The Moray Council

Elgin STAG Part 2 Summary Report May 2007

Halcrow Group Limited

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The Moray Council Elgin STAG Part 2 Summary Report

Contents Amendment Record

This report has been issued and amended as follows:

Issue	Revision	Description	Date	Signed

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1 Introduction

1.1 Background

1.1.1

Moray is peripheral within Scotland, and even more so within the UK and Europe. The creation of an effective transport network that promotes efficient local and regional movements is therefore a critical factor for the competitive performance of the Moray economy. This is especially important within Elgin, which is the principal administrative and commercial centre of the Moray area. Elgin provides residence to approximately 23% of Moray's population and a significant share of the areas jobs and employment opportunities are located in the area. The populations of Moray and Elgin are largely dependent on the private car to access work, leisure, community services and activities. The A96 and the A941 are the main strategic routes that connect Elgin to the wider region. The A96 is a trunk road and is therefore managed by Transport Scotland on behalf of the Scotlish Executive. The A941 is not designated as a trunk road and is therefore managed an maintained by The Moray Council.

1.1.2 In February 2006, The Moray Council appointed Halcrow Group Limited to provide Professional Transportation Services. As part of this framework, Halcrow was tasked with the development of a micro-simulation transport model of Elgin (VISSIM Transport Model) and to use this model to complete a multi modal study to appraise options to alleviate a number of transport problems facing Elgin. This involved moving through a Pre-appraisal, STAG Part 1 appraisal and a STAG Part 2 appraisal. The methodology adopted is consistent with Scottish Transport Appraisal Guidance (STAG) with no single mode or project preferred prior to analysis. Scottish Transport Appraisal Guidance provides a tool that helps planners arrive at a value for money solution(s) to identified transport problems. This involves moving through a number of complementary phases:

- 1. Pre-Appraisal identifying problems, issues and constraints and defining the planning objectives
- 2. Part 1 Appraisal the identification and sifting of options
- 3. Part 2 Appraisal a comprehensive appraisal of options that emerge from stages (1) and (2).

1.1.3 Adopting this approach provides decision makers with the information and evidence necessary to select a preferred option with a degree of confidence that the

investment will help solve the transport problem(s). It is within this context that the Halcrow Group has been working with Moray Council to identify a range of transport options.

This report summarises the analysis contained within the main STAG Part 2 Appraisal report and complements other key reports produced during the STAG appraisal process. This includes a STAG Part 1 report, an Elgin VISSIM Microsimulation Model Option Testing Report and an Environmental Report. This completes the appraisal process and gives to The Moray Council the necessary detail required to make an informed decision, about how best to respond to the current and future transport issues, problems and constraints facing Elgin identified at the beginning of the appraisal process.

1.1.4

2 Pre-Appraisal

2.1 Background

- 2.1.1 In order to generate a clear view of the range of problems, issues and constraints, a pre-appraisal workshop was set up with a broad spectrum of stakeholders. This workshop and the views of invitees would play a key role in informing the appraisal process. The workshop participants were asked to identify what they perceived to be the underlying problems relating to the existing transport network in Elgin.
- 2.1.2 The second stage of the STAG pre-appraisal process involved 'Objective Setting'. Having established a comprehensive list of perceived problems, issues and constraints and the key themes for the area of Elgin, it was agreed that the key themes would be used to determine a key planning objective for the study. The key planning objective was proposed in the following terms:

"to provide a quicker, safer and more reliable transport system in and around Elgin while accommodating future development."

- 2.1.3 Having established the transport problems, issues and opportunities and a key planning objective, the workshop attendees were invited to suggest possible solutions. The solutions proposed were grouped into the following key themes.
 - Public Transport
 - Traffic Management
 - Link and Junction Improvements
 - Travel Planning and Information
 - Parking

3 STAG Part 1 Appraisal

3.1 Background

3.1.1 A STAG Part 1 appraisal was completed to identify whether all or some of the 'key themes' should be taken forward for further analysis and option testing. The STAG Part 1 appraisal concluded that the Traffic Management and Link and Junction Improvement themes were complementary to the key planning objective and sub-objectives established by the stakeholders.

