings. Option B1 results in savings of around 25% of total delays across the network compared to the Reference Case. The other options range from around 10-15% typically.

- **All of the six proposed alignments result in considerable travel time savings in Peebles and hence reduced congestion. Option B1 has the greatest impact by some margin.**

Impact on River Crossings and Key Routes

7.4.6 This section reports on the forecast traffic volumes on Tweed Bridge and each of the potential new bridge alignments. Figure 7.12 shows the forecast 12-hour traffic flows on Tweed Bridge for the present day (base), each modelled year and alignment option, including the Reference Case.

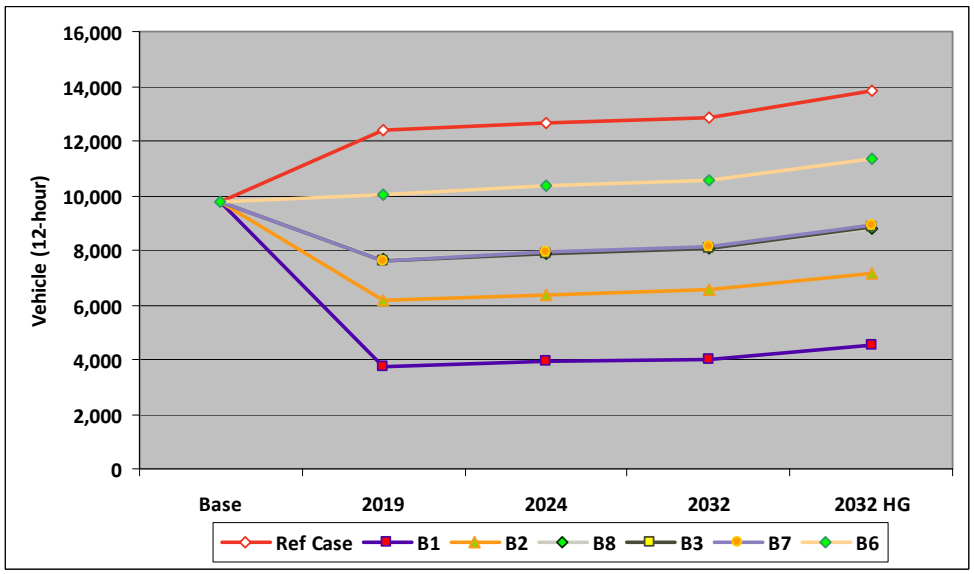


Figure 7.12 Predicted Tweed Bridge traffic flows (12-hour)

7.4.7 **All options except B6 are forecast to reduce traffic on Tweed Bridge to below present day levels across the whole forecast period** with traffic reductions decreasing moving west to east alignments. Options B8, B3 and B7 are forecast to produce near identical flows on Tweed Bridge.

7.4.8 In more detail, Figure 7.13 below shows the forecast flows for 2019 on Tweed Bridge and the new crossing in each case. Manor Bridge is included in these figures but is closed to traffic at the time of writing. Figure 7.14 then shows the percentage split of river crossing traffic by bridge.

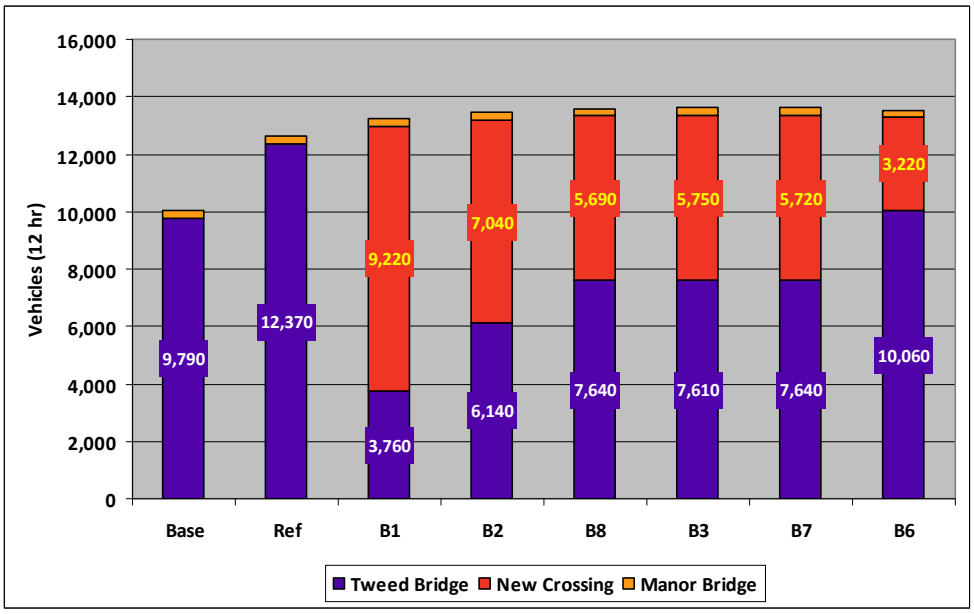


Figure 7.13 Cross river traffic forecasts by bridge (2019, 12-hour)

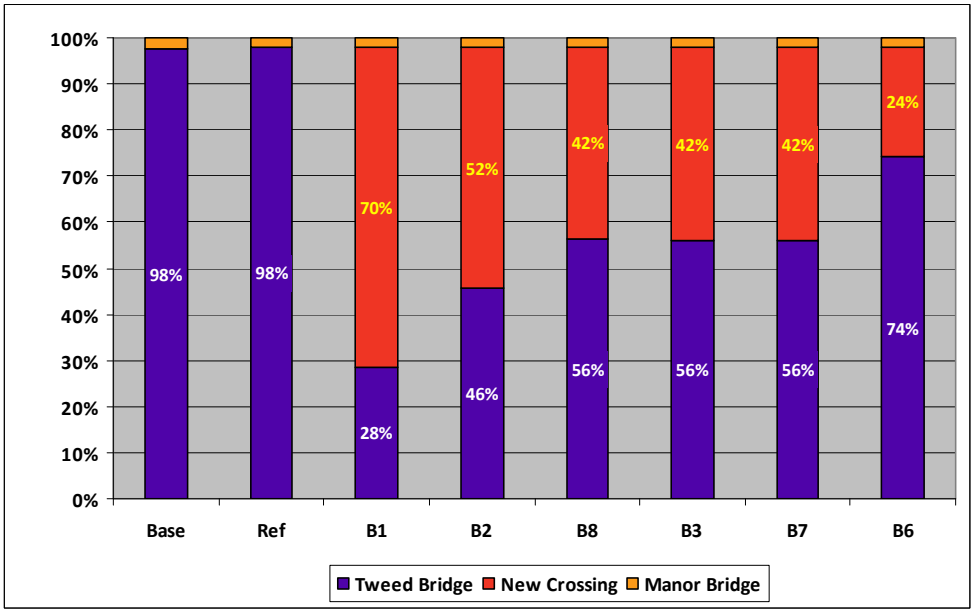


Figure 7.14 Cross river traffic forecasts by bridge (2019, %)

7.4.9 It can be seen that in the case of Option B1, more than 2/3 of all river crossing traffic is expected to use the new crossing. In this case all north–south and east–south traffic is diverted to the new crossing. Only some south–town centre and all south–west traffic would remain on Tweed Bridge. Moving east, this figure drops progressively to only 24% in Option B6. Options B3, B6 and B7 all see around 40% of traffic using the new crossing.

7.4.10 Finally, Figure 7.15 shows the impact of the new bridge crossings on other key routes in Peebles. The 'Ref' identified in the chart shows expected traffic growth on these roads between an illustrative 2011-19 and for each bridge option, and the change from the forecast 2019 traffic level is shown.

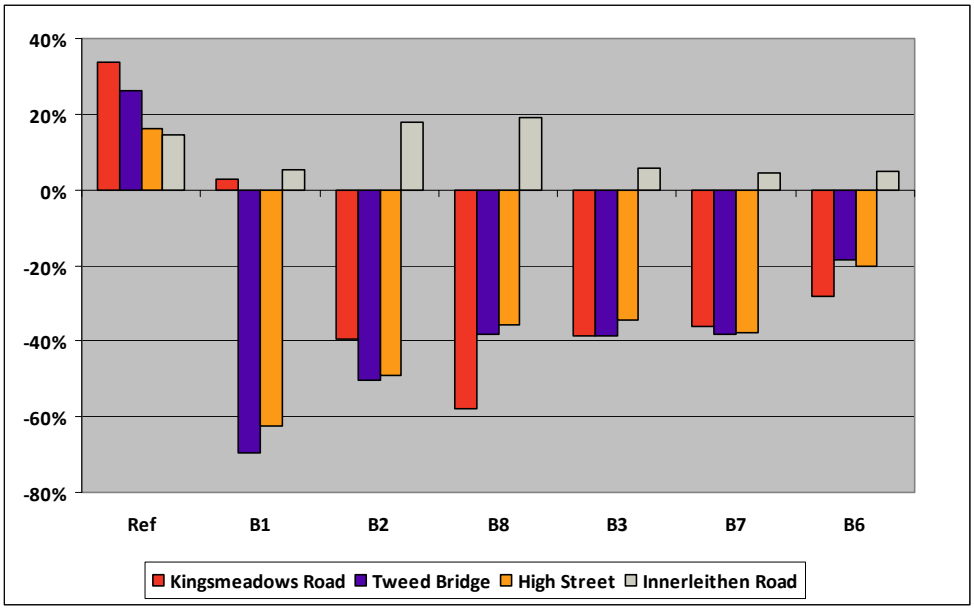


Figure 7.15 Impact of options on key links (2019, 12-hour)

7.4.11 As has been shown, Option B1 therefore reduced forecast Tweed Bridge traffic by around 70%. It also reduces forecast traffic on the High Street by around 60%. Options B8, B3 and B7 all reduce High Street traffic flows by around 35%. All of the options lead to increased traffic levels on Innerleithen Road.

