Executive Summary

E.1 Introduction

E.1.1 The Edinburgh Orbital Bus Project (EOBP) was conceived as an important measure to link a number of key transport interchanges and employment areas in the vicinity of Edinburgh, thereby addressing two key issues in the SEStran Regional Transport Strategy (RTS):

- the requirement to provide enhanced transport links between the expanding employment areas to the West and South of Edinburgh and areas with expanding population to the East; and
- make these areas more accessible to those reliant on public transport.

E.1.2 Halcrow were appointed by South East Scotland Transport Partnership (SEStran) in September 2007 to undertake a feasibility study of the EOBP, identify and assess potential demand for the service and carry out a STAG Part 1 Appraisal for the scheme.

E.1.3 Subsequent to the release of this report, Scott Wilson was appointed to carry out a STAG Part 2 Appraisal of the EOBP. This analysis is the function of this report, which takes the outputs from the previous Part 1 study towards a more rigorous level, evaluating options against the identified planning objectives and the Government's five main objectives. In addition, more detailed costs analysis and demand modeling has been undertaken to provide a reasonable business case appraisal of the proposal.

E.2 Option Development

E.2.1 The STAG Part 1 Appraisal looked at 7 options and concluded that a highly segregated bus rapid transit (BRT) system would provide the highest levels of benefits. Two alignments were taken forward, which were:

- northern alignment from Newbridge to Queen Margaret University via the Edinburgh Royal Infirmary (later renamed Route A); and
- southern alignment from Newbridge to the proposed new park-and-ride site at Millerhill via Sheriffhall (later renamed Route B).

E.2.2 However, after more technical analysis and demand modelling, a third route was later identified (called Route C). This followed most of the sections from Route B as far as Sheriffhall but in stead of ending at Millerhill P&R, it diverted through the proposed new developments through the Shawfair area to the Edinburgh Royal Infirmary where it ended.

E.2.3 Transport modelling was undertaken using the Transport Model for Scotland version 05a (TMfS:05a) to estimate bus patronage and other key indicators for the three route options. The modelling process was subject to a number of iterative stages, looking at different variations in infrastructure (e.g. use of existing or planned hard shoulders, stopping patterns, etc) and service/ticketing strategies (e.g. bus frequencies, fare levels, etc) with a view to identifying the optimum arrangements for each route alignment.

E.2.4 The results of the modelling identified the four best performing options, which are illustrated in Table E.1. This shows the best performing option for Route A, two variations for Route B (dependent on proposed hard shoulder improvements being pursued by Central Government) and the best option for Route C.

Table E.1: Scheme Descriptions

Option	Option Name	Comments	Level of Services	Fare Type
A5	Northern Alignment	Hard Shoulder (along the A720)	12bph Peak : 6bph Interpeak	Flat
B17	Southern Alignment	Hard Shoulder (using most of the A720 but with part of the middle section segregated / off-line)	12bph Peak : 6bph Interpeak	3-Stages
B18	Southern Alignment	Hard Shoulder (along the A720)	12bph Peak : 6bph Interpeak	3-Stages
C5	Shawfair Alignment	Hard Shoulder (along the A720)	12bph Peak : 6bph Interpeak	Flat

E.2.5 Alignment plans and junction arrangement layout drawings were prepared, along with capital and operating/maintenance costs, for each option. These are described in a separate Pre-Feasibility Report. These have been used to assist with this STAG Part 2 Appraisal.

E.3 Summary of the STAG Part 2 Appraisal Results

E.3.1 A STAG Part 2 Appraisal was carried out to evaluate each option against the Government's five objectives for transport. Additionally, after consultation with some of the key stakeholders, five local planning objectives were identified as being worthy of testing each option, to highlight the regional level of impacts. The appraisal also considered each option against other issues such as technical, operations, costs to the public sector and public acceptability. The results of these are summarised in Table E.2 below.

Table E.2: Summary of STAG Assessment

Criteria		Option			
		A5	B17	B18	C5
Local Planning Objectives	Objective 1 – RTS Mode Shift	✓✓	✓✓	✓✓	✓✓
	Objective 2 – RTS Environmental	✓✓	✓	✓	✓✓
	Objective 3 – Service Integration	✓✓	✓	✓	✓✓
	Objective 4 – Service Accessibility	✓✓	✓	✓	✓✓
	Objective 5 – Improved PT Times	✓✓	✓	✓	✓✓✓
Government's Objectives	Environment – Air Quality & noise	✓✓	✓	✓	✓✓
	Environment – Other	✗✗✗	✗	✗	✗✗✗
	Safety	✓	✓	✓	✓
	Economy	✓✓	✓✓✓	✓✓✓	✓✓
	Integration	✓✓	✓✓	✓✓	✓✓
	Accessibility/Social Inclusion	✓✓✓	✓✓✓	✓✓✓	✓✓✓
Other Issues	Technical Issues	✓	✓✓	✓✓✓	✓
	Operational Aspects	✓✓✓	✓✓✓	✓✓✓	✓✓✓
	Public Acceptability	✓✓✓	✓✓✓	✓✓✓	✓✓✓
	Cost to Government	✗✗✗	✗	✗	✗✗✗

Key:

✓✓✓	Major Beneficial Impact	✗	Minor Adverse Impact
✓✓	Moderate Beneficial Impact	✗ ✗	Moderate Adverse Impact
✓	Minor Beneficial Impact	✗ ✗ ✗	Major Adverse Impact
O	Neutral Impact		

E.4 Conclusion and Recommendations

E.4.1 The results show that the options are all very close in terms of meeting the STAG Part 2 requirements. However, Options B17 and B18 (the south alignment to the Millerhill P&R site) present the best economic performances of the four short-listed options. Of these two, Option B18 takes less land and therefore would expect to have less in the way of environmental impacts. Hence, our recommendation is therefore to look at these two options in more detail. Option B18 should be considered as the preferred option, and option B17 would be the fallback solution. Hence, our recommendation is to develop further both options and take them forward into a detailed design.