3.1.2 The VISSIM microsimulation model was used to test twenty options under the "Traffic Management" and "Link and Junction Improvement" themes to help determine which of the options should be taken forward for more detailed analysis. The quantitative outputs from the VISSIM Model showed which options produced greater impacts on average vehicle speed and the total travel hours across the Elgin road network. The model results were used to identify options that produced positive impacts on vehicle speed and total travel hours and that were consistent with the key planning objective. Seven options 'passed' the Part 1 Appraisal and were taken forward to the STAG Part 2 appraisal stage. A detailed report prepared by Halcrow (Elgin VISSIM Microsimulation Model STAG Option Testing Report) sets out the results produced for each of the twenty options tested.

4 STAG Part 2 Appraisal

4.1	Background				
4.1.1	The options are appraised against the government's five key transport objectives; Economy, Environment, Safety, Accessibility & Social Inclusion and Integration				
		STAG Part 2 appraisal phase are outlined below:			
	• Option A - Wittet Drive Link				
	Option B - Morriston Road Link				
	• Option C - Bypass North Alignment				
	• Option D - Bypass South Alignment (short)				
	• Option E - Bypass South Alignment (long)				
	• Option F - Southern Distributor Route + Wittet Drive Link				
	• Option G - Southern Distributor Route + Morriston Road Link				
4.1.2	The Do-minimum scenario includes all committed road schemes and committed				
	developments planned in the study area but not yet implemented. The do-				
	minimum scenario reveals a significant increase in traffic and reductions in average				
	vehicle speed over the period 2006-2012. Comparisons between 2006 and 2012				
	were used to demonstrate the impact of the do-minimum scenario. This showed				
	significant traffic growth in the AM and PM peak periods and during the Saturday				
	peak period with greater levels of congestion emerging in 2012 when compared to				
	2006. It was clear that the 'do-minimum' option would not mitigate the traffic				
	problems currently being experienced in Elgin. Avoiding this outcome required a				
	number of 'do-something' options to be developed and appraised. When				
	compared to the do-minimum scenario Options A to G improved traffic flow and				

were consistent with the key planning objectives established by stakeholders. This report therefore appraises, in detail, the seven options that 'passed' the STAG Part 1 Appraisal.

Option A Wittet Drive Link

4.1.3

Option A. This option links Edgar Road to the A96 near Wittet Drive. The key features of this network are as follows and are shown below.

- Extend Edgar Road to a new roundabout approximately 185m beyond the entrance to the primary school. This roundabout to provide access to zones 129 (South of Bilbohall Farm) and 130 (West of Hardhillock Avenue). These zones1 relate to potential development sites.
- Create a new link from the roundabout to run northbound, parallel with The Wards. This new link would provide access to zones 129 (South of Bilbohall Farm) and 127 (Adjacent to Bilbohall Farm) to the West via priority junctions with ghost islands.
- A new railway bridge to be constructed where the link crosses the rail line and a subsequent priority junction to be designed where this meets Wards Road, Wittet Drive and Fleurs Road.
- Wittet Drive to be diverted slightly west to join the A96 at a roundabout adjacent to Sheriffmill Road.
- The previous alignment of Wittet Drive to be stopped short of the A96 and signals to be replaced by new roundabout junction.
- Speed limit on new link to be set at 30mph.
- All links in this option are single carriageway and both roundabouts flare to two lane approaches on all arms from 15-20m back. Roundabouts have two lane circulation.

¹ These zones relate to development zones.



Layout of Option A – Wittet Drive Link

Option B – Morriston Road Link

Option B. This option links Edgar Road with the A96 at Morriston Road by partially following the alignment of the proposed Southern Bypass Route. The key features of this network are as follows and are shown below.