- **Any of the six bridge options would result in sustainable traffic levels on Tweed Bridge for the foreseeable future. The impact of the six options diminish in magnitude as you move from west to east.**

7.4.12 This chapter to date has described the modelling tool developed for the study, reported on how the traffic forecasts were derived, presented the Reference Case forecasts, and shown the forecasts traffic impacts of the six bridge options. The remaining sections comprise the Part 2 Appraisal against the STAG criteria, Environment, Safety, Economy, Integration, and Accessibility and Social Inclusion.

7.5 STAG Criteria - Environment

7.5.1 The construction of a new bridge and associated link roads anywhere in Peebles would clearly be a major development for the town, and it could have a significant impact on the fabric of the town. Generally speaking however, these impacts would diminish somewhat when

moving from west to east. The environmental assessment has been undertaken through a combination of desk based research and site visits. This work was undertaken by the environmental consultants Natural Capital[15]. Each of the options is taken in turn and their main impacts described. For ease of reference the alignments are reproduced in Figure 7.16 below.

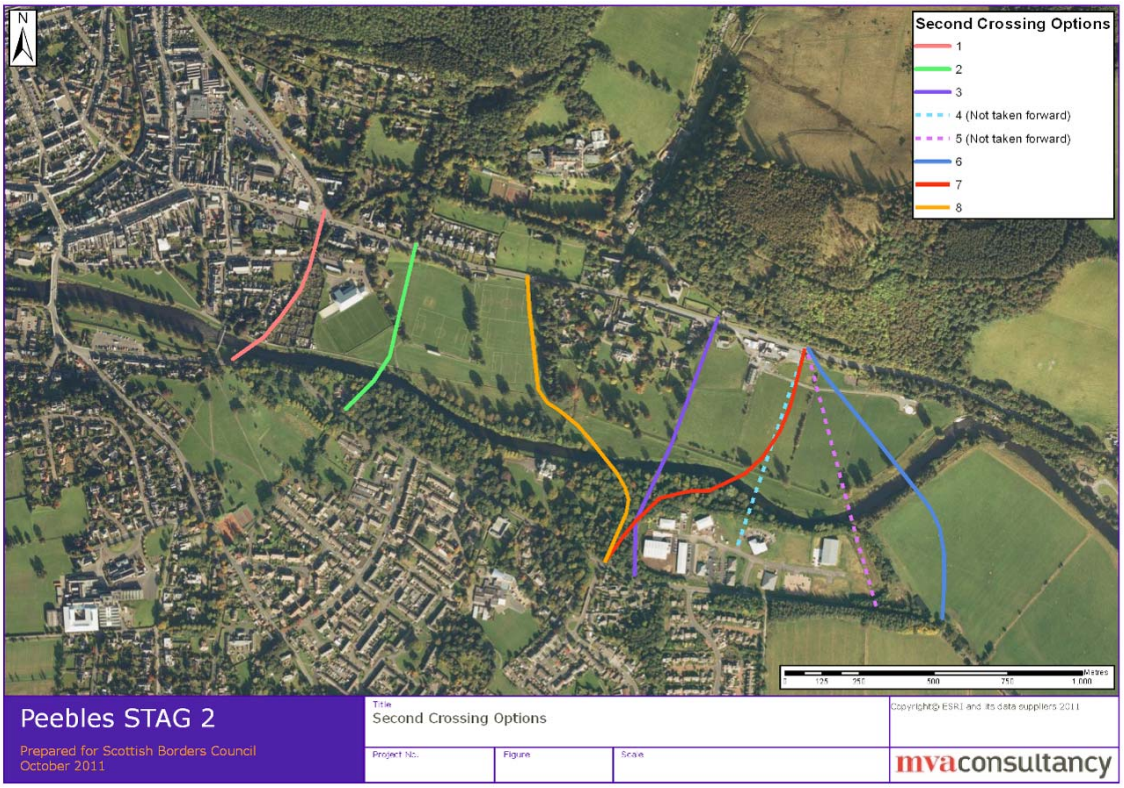


Figure 7.16 Potential new bridge road alignments

7.5.2 The main environmental issues associated with each option are noted below, before being summarised in Table 7.2 at the end of this section. Following this, the STAG environment sub-criteria are considered further. This includes a discussion of issues surrounding flooding.

Option B1

7.5.3 This option focuses on using the corridor of what was once an old railway line that formerly crossed the River Tweed at Priorsford. The main issues associated with B1 are as follows:

A72 Road End

- close proximity of bungalow / cottage belonging to Park Hotel to the west;
- close proximity of sheltered housing Whitestone Court to the east;
- close proximity of white bungalow (No 6) on Walkershaugh;
- close proximity of Scottish Power Substation (Gytes 11KV) on Walkershaugh;

[15] www.naturalcapital.co.uk

- very close proximity of housing further south along alignment (house numbers 8, 9, 10, 11, 12 in Tweed Avenue), with gardens that immediately border the railway embankment;
- proximity to Peebles Bowling Club;
- crosses footpath and steps leading to Riverside Paths Core Path;
- removal of amenity greenspace (with trees, shrubs and ornamental planting) adjacent to path from Innerleithen Road;
- removal of key green corridor along former railway line which is part of the green infrastructure of Peebles;
- removal of trees including mature wych elm and beech;
- removal of disused railway arch and subsequent loss of potential bat roosting / hibernating location;
- impact on cover, feeding and nesting habitat for a variety of bird species the following seen along corridor during visit - blackbird, robin, wren, chaffinch, greenfinch, goldfinch, dunnock, long tailed tit, blue tit, great tit, wood pigeon;
- impact on green corridor possibly used by urban badgers (and fox) – signs of 'grubbing' activity and trails; and
- impact on allotments – potential loss of allotments and requirement for them to be re-sited elsewhere in the town.

Kingsmeadows Road End

- crosses Riverside Paths Core Path;
- visual aspects for residents and walkers in area;
- At southern end by the River Tweed, close proximity of Priorsford Villa; and
- In proximity to and crosses River Tweed SAC /SSSI.

7.5.4 The key environmental implications in taking up this option are therefore associated with:

- the impacts on people and properties due to the very close proximity of Tweed Avenue / Walker's Haugh where there are several houses that have gardens on the former railway embankment;
- the removal of green infrastructure (greenspace, allotments and a strategic green corridor) with consequential impacts on local biodiversity;
- the disruption to public footpaths including the Riverside Paths Core Path; and
- the challenge of constructing a new bridge crossing of the River Tweed without causing significant environmental impacts on the SAC and SSSI.

7.5.5 The alignment of this option sits wholly within the Peebles Conservation Area designated for the area's special qualities (historic and architectural) so there will be a desire to preserve or enhance its character or appearance and safeguard important features whilst preventing insensitive new infrastructural development.

Option B2

7.5.6 This option focuses on a line that transects the sports pitches of Whitestone Park that are adjacent to the Gytes Leisure Centre, before crossing the River Tweed and passing through woodland close to Priors Reach before joining the B7062. The main issues associated with Option B2 are as follows:

A72 Road End

- near the proposed junction with Innerleithen Road there is a potential impact on a Scheduled Ancient Monument (SAM) and listed category B structure – the White Stone;
- severance of Peebles County Cricket Club ground (separation of pavilion from pitch);
- severance of other sports fields from Gytes leisure centre;
- path leading to Riverside Walks Core Path would require realignment;
- visual impacts on several properties along Innerleithen Road and sports area;
- crosses Riverside Paths Core Path; and
- removal of mature trees (sycamore, ash, lime and poplar) with Tree Protection Orders (TPOs)

Kingsmeadows Road End

- in proximity to and crosses River Tweed SAC/SSSI;
- at junction with Kingsmeadows Road proposed alignment would be very close to Priors Reach (a detached property with mature landscaped gardens in a woodland setting);
- impact on woodland and removal of mature trees (sycamore, scots pine, oak, lime, horse chestnut); and
- impact on rookery.

7.5.7 The key environmental implications in taking up this option are therefore associated with:

- the impacts on people and properties due to the very close proximity of Priors Reach and visual impacts on properties along Innerleithen Road;
- the impacts on a scheduled ancient monument (the Whitestone SAM);
- the severance of public open space that includes the Peebles County Cricket Ground and the connection between the Gytes Leisure Centre and other sports pitches;
- the disruption to public footpaths including the Riverside Paths Core Path; and
- the challenge of constructing a new bridge crossing of the River Tweed without causing significant environmental impacts on the SAC and SSSI.

7.5.8 The alignment of this option also sits wholly within the Peebles Conservation Area designated for the area's special qualities (historic and architectural) so there will be a desire to preserve or enhance its character, safeguard important features and avoid insensitive new infrastructural development.

Alignment B8

7.5.9 This option focuses on a line that borders the football pitches at the east side of Kerfield Park (adjacent to Whitestone Park and the Gytes Leisure Centre) before curving to cross Spoonhope Burn and the River Tweed and then pass through woodland to join the B7062. The main issues associated with Option B8 are as follows:

A72 Road End

- at proposed junction with Innerleithen Road there are potential visual impacts on properties nearby;
- impacts on football pitches at eastern end of open space;
- impacts on line of mature trees bordering Kerfield House and adjacent properties around the western part of Kerfield;
- need to cross Spoonhope Burn a tributary to the River Tweed in this location; and
- crosses Riverside Paths Core Path

Kingsmeadows Road End

- in proximity to and crosses River Tweed SAC/SSSI;
- in close proximity to Kingsmeadows House (a category B listed building, currently owned by Standard Life, and being marketed for sale at the time of writing);
- would dissect part of the Kingsmeadows Estate including the removal of woodland - semi-natural plantation woodland that is integral to the estate;
- removal of mature trees with TPOs ;
- removal of trees containing bat roosting potential; and
- Potential impact on protected species (badger) in part of this woodland.

7.5.10 The key environmental implications in taking up this option are associated with:

- the impacts on people and properties due to the very close proximity of Kerfield House and related properties in the vicinity of the A72 and Kingsmeadows House and Estate at near the B7062;
- the disruption to public footpaths including the Riverside Paths Core Path;
- potential effects on Spoonhope Burn and in turn the River Tweed;
- impacts on biodiversity (possibly protected species) including the removal of mixed plantation and semi natural woodland; and
- the challenge of constructing a new bridge crossing of the River Tweed without causing significant environmental impacts on the SAC and SSSI.

7.5.11 The alignment of this option also sits entirely within the Peebles Conservation Area designated for the area's special qualities (historic and architectural) so there will be a desire to preserve or enhance its character, safeguard important features and avoid insensitive new infrastructural development.

Option B3

7.5.12 This option focuses on a line that passes close to properties at the east side of Kershope and Kerfield and then follows a field boundary down to cross the River Tweed before passing through woodland at the western edge of Calvary Park. The main issues associated with Option B3 are as follows:

A72 Road End

- significant impacts on properties very close to proposed alignment – Kershope to the east (a bungalow) and Kerfield Farm; to the west Kerfield East Lodge (a stone built house on the roadside (also a category C(s) listed building)), Kerfield South Lodge (bungalow), Tweed Lodge (large detached house), The Kirn (large detached house) house, and Kerfield House East (large house);
- impacts on nearby properties (see those above and for properties along Innerleithen Road);
- loss of mature trees; and
- crosses Riverside Walk Pathway.

7.5.13 The proposed junction with the A72 is beyond the current Peebles town boundary, in terms of street lighting and 30mph speed limit. It is assumed that this boundary would need to be extended east for safety reasons and this would include street lighting which would impact on nearby properties.

Kingsmeadows Road End

- in proximity to and crosses River Tweed SAC/SSSI;
- removal of woodland (semi-natural plantation woodland);
- removal of mature trees with TPOs;
- removal of trees containing bat roosting potential;
- potential impact on protected species (badger) in part of this woodland;
- potential loss of area currently used for sustainable drainage measure for the Cavalry Park;
- proximity to Kingsmeadows Nursery at this end of Cavalry Park; and
- potential for impacts on business park units close by.

7.5.14 The key environmental implications in taking up this option are associated with:

- the impacts on people and properties due to the very close proximity of Kershope, East Lodge, Tweed Lodge and other properties near to the A72 and Kingsmeadows nursery in the Calvary Park Business Park near to the B7062;
- the disruption to public footpaths including the Riverside Paths Core Path;
- impacts on biodiversity (possibly protected species) and removal of woodland; and
- the challenge of constructing a new bridge crossing of the River Tweed without causing significant environmental impacts on the SAC and SSSI.

7.5.15 The alignment of this option just clips the edge of the Peebles Conservation Area in the zone north of the River Tweed. Once it crosses the Tweed it enters the Conservation Area in its southerly zone. Whilst not so significant here there will still be a desire to preserve or enhance the character and appearance of this area and safeguard important features whilst preventing insensitive new infrastructural development.

Option B7

7.5.16 This option focuses on a line that leaves the A72 to the east of Kerfield Farm then crosses an improved grassland field in Kerfield Farm, then swings south-west to cross the River Tweed before the cutting through woodland around the western edge of Cavalry Park Business Park and then joining the B7062. The main issues associated with Option B7 are as follows:

- in proximity to and crosses River Tweed SAC/SSSI; and
- crosses Riverside Walk Core Path
- proximity of new business units;
- removal of a substantial amount of woodland (semi-natural plantation woodland);
- potential impact on protected species (badger) in part of this woodland; and
- crosses Riverside Walk Core Path on this side of river.

7.5.17 As with B3, the proposed junction with the A72 is beyond the current Peebles town boundary, in terms of street lighting and 30mph speed limit. It is assumed that this boundary would need to be extended east for safety reasons and this would include street lighting which would impact on nearby properties.

7.5.18 The key environmental implications in taking up this option are therefore associated with:

- the disruption to public footpaths including the Riverside Paths Core Path;
- impacts on biodiversity (possibly protected species) and removal of a significant portion of woodland in the southern portion of this option; and
- the challenge of constructing a new bridge crossing of the River Tweed without causing significant environmental impacts on the SAC and SSSI.

7.5.19 Once it crosses the Tweed this route enters the Peebles Conservation Area in its southerly zone. The removal of a significant number of mature trees that form part of the setting for Kingsmeadows House is likely to be contrary to the policy for the Conservation Area where there is a desire to preserve or enhance the character and appearance of this area and safeguard important features whilst also preventing insensitive new infrastructural development.

Option B6

7.5.20 This option focuses on a north to south-east diagonal line that crosses an improved grassland field in the vicinity of Kerfield Farm near to the A72, then crosses the River Tweed and cuts through a thin section of trees/woodland to then curve around southwards crossing a second improved grassland field before joining the B7062. The main issues associated with Option B6 are as follows:

- in close proximity to and crosses River Tweed SAC/SSSI;

- crosses Riverside Walk Pathway; and
- removal of woodland strip (plantation conifer woodland).

7.5.21 As with B3 and B7, the proposed junction with the A72 is beyond the current Peebles town boundary, in terms of street lighting and 30mph speed limit. It is assumed that this boundary would need to be extended east for safety reasons and this would include street lighting which would impact on nearby properties.

7.5.22 The key environmental implications in taking up this option are associated with:

- the disruption to public footpaths including the Riverside Paths Core Path; and
- the challenge of constructing a new bridge crossing of the River Tweed without causing significant environmental impacts on the SAC and SSSI.

7.5.23 This option lies outside the Peebles Conservation Area.

Flooding

7.5.24 The issue of flooding is of key importance in this context, given the potential locations of these routes.

7.5.25 The SEPA website[16] can be used to obtain indicative maps of areas considered to be at risk of flooding. Figure 7.17 below shows a 'screen grab' from the SEPA website for the Peebles area.

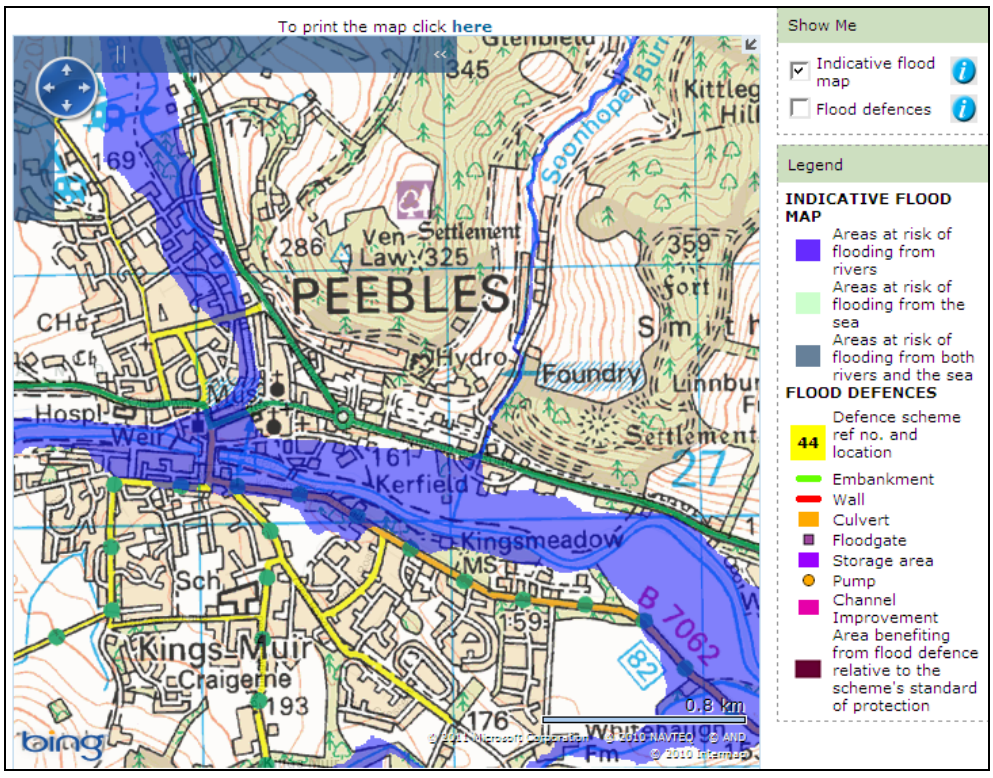


Figure 7.17 Peebles flood risk map (SEPA website)

[16] http://www.sepa.org.uk/flooding/flood_map.aspx

7.5.26 It is therefore clear from this graphic that the all of the options would be located in areas which are at risk of flooding from the River Tweed. Indeed some of these areas have been affected by flooding in recent years, with much of the area effectively acting as flood plain for the town.

7.5.27 As such, there is perhaps not much to choose between the options in this key respect and all would need a detailed flood risk evaluation and mitigation strategies. SBC are aware of this and have undertaken recent work in Peebles in connection with flood risk. Further consideration of flooding issues should be undertaken if any of the proposed options are taken forward.

7.5.28 The main environmental issues of relevance to this study have been summarised in Table 7.2 below together with the relevance of each point to the six bridge options.

Table 7.2 Summary of study-specific environmental impacts

Options	Key Local Environmental Issues – is the option likely to:								
	Impact on **people and properties** due to close proximity?	Remove **green infrastructure** with consequential impacts on local **biodiversity**?	Disrupt **public footpaths** including the Riverside Paths Core Path?	Pose a risk to **the River Tweed SAC and SSSI** with the requirement for a new crossing?	Pose risks of exposure to **flooding** and the need for flood defence measures?	Pose risks of impacts on **biodiversity** (possibly protected species) and removal of **woodland**?	Pose risks of nuisance impacts on occupiers of nearby industrial units of **Calvary Park**?	Be within the Peebles **Conservation Area**?	Impact on a **scheduled ancient monument**?
B1	✓	✓	✓	✓	✓	✓		✓	
B2	✓	✓	✓	✓	✓			✓	✓
B8	✓		✓	✓	✓	✓		✓	
B3	✓		✓	✓	✓	✓	✓	✓ (part)	
B7			✓	✓	✓	✓	✓	✓ (part)	
B6			✓	✓	✓				

7.5.29 The study has therefore identified nine main local environmental issues here. Of these nine issues, B1 impacts on seven, B2 on seven, B8 on six, B3 on 6 + 1 (part), B7 on 5 + 1 (part) and B6 on only three. It can be noted that the scope of impacts declines as the alignments move from west to east, although of course, these impacts could be of varying significance.