- Extend Edgar Road approximately 650m to the West of the primary school access. Link this extension with Pluscarden Road and on to the A96 at Morriston Road.
- Access to zones 129 (South of Bilbohall Farm) and 130 (West of Hardhillock Avenue) to be provided by priority junctions from Edgar Road extension.
- Access to zone 131 (West of Sheriffmuir Road) to be provided by priority junction approximately 60m South of the A96.
- A new roundabout to be constructed at the junction of the A96, Morriston Road and the new link.
- A new roundabout to be constructed at the junction of Pluscarden Road and the new link.
- Speed limit for new link to be set at 40mph.
- All links in this option are single carriageway and both roundabouts flare to two lane approaches from 15-20m back. The exception is the A96 approaches to the Morriston Road roundabout which have longer flares due to the existing infrastructure being utilised. Roundabouts have two lane circulation.

4.1.4



Layout of Option B - Morriston Road Link

Option C – Bypass North Alignment

Option C. This option implements a bypass to the North of Elgin with intersections at Duffus Road and the A941 North of Bishopmill. The key features of this network are as follows and are shown below.

- New roundabout on A96 West of Elgin to allow traffic to access bypass.
- No connection at crossing of Brumley Brae.
- New roundabout at Duffus Road to allow access to bypass in both directions.
- No connection at crossing of Covesea Road.
- New roundabout at A941 North of Bishopmill to allow access to bypass in both directions.
- No connection at crossing of Linksfield Road.
- No connection at crossing of Pitcaveny Road.
- No connection at crossing of Calcots Road.
- New roundabout on A96 East of Elgin to allow traffic to access bypass.
- Bypass modelled as a single 3.5m lane in each direction.
- Roundabouts modelled with two lane flares of 25-30m on all approaches

4.1.5



Layout of Option C – Bypass North Alignment

Option D – Bypass South Alignment (Short)

Option D. This option implements a bypass to the South of Elgin with intersections at the A941 south of Elgin, the Edgar Road extension and the A96 at Morriston Road. The key features of this option are as follows and are shown below.

- New roundabout on A96 West of Elgin at junction with Morriston Road to allow traffic to access bypass.
- No connection at crossing of Pluscarden Road.
- New roundabout at Edgar Road extension to allow access to bypass in both directions.
- New roundabout at A941 South of Elgin to allow access to bypass in both directions.
- No connection at crossing of Linkwood Road.
- New roundabout on A96 East of Elgin to allow traffic to access bypass and Business Park.
- Bypass modelled as a single 3.5m lane in each direction.
- Roundabouts modelled with two lane flares of 25-30m on most approaches.

4.1.6



Layout of Option D - Bypass South Alignment (short)

Option E – Bypass South Alignment (long)

Option E. This option implements a bypass to the South of Elgin with intersections at the A941 south of Elgin, the Edgar Road extension and the A96 to the East and West of Elgin. This network differs from option D since there is no connection to Morriston Road, the A96 connection is a further 2.5km to the West. The key features of this network are as follows and are shown below.

- New roundabout on A96 West of Elgin 2.5km West of Morriston Road to allow traffic to access bypass.
- No connection at crossing of Pluscarden Road.
- New roundabout at Edgar Road extension to allow access to bypass in both directions.
- New roundabout at A941 south of Elgin to allow access to bypass in both directions.
- No connection at crossing of Linkwood Road.
- New roundabout on A96 east of Elgin to allow traffic to access bypass and Business Park.
- Bypass modelled as a single 3.5m lane in each direction.
- Roundabouts modelled with two lane flares of 25-30m on most approaches



Layout of Option E Bypass South Alignment (long)

Option F - Southern Distributor Route + Wittet Drive Link

Option F. This option essentially combines the Option 4 link road with upgrading a route following Reiket Lane through to Glen Moray Drive to form a southern distributor route. The key features of this network are shown below and are as follows:

- Option A as described previously
- Extend Edgar Road to a new roundabout
- Create a new link from the roundabout to run Northbound, parallel with The Wards.
- A new railway bridge to be constructed where the link crosses the rail line and a subsequent priority junction to be designed where this meets Wards Road, Wittet Drive and Fleurs Road.
- The previous alignment of Wittet Drive to be stopped short of the A96 and signals to be removed.
- Speed limit on new link to be set at 30mph.
- All links in this option are single carriageway and both roundabouts flare to two lane approaches on all arms from 15-20m back. Roundabouts have two lane circulation.
- And
- Upgrade Sandy Road from Birnie Road to Springfield Road
- Introduction of 3 new roundabouts and link improvements on Sandy Road and Glen Moray Drive
- Upgrade Glen Moray Drive from Springfield Road to Edgar Road.