7.5.30 Potential impacts on the River Tweed Core Path, the River Tweed SAC / SSSI, and Flooding are common to all options and any option would require careful mitigation in these respects.

7.5.31 STAG specifically outlines a range of environmental sub-criteria and these are now discussed in more detail.

Noise and Vibration

7.5.32 Noise and vibration would in this instance be associated with:

- construction phase; and
- operational phase (ie traffic related).

7.5.33 Those options which are closest to properties would clearly have the greatest impact in both of these respects. Option B1 is located in the most constrained area from the point of view of construction. There would be very significant noise and vibration impacts on properties in the vicinity due to the scale and the proximity of construction work required. This is associated with two bridge structures and a significant amount of earthworks in this case. It is likely for example that the former railway embankment would require to be expanded and re-built to meet current standards which would be a significant undertaking which has not been explicitly costed for at this stage.

7.5.34 Option B1 would also see the highest traffic levels on the new route, so nearby residents would be affected most adversely by noise, and mitigation measures would need to be included in the design. On the other hand, as this route removes the most traffic from other routes, there would be beneficiaries in other parts of the town.

7.5.35 The other routes are generally physically less constrained (ie they are in more open ground) and the construction work would directly impact on fewer Peebles residents. This also means that fewer residents would be directly affected by traffic related noise and vibration in operational terms.

7.5.36 The northern end of B3 is also in very close proximity to properties, as is the south end of B2 (Priors Reach) although in this latter case there is some scope to avoid major impacts. Option B8 would affect properties to the east of Kerfield although the band of mature trees does offer some protection here.

7.5.37 Options B8, B3 and B7 would be in proximity to business properties at the west end of Cavalry Park so these would also be at risk of noise and vibration impacts. Options B7 and B6 would have the least impact as they would directly affect the fewest properties.

Global Air Quality – CO_2

7.5.38 The direct impact of any of the new bridge proposals is to reduce CO_2 emissions. This is due to a reduction in vehicle kilometres on the network through shorter journey distances and the more efficient running of vehicles associated with reduced congestion. The savings in vehicle kilometres and hence reduced carbon emissions has been monetised in the TEE analysis which follows in the next section. In the longer term however, it could be argued that a new crossing may 'generate' additional car trips in particular, which could erode some of these benefits. Note also that there would be 'embedded' carbon emissions associated with any construction project.

Local Air Quality – PM_{10} and NO_2

7.5.39 The key issue here is the reduction in traffic in areas where there is significant pedestrian activity. Local air quality monitoring sites are located on the High Street and Gladstone Place. It has been seen that air quality is not currently a problem in Peebles, although this could potentially change over time if traffic volumes were to increase and eg stationary traffic queues were to become more common on the High Street in particular.

7.5.40 It has also been demonstrated that in the Reference Case, increased traffic levels are likely to be seen in the north of Peebles associated with traffic 'rat running' to avoid the busy High Street area. This would add to local air quality concerns in these residential areas.

7.5.41 Therefore the options which have the largest impact on reducing traffic on the High Street and other residential streets would be most beneficial in safeguarding against potential local air quality problems in the future. The options which would run furthest from new properties would also be most beneficial in this respect.

7.5.42 There are no significant **Geology** issues, and **Biodiversity and Habitats** was covered above in terms of the routes with potential impacts on habitats.

7.5.43 **Visual Amenity** and **Landscape** are very important factors here. Option B1 lies closest to the town centre. It would therefore have a major impact on visual amenity especially at the crossing of the Tweed. The bridge itself would lie close to the existing footbridge which is a well used pedestrian access to the town centre and picturesque area of Peebles with popular views up and down stream. This area is also adjacent to Tweed Green which is Peebles' most popular green space and is used by many residents and visitors.

7.5.44 Option B2 and B3 would also impact on visual amenity through the loss of parts of Whitestone and Kerfield Parks. There would be less impact associated with B3, B7 and B6, except for the properties in close proximity to these alignments.

7.5.45 All routes would be visible to traffic from the A72, except perhaps B1. From the B7062 end, the existing tree belt would provide some screening for all routes except in the immediate junction area.

7.5.46 Options B3, B7 and B6 would pass through **Agricultural** land classed as improved grassland.

7.5.47 Finally, the different options could potentially have differential impacts on **Physical Fitness**. Those alignments which significantly improve walk / cycle connectivity in the town could encourage more journeys to be made using these modes. Option B1 is too close to the exiting footbridge to offer this step change and Options B3, B7 and B6 are perhaps too far from the town centre to be attractive to many. That leaves Options B2 and B8 as offering the highest potential to encourage more active travel and hence improve physical fitness.

7.5.48 The overall STAG assessment for the Environment criterion is shown in Table 7.3 below.

Table 7.3 Overall STAG Assessment - Environment

Option	Environment
A1 – Improved bus links	✓
A2 – Improved cross-river walk / cycle links and network	×
B1 – New Bridge Crossing: Old Rail Alignment	×××
B2 – New Bridge Crossing: Whitestone Park	×××
B8 – New Bridge Crossing: Whitestone Park (east)	××
B3 – New Bridge Crossing: Cavalry Park West	××
B7 – New Bridge Crossing: Cavalry Park to East	×
B6 – New Bridge Crossing: Whitehaugh	×

7.5.49 Of the Environment sub-criteria, Noise and Vibration, Flooding, Biodiversity and Habitats, Landscape and Visual Amenity are perhaps the most pertinent to the six bridge options. Any new bridge structure and its associated roads and junctions would have significant impacts on the physical environment of the town but, reflecting the analysis above and Table 7.2 in particular, these impacts broadly decline moving from west to east.

7.5.50 The assessment of A1 and A2 is carried over from the Part 1 Appraisal.

7.5.51 Note that STAG does not provide guidance in relation to the weighting of the importance of different aspects of the appraisal, either between the five STAG criteria or of different elements within each STAG objective. It is the role of STAG to provide the evidence to allow decision makers to make informed decisions.

7.6 STAG Criteria - Economy

7.6.1 The traffic modelling outlined earlier in this chapter was used to provide the inputs to the Transport Economic Efficiency (TEE) calculations, a key element of STAG. These calculations are undertaken using the Department for Transport's 'TUBA' program and represent the standard approach to cost benefit analysis for transport schemes.

7.6.2 Three scenarios have been considered:

- 'standard' scenario – representing the forecast based on the current Local Plan only;
- 'high growth' scenario – includes a representation of potential future development; and
- 'no growth' scenario – uses only 2011 traffic levels, and is designed to explore whether the proposals represent value for money in the absence of any traffic growth.

7.6.3 Costs and benefits are calculated within TUBA for a 60 year appraisal period. In line with Treasury Green Book practice, all costs and benefits reported below are discounted to 2002 values and prices.

Costs

7.6.4 The costs here represent the construction costs of the schemes. No detailed costing work has been undertaken at this stage and the costs have been developed based on those reported in the 2005 study. The breakdown of costs is outlined below.

- bridge costs (Table 7.4);
- road costs (Table 7.5);
- junction costs (Table 7.6); and
- optimism bias.

7.6.5 As all costs are discounted to 2002 prices and values within TUBA, the 2005 estimated values (reported below) have been used directly. Note that if RPI were to be applied to these values to bring them up to 2011 prices, the values reported below would be increased by around 22%.

Table 7.4 Estimated bridge construction costs (£, 2005 prices)

Option	Bridge Cost	Contingency	Total cost	Optimism Bias	Total with OB
	Unit	*20%*		*66%*	*total+66%*
B1	£2,397,750	£503,528	£2,901,278	£1,914,843	**£4,816,121**
B2	£1,477,750	£310,328	£1,788,078	£1,180,131	**£2,968,209**
B8	£1,477,750	£310,328	£1,788,078	£1,180,131	**£2,968,209**
B3	£1,285,000	£269,850	£1,554,850	£1,026,201	**£2,581,051**
B7	£1,285,000	£269,850	£1,554,850	£1,026,201	**£2,581,051**
B6	£1,285,000	£269,850	£1,554,850	£1,026,201	**£2,581,051**

7.6.6 It is likely that building a new structure within a Conservation Area will incur higher costs as higher quality finishing materials may be required. This been reflected above by uplifting the cost estimates for B1, B2 and B8 by 15%. In all cases, a contingency of 20% has also been applied. For B1 an estimated cost for a second structure at Walkers Haugh has also been included. An 'optimism bias' of 66% has been applied here in line with STAG[17]. When initially estimated, bridge costs were benchmarked against the cost of the bridge at Cardrona.

[17] http://www.transportscotland.gov.uk/stag/td/Part2/Risk_and_Uncertainty/13.3.3.3

Table 7.5 Estimated road construction costs (£, 2005 prices)

Option	Highway links			Contingency	Total cost	Optimism Bias	Total with OB
	m	*cost/m*	*cost*	*15%*	*Cost +15%*	*44%*	*Total +44%*
B1	255	£2,065	£526,575	£78,986	£605,561	£266,447	£872,008
B2	355	£2,065	£733,075	£109,961	£843,036	£370,936	£1,213,972
B8	509	£2,065	£1,051,085	£157,663	£1,208,748	£531,849	£1,740,597
B3	515	£2,065	£1,063,475	£159,521	£1,222,996	£538,118	£1,761,115
B7	552	£2,065	£1,139,880	£170,982	£1,310,862	£576,779	£1,887,641
B6	580	£2,065	£1,197,700	£179,655	£1,377,355	£606,036	£1,983,391

7.6.7 Road construction costs are estimated on a per metre basis. The new road lengths required for each option has been estimated and costs allocated accordingly. A contingency of 15% and Optimism Bias of 44% has also been applied. These costs allow for a 7.3m wide carriageway, footways, cycle-path, drainage, lighting, fencing and earthworks (as reported in the 2005 study).