4.1.8



Layout for Option F - Southern Distributor Route + Wittet Drive Link

Option G - Southern Distributor Route + Morriston Road Link

Option G. This option combines Option B with upgrading a route following Reiket Lane through to Glen Moray Drive to form a Southern distributor route. The key features of this network are shown below and are as follows:

- Extend Edgar Road West of the primary school access. Link this extension with Pluscarden Road and on to the A96 at Morriston Road.
- Access to zones 129 (South of Bilbohall Farm) and 130 (West of Hardhillock Avenue) to be provided by priority junctions from Edgar Road extension.
- Access to zone 131 (West of Sheriffmuir Rd) to be provided by priority junction approximately 60m South of the A96.
- A new roundabout to be constructed at the junction of the A96, Morriston Road and the new link.
- A roundabout for the junction of Pluscarden Road and the new link.
- Speed limit for new link to be set at 40mph.
- All links in this option are single carriageway and both roundabouts flare to two lane approaches from 15-20m back. The exceptions are the A96 approaches to the Morriston Road.
- And

4.1.9

- Introduction of 3 new roundabouts and link improvements on Sandy Road and Glen Moray Drive
- Upgrade Sandy Road from Birnie Road to Springfield Road
- Upgrade Glen Moray Drive from Springfield Road to Edgar Road.



Layout of Option G - Southern Distributor Route + Morriston Road Link

4.2 4.2.1 Appraising the economic costs and benefits of large transport schemes is an essential requirement and helps decision makers select the most economically efficient option. This is expressed as a Benefit to Cost Ratio (BCR). The Benefit-Cost Ratio is a value for money measure, which indicates how much net benefit would be obtained in return for each unit of cost to the public sector. A BCR above the value of one produces economic benefits in excess of economic costs. A value below one produces economic costs that are in excess of economic benefits.

4.2.2 The summary of cost benefit analysis for each scheme option is presented in the table below. This shows two headline figures – the net present value and benefit-cost to government ratio for each of the seven options appraised. The term 'present value' is the value now (in 2002 prices) of all future discounted benefits and costs over the sixty year appraisal period. It therefore represents the economic cost, often termed the opportunity cost, of investing now measured against the economic benefits that will accrue in the future. This is a standard method of appraising whether the economic benefits of infrastructure investments outweigh the economic costs.

Table 4-1 Monetised Summary (2002 prices)

	Α	В	С	D	Ε	F	G
PVB	£22.6m	£12.1m	£26.4m	£28.6m	£29.7m	£27.1m	£20.3m
Benefits							
PVC	£13.2m	£ 24.2m	£49.6m	£55.1m	£,58.9m	£31.2m	£45.0m
NPV ²	£9.4m	-£12.1m	-£23.2m	-£26.5m	-£29.2m	-£4.1m	-£24.7m
BCR ³	1.70	0.50	0.53	0.52	0.50	0.86	0.45

² Net Present Value is defined as the discounted sum of all future benefits less the discounted sum of all future costs over the appraisal period.

³ Benefit-Cost Ratio is a value for money measure, which indicates how much net benefit would be obtained in return for each unit of cost to the public sector, i.e. BCR = 2:1, $\pounds 2$ benefit per $\pounds 1$ cost.