Table 7.6 Estimated junction construction costs (£, 2005 prices)

Option	Junctions			Contingency	Total cost	Optimism Bias	Total with OB
	No.	*Cost / junction*	*cost*	*15%*	*cost+15%*	*44%*	*total+44%*
1	2	£50,000	£100,000	£15,000	£115,000	£50,600	£165,600
2	2	£50,000	£100,000	£15,000	£115,000	£50,600	£165,600
8	2	£50,000	£100,000	£15,000	£115,000	£50,600	£165,600
3	2	£50,000	£100,000	£15,000	£115,000	£50,600	£165,600
7	3	£50,000	£150,000	£22,500	£172,500	£75,900	£248,400
6	2	£50,000	£100,000	£15,000	£115,000	£50,600	£165,600

7.6.8 The new junctions required are also estimated on a unit basis with a 15% contingency and 44% Optimism Bias. The additional junction in B7 into Cavalry Park is accounted for here.

Table 7.7 Estimated total construction costs (£, 2005 prices)

Option	Total construction costs (£m)	*Rank*
1	£5.850	*1*
2	£4.350	*6*
8	£4.870	*2*
3	£4.510	*5*
7	£4.720	*4*
6	£4.730	*3*

7.6.9 Option B1 therefore comes out as the most expensive option. The constrained nature of the route and the need for more significant earthworks than the other options means that this cost estimate, based on 'standard' values may be conservative (although an optimism bias has been applied). Nevertheless, even on this basis, Option B1 is one third more expensive than the next most expensive option (B8). The other five options are broadly similar in price with Option B2 coming out as the cheapest, being the shortest alignment.

7.6.10 It should be noted that these costs do not include an allowance for land acquisition. The contingencies above will allow for an element of public utility works, but any major work in this regard would be at additional cost.

Transport Economic Efficiency (TEE)

7.6.11 The summary TEE results are contained in Tables 7.8 to 7.10 below for the 'standard', 'high growth' and 'no growth' scenarios described previously.

7.6.12 The benefits of the each option are primarily monetised travel time savings, although there are also be savings in vehicle operating costs (through reduced vehicle kilometres travelled). In this case, typically 80% of the benefits come from travel time savings and 20% from vehicle operating cost savings. These benefits are reported below split into the standard TUBA categories of 'commuting', 'business' and 'other' travel purposes. The negative figures against 'wider public finances' represents reduced fuel duty and VAT to government as a result of lower vehicle kilometres on the network and hence reduced fuel sales.

7.6.13 The associated reduction in greenhouse gases is also monetised below.

Table 7.8 TEE results - 'Standard' Scenario (£'000)

Analysis of Monetised Costs and Benefits	'Standard' Scenario					
	B1	B2	B8	B3	B7	B6
Greenhouse Gases	405	321	328	330	308	128
Economic Efficiency: Consumer Users (Commuting)	3,983	2,515	3,096	3,104	2,805	1,727
Economic Efficiency: Consumer Users (Other)	8,024	4,821	6,000	5,938	5,419	2,795
Economic Efficiency: Business Users and Providers	6,428	3,552	4,720	4,655	4,211	2,420
Wider Public Finances (Indirect Taxation Revenues)	-888	-710	-722	-726	-678	-283
Present Value of Benefits (PVB)	**17,952**	**10,499**	**13,422**	**13,301**	**12,065**	**6,787**
Present Value of Costs (PVC)	**3,812**	**2,831**	**3,174**	**2,935**	**3,071**	**3,080**
Net Present Value (NPV)	**14,140**	**7,668**	**10,248**	**10,366**	**8,994**	**3,707**
Benefit to Cost Ratio (BCR)	**4.7**	**3.7**	**4.2**	**4.5**	**3.9**	**2.2**
Rank	***1***	***5***	***3***	***2***	***4***	***6***

7.6.14 It can be seen that all six options return positive Benefit Cost Ratios with the standard forecasting scenario, ie in all cases, the benefits of the scheme outweigh the costs. The NPV represents the net benefits of the proposals and this means therefore that eg Option B1 returns an absolute benefit of £14.1m over the 60 year period (2002 values and prices). This option produces the highest BCR although the margin is not great over B3 and B8, because this is the most expensive to construct. As has been seen elsewhere, Options B8, B3 and B7 produce very similar results, with B3 marginally ahead of the others.

7.6.15 Some of the underlying reasons behind these results are as follows:

- B1 benefits from having one fewer junction; the other options require a new junction on the A72 which creates delays to through traffic. B1 would also become the best route to the north and east (and potentially town centre) for virtually all areas south of the river. This explains why its level of benefits are so high – one third higher than the next highest (B8);
- B2 sees a big drop in benefits relative to B1. B2 is less attractive for northbound travel from the south west of Peebles but would be used by eastbound traffic. B2 is less attractive for travel from south west Peebles to the A72 – in this respect B2 is somewhat 'caught between two stools';
- B8 becomes less attractive again for south-west Peebles to A703 travel but the alignment does provide greater benefits from travel from south-central and south-

west to the A72 east, and this explains the jump in benefits compared to B2;

- B3 has a similar level of benefits to B8 with B7's benefits being somewhat lower as its alignment is less favourable for south-east to town centre and northbound movements; and
- B6 provides the lowest level of benefits – at around half B8, B3 and B7. It only benefits those in the very south east of Peebles for north or eastbound movements.

7.6.16 The spatial distribution of these benefits across the town of Peebles is shown graphically in Appendix D.

Table 7.9 TEE results - 'High Growth' Scenario (£'000)

Analysis of Monetised Costs and Benefits	'LTE' Scenario					
	B1	B2	B8	B3	B7	B6
Greenhouse Gases	486	394	400	405	380	388
Economic Efficiency: Consumer Users (Commuting)	5,108	3,425	4,139	4,176	3,825	3,363
Economic Efficiency: Consumer Users (Other)	9,271	5,715	7,038	7,022	6,447	5,748
Economic Efficiency: Business Users and Providers	7,690	4,460	5,792	5,780	5,276	4,614
Wider Public Finances (Indirect Taxation Revenues)	-1,030	-838	-849	-858	-804	-734
Present Value of Benefits (PVB)	**21,525**	**13,156**	**16,520**	**16,525**	**15,124**	**13,379**
PVB Uplift	*20%*	*25%*	*23%*	*24%*	*25%*	*97%*
Present Value of Costs (PVC)	**3,812**	**2,831**	**3,174**	**2,935**	**3,071**	**3,080**
Net Present Value (NPV)	**17,713**	**10,325**	**13,346**	**13,590**	**12,053**	**10,299**
Benefit to Cost Ratio (BCR)	**5.6**	**4.6**	**5.2**	**5.6**	**4.9**	**4.3**
Rank	***1***	***5***	***3***	***2***	***4***	***6***

7.6.17 When the high growth scenario is considered, the higher traffic volumes have the effect of increasing the benefits of all the schemes. The extent of this increase is shown as the '*PVB Uplift*' in the table above. In this case Options B1 and B3 produce very similar BCRs although the absolute level of benefits with B1 remains the highest.

7.6.18 It is most notable that the level of benefit associated with B6 almost doubles under this scenario.

Table 7.10 TEE results - 'No Growth' Scenario (£'000)

Analysis of Monetised Costs and Benefits	'No Growth' Scenario					
	B1	B2	B8	B3	B7	B6
Greenhouse Gases	222	202	157	160	137	30
Economic Efficiency: Consumer Users (Commuting)	1,471	1,088	939	972	632	3
Economic Efficiency: Consumer Users (Other)	3,822	2,933	2,458	2,558	1,884	266
Economic Efficiency: Business Users and Providers	2,771	1,971	1,722	1,796	1,215	116
Wider Public Finances (Indirect Taxation Revenues)	-492	-448	-347	-355	-303	-65
Present Value of Benefits (PVB)	**7,794**	**5,746**	**4,929**	**5,131**	**3,565**	**350**
Present Value of Costs (PVC)	**3,812**	**2,831**	**3,174**	**2,935**	**3,071**	**3,080**
Net Present Value (NPV)	**3,982**	**3,167**	**2,007**	**2,196**	**494**	**-2,730**
Benefit to Cost Ratio (BCR)	**2.0**	**2.0**	**1.6**	**1.7**	**1.2**	**0.1**
Rank	***1***	***2***	***4***	***3***	***5***	***6***

7.6.19 The 'no growth' scenario is included to show whether the proposals represent value for money in the hypothetical situation of today's traffic levels being maintained indefinitely. As such this represents something of a 'base case' for appraisal purposes.

7.6.20 In this instance, all the BCRs are much weaker, but B1 and B2 still return strong BCRs of more around two (and most still produce positive BCRs), meaning that these options represent value for money even with today's traffic levels. The case for Option B6 is clearly very weak under this assumption though, ie the 'case' for B6 relies on traffic growth and especially the High Growth scenario which sees more growth in the south east of the town.

7.6.21 To summarise, all the BCRs are shown graphically in Figure 7.18 below.

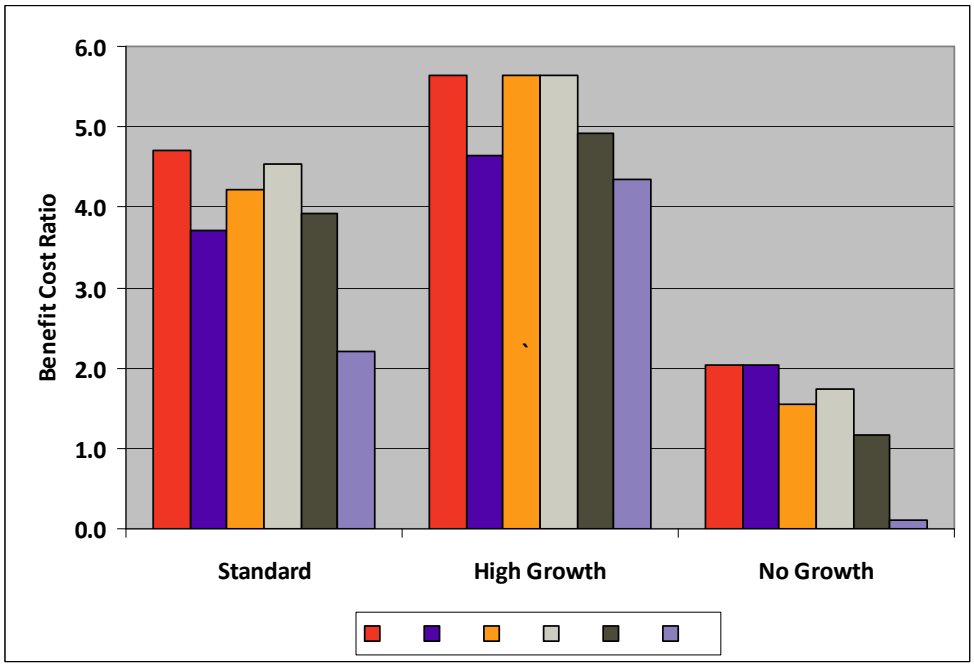


Figure 7.18 Summary of Benefit Cost Ratio results

Local Economic Impacts

7.6.22 One aspect of key economic importance to the town is the local retail / tourism sector. As has been noted Peebles is recognised as having a high quality and varied retail and restaurant / café offering, having won national recognition for this in the past.

7.6.23 Increased traffic levels on the High Street over time could clearly impact on the attractiveness of the High Street area in particular, impeding access and potentially driving potential custom away to other locations. On the other hand, local retailers may voice concerns that taking substantial amounts of traffic away from the High Street would affect passing trade and business 'visibility'. So perhaps a balance is required in this respect.

7.6.24 A new river crossing and the resulting drop in High Street traffic levels would undoubtedly create a major **opportunity** for the town. The 2005 report suggested some ways in which the High Street could be adapted to create a more attractive environment for pedestrians, cyclists and shoppers. It would be important for SBC to fully engage with local retailers and other groups to potentially capitalise on the opportunities presented by a new crossing. This could involve changes to parking arrangements, pavement widening, bus stops, better crossing facilities and general environmental improvements including high quality surfacing, planting etc.

7.6.25 A step change in cross-river south to north and south to east accessibility would have a material impact on the attractiveness of sites to the south of the river in terms of future investment and development. For a town such as Peebles, which is some distance away from other significant employment centres, providing the local infrastructure to develop indigenous businesses is important from a sustainability, as well as social and economic perspective. A new bridge crossing would assist in this aim by '**future-proofing**' the town against the traffic issues which would arise with Tweed Bridge acting as a pinch point on the local network.

7.6.26 As was noted previously, the 2001 Census showed that 50% of local employed adults work in Peebles with 20% working in Edinburgh, so any perceptions that Peebles is mainly a dormitory town for Edinburgh are not borne out by these statistics. Providing the facilities for local companies to grow and offer employment opportunities to Peebles residents is important in maintaining this degree of 'self containment'.

7.6.27 The overall STAG assessment for the Economy criterion is shown in Table 7.11 below.

Table 7.11 Overall STAG Assessment - Economy

Option	Economy
A1 – Improved bus links	-
A2 – Improved cross-river walk / cycle links and network	-
B1 – New Bridge Crossing: Old Rail Alignment	✓✓✓
B2 – New Bridge Crossing: Whitestone Park	✓✓
B8 – New Bridge Crossing: Whitestone Park (east)	✓✓
B3 – New Bridge Crossing: Cavalry Park West	✓✓
B7 – New Bridge Crossing: Cavalry Park to East	✓✓
B6 – New Bridge Crossing: Whitehaugh	✓

7.6.28 The level economic benefits associated with B1 are consistently higher than B8, B3 and B7 which are similar, followed by B2 and B6. However, when the higher cost associated with B1 is taken into account, the gap in terms of value for money (ie Benefit Cost Ratio) narrows significantly.

7.6.29 Improved bus links and improved cross river walk / cycle links are unlikely to generate significant economic benefits.

7.7 STAG Criteria - Safety

7.7.1 The key aspect of safety here is the transfer of traffic away from roads with relatively high accident rates to roads with relatively low accident rates. Any new link would be constructed to current standards, and would, given their location, have low levels of street frontage. As such, their accident rates would be lower than eg High Street and residential streets in Peebles.

7.7.2 Options which maximise this transfer will maximise safety / accident benefits. Table 7.12 below presents the estimated cost savings in terms of reduced accidents.

Table 7.12 Accident reduction benefits (60 years, discounted)

Option	Accident Benefits
B1	£1,185,691
B2	£1,553,140
B8	£1,357,483
B3	£1,393,785
B7	£1,330,364
B6	£625,485

7.7.3 The overall STAG assessment for the Safety criterion is shown in Table 7.13 below.

Table 7.13 Overall STAG Assessment – Safety

Option	Safety
A1 – Improved bus links	✓
A2 – Improved cross-river walk / cycle links and network	✓
B1 – New Bridge Crossing: Old Rail Alignment	✓✓
B2 – New Bridge Crossing: Whitestone Park	✓✓
B8 – New Bridge Crossing: Whitestone Park (east)	✓✓
B3 – New Bridge Crossing: Cavalry Park West	✓✓
B7 – New Bridge Crossing: Cavalry Park to East	✓✓
B6 – New Bridge Crossing: Whitehaugh	✓

7.7.4 The STAG assessment with respect to safety reflects the data presented in Table 7.12.

7.8 STAG Criteria - Integration

7.8.1 No further analysis was undertaken with respect to Integration.

7.8.2 The overall STAG assessment for the Integration criterion reflects the Part 1 Appraisal and is shown in Table 7.14 below.

Table 7.14 Overall STAG Assessment - Integration

Option	Integration
A1 – Improved bus links	✓
A2 – Improved cross-river walk / cycle links and network	✓
B1 – New Bridge Crossing: Old Rail Alignment	✓
B2 – New Bridge Crossing: Whitestone Park	✓
B8 – New Bridge Crossing: Whitestone Park (east)	✓
B3 – New Bridge Crossing: Cavalry Park West	✓
B7 – New Bridge Crossing: Cavalry Park to East	✓
B6 – New Bridge Crossing: Whitehaugh	✓

7.8.3 All options contribute to some extent to the Integration criterion, but this is not a key issue in this study. A new bridge has long been an important part of transport and land use integration proposals within Peebles, whilst the non-bridge options integrate with wider transport strategies.

7.9 STAG Criteria - Accessibility and Social Inclusion

7.9.1 The major potential impact here is on access to the public transport network. Options B3, B8 and B7 in particular would create an opportunity to improve bus services by re-routing the Edinburgh – Peebles – Galashiels no. 62 First Bus service via the new crossing, Kingsmeadows Road, Tweed Bridge and the High Street.

7.9.2 There can be no guarantee that the bus operator would make this service change but it has the potential to make a step change in the catchment for the service which could be attractive to the operator.

7.9.3 Figure 7.19 shows the areas of Peebles south of the river potentially benefitting from shorter walk times to their nearest bus stop for Edinburgh / Galashiels services. It shows the estimated reduction in walk time between the current walk to Eastgate and the potential walk time to the nearest stops shown on the graphic – eg the area shaded dark green sees a reduction in walk time of between 20 and 23 minutes.

7.9.4 Table 7.15 then contains an estimate of the number of people potentially benefitting from these shorter walk times. It can be seen that those to the south east of the town see the biggest reductions.

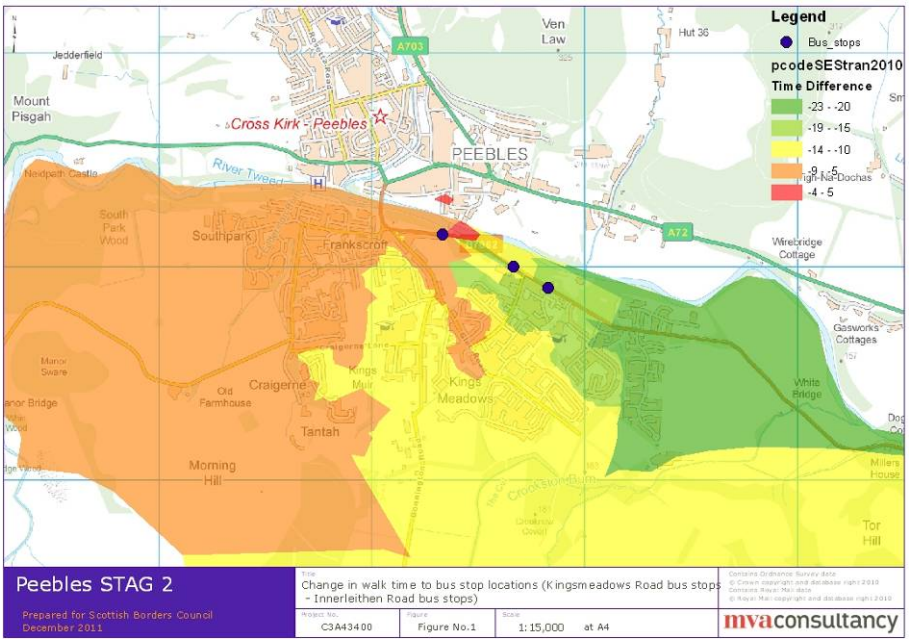


Figure 7.19 Estimated change in walk time to access no. 62

Table 7.15 Residents potentially benefitting from improved access to no. 62

Time Saving	Residents Benefiting
< 5 minutes	70
5 – 9 minutes	1,665
10 to 14 minutes	385
15 to 19 minutes	450
20 to 23 minutes	275

7.9.5 Figure 7.19 and Table 7.15 therefore confirm that significant numbers of Peebles residents would benefit from very much reduced walk times to access the service 62 bus if it were diverted via a new crossing (B3, B8, B7) to Kingsmeadows Road. In this respect, Option B7 perhaps provides the most natural, shortest alignment.

7.9.6 The overall STAG assessment for the Accessibility and Social Inclusion criterion is shown in Table 7.16 below.

Table 7.16 Overall STAG Assessment – Accessibility and Social Inclusion

Option	Accessibility and Social Inclusion
A1 – Improved bus links	✓✓
A2 – Improved cross-river walk / cycle links and network	✓
B1 – New Bridge Crossing: Old Rail Alignment	-
B2 – New Bridge Crossing: Whitestone Park	-
B8 – New Bridge Crossing: Whitestone Park (east)	✓
B3 – New Bridge Crossing: Cavalry Park West	✓
B7 – New Bridge Crossing: Cavalry Park to East	✓
B6 – New Bridge Crossing: Whitehaugh	-

7.9.7 The scoring here reflects the potential for each alignment to provide an opportunity for the re-routing of bus services. The scoring for A1 and A2 is carried over from the Part 1 Appraisal.