4.2.3	Option A is the only option of the seven options appraised that provides benefits over costs, with a Net Present Value of \pounds 9.4m and BCR of 1.70. The Present Value Cost of implementing this option is significantly lower than any of the remaining six options, reflecting the lower construction cost associated with this option.		
4.2.4	The three bypass options (C, D and E) provide benefits in excess of those produced by Option A. However, the magnitudes of the economic benefits accruing from the bypass options do not out-weigh the economic costs of implementing these options. A BCR below one is therefore produced for each of the bypass options.		
4.2.5	Option B produces the lowest level of Present Value Benefits (£12.1m), with Present Value Costs of £24.2m. The economic benefits accruing from this option do not out-weigh the economic costs.		
4.2.6	The Present Value Cost $(\pounds 45m)$ of implementing Option G is more than three times that of Option A, and produces lower Present Value Benefits than Option A. The economic benefits accruing from this option do not out-weigh the economic costs.		
4.2.7	Option F augments elements of Option A to improvements at Glen Moray Drive and Reiket Lane to form a Southern Distributor route. The additional costs of implementing this option when compared to Option A are estimated at £18.7m. In contrast the additional benefits over the appraisal period are £4.5m. The magnitude of additional costs compared to the additional benefits reduces the BCR of this option below one to 0.45.		
13	Environment		
4.3.1	The proposals were appraised against the following environmental themes:		
	 Noise and vibration; Air quality - (CO2, PM10, NO2); Water quality, drainage and flood defence; Geological features; Biodiversity; Visual amenity; Agriculture and soils; Cultural heritage; Landscape. 		

4.3.2	Most if not all transport investments and infrastructure improvements produce a certain level of environmental disturbance and adverse impacts. It is important however to consider impacts against improvements to local traffic conditions and the creation of wider economic and social benefits.
4.3.3	Summary of Option A: The appraisal showed the environmental impacts of introducing Option A are likely to be modest, ranging from neutral to minor negative across the nine environmental themes.
4.3.4	Summary of Option B: The appraisal showed the environmental impacts of introducing Option B are likely to be modest, ranging from moderate positive to minor negative across the nine environmental themes.
4.3.5	Summary of Option C: The appraisal showed the environmental impacts of introducing Option C produce contrasting impacts across the environmental themes. Minor to moderate improvements to Air Quality (with the exception of minor negative impacts on PM10 levels) are likely to be derived from this option. However, as this option moves traffic through existing agricultural land a number of environmental costs are likely to be produced. This includes moderate to major adverse impacts on bio-diversity and minor to moderate negative impacts on Agriculture and Soils.
4.3.6	Summary of Option D: The appraisal showed the environmental impacts of introducing Option D are likely to be moderately negative on local water quality, drainage and flood defence. Environmental impacts on visual amenity, agriculture and soils are also likely to be moderately negative with cultural heritage impacts ranging from minor to moderate negative. The remaining impacts range from neutral (Air Quality - Regional CO2) to minor negative.
4.3.7	Summary of Option E: The appraisal showed the environmental impacts of introducing Option E are moderately negative when considered against the following elements: Water Quality, Drainage and Flood Defence, Landscape, Visual Amenity and Agriculture and Soils. The remaining impacts range from minor positive (Air Quality - Regional CO2) to minor negative.
4.3.8	Summary of Option F: The appraisal showed the environmental impacts of introducing Option F are broadly similar to those outlined for Option A. Option F does however produce minor to moderate improvements to Air Quality. This compares favourably to the neutral to minor negative impacts produced from Option A.

4.3.9 Summary of Option G: The appraisal showed the environmental impacts of introducing Option G are broadly similar to those outlined for Option B.

4.4 Safety & Security Safety

- 4.4.1 The safety objective is defined as having two parts Accidents and Security. The safety objective considers whether the proposal under consideration will have any impact on the number of transport related accidents and/or their severity. The security sub-objective considers the perceived safety of all transport users as well as their vehicles.
- 4.4.2 All of the seven options being appraised provide additional road-space within the Elgin area. As congestion levels and journey times fall, more road-users are attracted to the network. Improving traffic conditions and the flow of traffic through Elgin can therefore encourage increased road-use. This has the potential to impact on accident and security probabilities. Annual vehicle kilometres travelled during peak periods were considered in the do-minimum scenario and compared to each of the seven options being appraised. The estimated change in vehicle kilometres across the seven options from the do-minimum scenario was minor. The largest increase (+2.45%) accrued from the Northern Bypass route.
- 4.4.3 The VISSIM Micro-simulation model was used to estimate the combined distance travelled by all vehicles across the network during the AM, PM and Saturday peak periods. These results were factored to provide annual vehicle kilometre estimates. The annual distance travelled by vehicles during peak periods were considered in the do-minimum scenario and compared to each of the seven options being appraised. Although the seven options appraised will increase road-space, within Elgin, an analysis of changes in the Annual Vehicle Kilometre's suggests that there will be negligible adverse impacts on accidents rates across Elgin.
- 4.4.4 Although at the Elgin-wide level little change will occur it is important to note some localised safety impacts. Options that promote increased traffic volume moving through residential areas (Wittet Drive, Reiket Lane and Glen Moray Drive) increase the probability of accidents occurring within these areas. Any concern however should also be set within a broader context with figures from Moray Council showing a relatively low number of recorded accidents (51) on Elgin's most used routes (A96 and A941) over the period 1999 to 2004 with the majority (85%) recorded as minor accidents.