7.10 Risk and Uncertainty

7.10.1 There are a number of key issues here associated with risks and uncertainty.

Risks

7.10.2 One clear risk is to do nothing. If a second crossing is not planned for now, in all probability the time will come when the town is badly affected by localised congestion and traffic problems associated with the current crossing. If provision has not been made and no clear preferred route established, the town would suffer a number of years of congestion until a new crossing was in place. The flipside of this risk would be to plan and build a bridge which is not in the end required. However the analysis here has indicated that a bridge built today would represent value for money, minimising this risk.

7.10.3 There are also engineering and construction risks associated with these proposals, with particular respect to flooding. A detailed flood risk assessment would be required in the case of all six options, and flood mitigation measures would be essential as these areas are undoubtedly prone to flooding from the River Tweed.

Uncertainties

7.10.4 The main uncertainties are economic. The significant uncertainties facing the national economy affect (i) prosperity and the (ii) rate of development / building, both of which are key underlying factors affecting any traffic forecasts. A prolonged period of low or no growth will have a profound effect on personal prosperity with a period of falling real incomes anticipated by most forecasters. This will affect both the propensity to travel by car and car ownership levels in future. One effect of this could be that the requirement for a second river crossing in Peebles is delayed for a number of years.

7.10.5 Nevertheless, we have seen that cross river traffic levels have continued to grow in the face of falling traffic nationally in recent years. This could be due to Peebles' relative prosperity as measured by a number of key indicators compared to other parts of the country. If this trend continues, then pressure for a second crossing would grow. In this respect it is of key importance that SBC continue to monitor traffic levels in the town and on Tweed Bridge at regular intervals – at least annually. This would allow this key trend to be closely monitored and provide a rational basis for future decisions regarding timing.

7.10.6 At present SBC has no provision in its capital budget to fund any new river crossing in Peebles. In addition, Scottish local authorities are facing a prolonged period of restricted budgets and it would seem unlikely that funding for such a scheme would be available in the short term.

7.10.7 The economic downturn has also affected house building which has slowed markedly since the financial crisis of 2008 and the subsequent recession. The ongoing uncertainty therefore impacts on the ability to plan meaningfully for developer contributions as a source of potential funding for any new infrastructure project.

7.10.8 So in summary the main uncertainties are:

- future traffic growth levels; and
- availability of funding for any new bridge crossing.

7.11 Monitoring and Evaluation

7.11.1 As has been noted, in the short and medium term, traffic levels should be monitored to gauge progress towards capacity being reached on Tweed Bridge.

7.11.2 Should any proposals be taken forward the following should be monitored to facilitate evaluation of the scheme in future:

- Traffic levels on the local network – did the scheme achieve what it was setting out to do?;
- High Street retail activity –has the scheme contributed to the economic well being of Peebles;
- Housing completion and business activity – has the scheme contributed to the economic well being of Peebles;
- Other local initiatives – have the opportunities presented by the scheme been maximised?; and
- Public opinion – has the scheme been regarded as a success locally?

7.12 Overview of Part 2 Appraisal

7.12.1 Tables 7.17 and 7.18 contain a detailed summary of the assessment of the options against the Transport Planning Objectives and the STAG criteria respectively.

7.12.2 Table 7.19 then provides a summary assessment of the performance of each options against the Transport Planning Objectives and the STAG criteria using the seven point STAG scale: Major benefit (✓✓✓); Moderate benefit (✓✓); Minor benefit (✓); No benefit or impact (-); Small minor cost or negative impact (×); Moderate cost or negative impact (××); and Major cost or negative impacts (×××).

Table 7.17 Performance of Options Against Transport Planning Objectives

	Improved Bus Services	Walking & Cycling networks	B1	B2	B8	B3	B7	B6
to ensure that traffic demand on Tweed Bridge and its junctions does not exceed capacity and act as a constraint on the economic and general development of the town	Unlikely to create a big enough modal shift in the face of traffic growth – maybe 1-2 years of growth offset	Unlikely to create a big enough modal shift in the face of traffic growth – maybe 1-2 years of growth offset	The Reference Case forecast suggests that Tweed Bridge will have reached its operational capacity in the peak hours by the 2019 forecast year – assuming full build out of the existing local plan allocations. All bridge options meet the objective of keeping Tweed Bridge traffic levels below capacity throughout the forecast period (2032). However, the extent of traffic reductions on Tweed Bridge resulting from the new crossings diminishes moving from west to east, ie B1 to B6. In 2019, B1 is forecast to reduce traffic levels on Tweed Bridge by 60% from present day levels, reducing to 35% for B2, 20% for B8, B3 and B7, whereas B6 would see traffic on Tweed Bridge increase slightly from the present day.					
to ensure that the town develops based on sustainable travel behaviour in the medium to long term	Better bus services could encourage some switch to more sustainable modes	Better walking and cycling networks and facilities could encourage some switch to more sustainable modes	Providing new road capacity on this scale would in general encourage more car use in the medium terms, so none of the bridge options can be seen positively in this respect. However, the more easterly alignments, and especially B3 and B7 would create an opportunity to re-route the Edinburgh – Peebles – Galashiels bus (no. 62) to serve the area south of the Tweed, where at present, residents have to walk to Eastgate to access this service. This would represent a step change in access to public transport and would encourage more sustainable travel. Alignments which improve cross town connectivity in terms of walking and cycling (most notably B2 and B8) could also encourage more sustainable travel patterns, especially if promoted within the town.					
to maintain the vitality of Peebles as a retail and visitor attraction	Limited positive impact in terms reducing town centre traffic levels, but better local buses could encourage more to access the town centre more often.	Some positive impact if greater town centre footfall results – unlikely to significantly affect traffic levels	Peebles High Street is the focus of the town's retail and pub / café / restaurant offering. The attractiveness of this location / environment to residents and visitors would diminish with increasing traffic levels. This would affect parking and pedestrian activity. The re-routing of *too much* traffic away from the High Street could however be a concern to local retailers. The removal of traffic from the High Street would create a major opportunity for the town to potentially re-allocate road-space and implement environmental improvements which could be beneficial in improving the vitality and attractiveness of the High Street for pedestrians.					
to widen the range of travel opportunities available to the residents of Peebles	Could create new opportunities but only on existing routes	Any new pedestrian / cycle bridge would widen opportunities locally	Option B1 essentially duplicates the current footbridge route in terms of pedestrian access so does the least in terms of widening travel opportunities. Options B2 and B8 would provide significant new meaningful connectivity for pedestrians and cyclists. Options B7 and B3 would create the best opportunity for the re-routing of bus services, which would open up new travel opportunities for those living or working south of the Tweed in Peebles.					
to reduce reliance on Tweed Bridge as the only river crossing for motorised traffic in the town	No impact as buses are also reliant on Tweed Bridge	No impact on motorised traffic	All bridge options would clearly provide a local alternative to Tweed Bridge in the event of its closure. Option B1 would provide the most obvious 'substitute' bridge to Tweed Bridge given its location. A second crossing would also provide an alternative route to / from the south during times when Peebles High Street is closed due to events.					

Table 7.18 Performance of Options Against STAG Criteria

	STAG Criteria	B1	B2	B8	B3	B7	B6
Environment	Property	Very significant construction and operation impacts on properties on Innerleithen Road, Tweed Avenue and Walkers Haugh.	Less significant impact – potentially close to Priors Reach at the south end.	Proximity to properties at the west of Kerfield House – although these are separated by a belt of mature trees. Some proximity to Cavalry Park.	Very close proximity to properties at the east of Kerfield House and some proximity to Cavalry Park.	Impacts on Kerfield farm and some proximity to Cavalry Park.	Impacts on Kerfield farm only
	Biodiversity and habitats	Removal of significant green corridor – wide ranging impacts	Removal of mature trees at south end	Woodland impacts at south end of route	Loss of mature trees at south end	Loss of mature trees at south end	Less significant impact
	Amenity	Crossing of River Tweed Path. Also impact on allotments.	Loss / severance of green & sports space in Whitestone Park. Crosses River Tweed Path.	Loss of green & sports space in Kerfield Park. Crosses River Tweed Path.	Crossing of River Tweed Path.	Crossing of River Tweed Path.	Crossing of River Tweed Path.
	Visual Impact and Landscape	Very significant visual impact along the line of the route and at the river crossing although it has been a transport corridor in the past. Wholly in Peebles conservation area.	Very significant loss of high amenity green area. Impacts on properties on Innerleithen Road and visible to traffic from A72. Wholly in Peebles conservation area.	Significant loss of high amenity green area. Visual Impacts on properties on Innerleithen Road and visible to traffic from A72. Wholly in Peebles conservation area.	Further from town centre so less impacting on the fabric of the town. Local visual impacts. Visible to traffic from A72. Partly in Peebles conservation area.	Further from town centre so less impacting on the fabric of the town. Local visual impacts. Visible to traffic from A72. Partly in Peebles conservation area.	Further from town centre so less impacting on the fabric of the town. Local visual impacts. Visible to traffic from A72.
	Flooding	All potential alignments would run in a flood risk area and detailed risk assessments and mitigations would be required					
	Safety (£'000)	£1,185	£1,553	£1,357	£1,393	£1,330	£625
Economy[18]	PVB (£'000)	17,952	10,499	13,422	13,301	12,065	6,787
	PVC (£'000)	3,812	2,831	3,174	2,935	3,071	3,080
	NPV (£'000)	14,140	7,668	10,248	10,366	8,994	3,707
	BCR	4.7	3.7	4.2	4.5	3.9	2.2
	Integration	No significant impacts					
	Accessibility & Social Inclusion	No Impact	No Impact	Potential step change in access to bus services	Potential step change in access to bus services	Potential step change in access to bus services	No Impact

[18] 60 years, discounted to 2002 values and prices

Table 7.19 STAG Part 2 Appraisal Against Transport Planning Objectives & STAG Criteria

	Transport Planning Objectives					STAG Criteria					
Option	**TPO 1:** to ensure that traffic demand on Tweed Bridge and its junctions does not exceed capacity and act as a constraint on the economic and general development of the town	**TPO 2** to ensure that the town develops based on sustainable travel behaviour in the medium to long term	**TPO 3:** to maintain the vitality of Peebles as a retail and visitor attraction	**TPO 4:** to widen the range of travel opportunities available to the residents of Peebles	**TPO 5:** to reduce reliance on Tweed Bridge as the only river crossing for motorised traffic in the town	**Environment**	**Safety**	**Economy**	**Integration**	**Accessibility & Social Inclusion**	**Costs to Government**
A1 – Improved bus links	✓	✓	✓	✓✓	-	✓	✓	✓	✓	✓✓	×
A2 – Improved cross-river walk / cycle links and network	✓	✓	✓	✓	-	×	✓	-	✓	✓	×
B1 – New Bridge Crossing: Old Rail Alignment	✓✓✓	-	✓	-	✓✓✓	×××	✓✓	✓✓✓	✓	-	×××
B2 – New Bridge Crossing: Whitestone Park	✓✓	✓	✓	✓	✓✓✓	×××	✓✓	✓✓	✓	-	××
B8 – New Bridge Crossing: Whitestone Park (east)	✓✓	✓	✓✓	✓✓	✓✓✓	××	✓✓	✓✓	✓	✓	××
B3 – New Bridge Crossing: Cavalry Park West	✓✓	✓	✓✓	✓✓	✓✓✓	××	✓✓	✓✓	✓	✓	××
B7 – New Bridge Crossing: Cavalry Park to East	✓✓	✓	✓✓	✓✓	✓✓✓	×	✓✓	✓✓	✓	✓	××
B6 – New Bridge Crossing: Whitehaugh	✓	-	-	✓	✓✓	×	✓	✓	✓	-	××

7.13 Overall Assessment of Options

7.13.1 The key point here is that traffic levels on Tweed Bridge have continued to grow during the economic downturn, despite a national picture of declining traffic levels since 2007. General traffic levels would be expected to resume a growth path nationally when the economic recovery is established, and this, coupled with local factors means that peak hour traffic levels on Tweed Bridge would be expected to reach theoretical capacity around 2020. At this point, traffic conditions will deteriorate in the Tweed Bridge area with increasing regularity and severity and this would begin to act as a constraint on the future development and prosperity of the town. However, there is significant uncertainty surrounding these forecasts, and SBC should closely monitor traffic levels on Tweed Bridge in the coming years to monitor this key trend.

7.13.2 In addition, the level of development south of the River Tweed is clearly a key factor in influencing this pace of cross-river traffic growth. The modelling work undertaken here confirms that the development of a High Growth scenario creates a step change in congestion on the network and Tweed Bridge / High Street in particular. This would suggest that these longer term sites, subject to review should not be progressed without the provision of a second bridge crossing.

7.13.3 It should be noted that STAG does not provide a quantitative overall 'scoring' system for the assessment of options. Instead the performance of the options against the Objectives set and the STAG criteria provide a systematic means to provide decisions makers with the information required to make informed and balanced decisions which reflect the local context.

Non Bridge Options

7.13.4 The two main alternatives to a new bridge would be improved bus services and improved walking / cycling networks. On their own, these options make only a very modest contribution to the Transport Planning Objectives, and fundamentally do not meet the objective of reducing reliance on a single vehicular crossing. In addition, these measures in themselves would be very unlikely to have the strategic impact that a second river crossing would bring in terms of the long term development and sustainability of the town.

7.13.5 It should however be noted that some of the bridge options do not perform well against the sustainability transport planning objective. If any of these options are taken forward, they should be complemented by wider policy initiatives aimed at eg promoting walking / cycling and / or improving public transport in the town in order to contribute to meeting this objective.

Option B1 – Old Railway Alignment

7.13.6 Option B1 performs well in terms of **Economy** but poorly in terms of **Cost to Government** and **Environment**. As such, this Option is the most expensive of the six in terms of capital cost and would have the greatest impact on the fabric of the town, affecting a significant number of properties and amenities, as well as having significant ecological impacts. As such it is the worst of the options from an Environmental perspective.

7.13.7 However, it does provide the highest level of economic benefits and comparable value for money (in terms of benefit cost ratio) with other options, as well as having the most significant impacts on traffic patterns in Peebles, with around 70% of cross-river traffic being forecast to re-route to this new crossing. Impacts on **Safety** and **Integration** are similar to other options. It would provide no significant impact in terms of **Accessibility and Social Inclusion**.

7.13.8 It can be argued that other options also meet the main transport planning objectives (ie maintaining the function of Tweed Bride) at lower capital cost without this level of intrusion in the town's Conservation Area and the associated environmental and property impacts.

Option B2 – Whitestone Park

7.13.9 In terms of the STAG criteria, Option B2 scores similar to B1, with a lower score for **Economy**. As such the same arguments apply but the economic case is weaker for this option.

7.13.10 In addition, Option B2 was the least favoured of the six options presented at the public consultation exhibition. The proposed route would be intrusive and result in a significant loss of green / sports space in Whitestone Park, severing the local rugby, cricket and football grounds.

Options B8 (Whitestone Park East) / B3 (Cavalry Park West) and B7 (Cavalry Park to East)

7.13.11 These three options result in very similar scores in terms of the STAG criteria, with B7 performing slightly better due to its better **Environment** score. Overall these three perform better than Options B1 and B2. In terms of **Economy** and traffic impacts, these three options are broadly similar, with each forecast to account for around 40% of cross river traffic. **Costs to Government** are also similar. There are significant differences in terms of **Environment** though. Option B8 would result in the loss of green / sports space at the east of Kerfield Park (and impact on properties there and the Kingsmeadows Estate) and Option B3 would run very close to properties at its northern end. Option B7 presents less significant property and environmental impact. This option also provides the most 'natural' alignment for a re-routing of the 62 bus service, but this routing could generally apply to all three options here, so all score a minor benefit on **Accessibility and Social Inclusion**. The scale of **Safety** impacts is similar to B1 and B2.

Option B6 (Whitehaugh)

7.13.12 Option B6 was initially sifted out at Part 1 stage as being too far to the east to materially influence the town's traffic patterns in any significant way. This has generally been confirmed by the Part 2 Appraisal and this option produces relatively low benefits and poor value for money compared to the others in terms of **Economy**. In the longer term, traffic levels on Tweed Bridge would also grow towards capacity with this option, as only a quarter of cross-river traffic would divert to use this crossing. However, this option did generate greater benefits with the High Growth scenario in place and this does have the least significant impacts in terms of **Environment**. The low level of traffic diverted to this crossing results in a lower **Safety** score, and this alignment may prove too much of a potential diversion for bus services resulting in a low score for **Accessibility and Social Inclusion**.

Summary

7.13.13 Assessing the options across the range of Transport Planning Objectives and STAG criteria, it is clear that Options **B8, B3 and B7** therefore provide the best fit with the objectives and the STAG criteria.

Planning Context

7.13.14 The selection of an option towards the east would be consistent with a strategic planning context which continues to favour south east Peebles as an area for future commercial and residential development.

8 Summary, Conclusions and Next Steps

8.1 Summary and Conclusions

8.1.1 This study has considered a range of options to address the traffic issues which are likely to arise in Peebles as the town continues to grow in the future. A STAG-based pre-appraisal, Part 1 Appraisal and Part 2 Appraisal have been undertaken, the latter based in part on a bespoke traffic forecasting and modelling exercise to place the assessment on a quantitative footing in the key aspects.

8.1.2 The study has shown that the capacity of Tweed Bridge will be reached with the build out of the current Local Plan by around 2020. Beyond this, traffic issues associated with Tweed Bridge and the town centre could begin to act as a constraint on economic development in the town. A total of eight potential new bridge options were considered and appraised in terms of the Transport Planning Objectives that were set and the STAG criteria. Other measures were considered but only a new crossing was seen to meet the long term strategic development needs of the town, should traffic continue to grow in the Tweed Bridge area.

8.1.3 In very broad terms, moving from west to east, the potential alignments have less significant environmental impacts but also provide poorer value for money and reduced traffic impacts. However, importantly all options except Option B6 (Whitehaugh) do meet the basic objective of future-proofing Tweed Bridge traffic levels whilst returning a positive and indeed high benefit cost ratio.

8.1.4 The appraisal against the Transport Planning Objectives and the STAG criteria suggests that of the bridge options considered, Options **B8, B3 and B7** provide the best balance in terms of meeting these objectives.

8.1.5 However, average traffic conditions in the present day are generally sustainable (albeit that there is an economic case for a new bridge based on current traffic levels), and as noted below the current economic climate means that there is considerable uncertainty surrounding any forecast. As such, a prolonged period of reduced economic activity could mean that a new bridge is not actually required for many years.

8.2 Next Steps

8.2.1 Any assessment process of this nature inevitably creates uncertainties, particularly for residents potentially affected by the proposed road and bridge alignments. As such, it is recommended that SBC:

- commit to closely monitor and make available Tweed Bridge / High Street traffic levels to gauge progress towards the capacity of Tweed Bridge;
- consult further with Peebles residents and stakeholders using the evidence base provided by this report to determine an acceptable preferred corridor – the assessment would suggest that options **B8, B3 and B7** should form the basis for this corridor;
- consider flooding related issues in relation to these proposals in the light of recent detailed work undertaken by SBC; and

- seek to protect the preferred corridor through the Local Development Plan process and use this Corridor as a means to plan for and influence the future sustainable development of the town.

Public Acceptability

8.2.2 Public acceptability is clearly of key importance and it is important that a local consensus is achieved to allow the proposals to progress with broad public support. All of the possible bridge alignments have the potential to impact on the town's amenities and residential properties to a greater or lesser extent, (although this impact broadly diminishes moving from west to east) and a number of groups have been formed in Peebles to campaign for or against certain outcomes.

8.2.3 At this stage public concerns are generally limited to those potentially directly affected by particular alignments. As noted above, SBC should use the evidence base provided by this study to engage further with these groups to establish a preferred corridor as soon as possible to minimise ongoing uncertainty for these groups and other concerned residents.

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