Accident / Definitions	A96	A941	Total
Serious	5	3	8
Minor	14	29	43

Improving the Elgin road network will re-route traffic away from areas that currently experience high levels of pedestrian conflict (Main St, The Wards and Alexandra Road) and will therefore impact positively on community safety within these areas. Newly created road layouts would benefit from current design standards that aim to limit accident levels and improve road and community safety. Implementing these design and material changes is more easily achieved on new roads rather than existing roads. Transport appraisal guidance therefore points to a decline in accident rates over-time with improvements to the material and design of the road infrastructure impacting positively on safety, lighting and passenger visibility on the road network. This will help reduce any negative impacts both Elgin-wide and at a more local level.

Security

As the seven options being appraised do not impact directly on improving public transport services there is likely to be minimal impact on the security of users of public transport. Improving the road network will introduce improved materials, signage and lighting. This can impact positively on security. It is anticipated however, that security benefits will be marginal across the seven options and will not differ significantly from the do-minimum scenario. Again it is important to note the potential for some localised impacts. Options that promote increased traffic volume moving through residential areas (Wittet Drive, Reiket Lane and Glen Moray Drive) are likely to impact adversely on local security for cyclists and pedestrian's moving through these areas. The magnitude of any adverse localised impacts are however likely to be low. Option A (Wittet Drive Link) increases local severance levels from slight to moderate. This highlights a trade-off between the economic benefits of this option and wider benefits to Elgin as a whole.

4.5 Accessibility and Social Inclusion

4.5.1

Improving accessibility is one of the Government's five key policy objectives, identifying the extent to which proposals help people and businesses access goods, services, people and communities. The government objective of accessibility and social inclusion can be split into two areas, Community Accessibility and Comparative Accessibility.

Community Accessibility

4.5.2 The following aspects of community accessibility have been considered in the appraisal of options for Elgin; these are access to work, education and

4.4.6

training, health and shopping. The options do not directly promote new public transport services but could potentially stimulate the creation of new services and the alternative routing of existing services. As each of the options being appraised shares the aim of providing a quicker, safer and more reliable transport system in and around Elgin a certain level of consistency is evident across the seven options.

- 4.5.3 The addition of a high quality link between Edgar Road and the A96 at Wittet Drive will improve access to and from the Edgar Road Retail Zone, a key employment site that is in the process of expanding. Option A will also improve access to a range of education and training facilities including Elgin High School and, through a reduction of traffic on The Wards, to Moray College. It will also promote improved accessibility to Dr Gray's Hospital and The First Day Hospital for the Elderly. Reducing traffic on The Wards will also provide improved access to Elgin Rail Station and for Grampian Fire and Rescue services.
- 4.5.4 Option B also promotes improved access to the Edgar Road Retail Zone and will draw traffic from West Road travelling through to central Elgin along Main Street. This will improve access to Dr Gray's hospital and to the centre of Elgin where a range of public, education and leisure services are located.
- 4.5.5 Option C the Northern Bypass reduces the volume of traffic using the A96 when compared with the do-minimum scenario. This improves access to the centre of Elgin where key employment, education, health and leisure sites are located. It will also promote improved access to Barmuckity Farm, to the eastern edge of Elgin, the preferred location for a new Business Park.
- 4.5.6 Option D would implement a bypass to the South of Elgin with intersections at the A941 South of Elgin, the Edgar Road extension and the A96 at Morriston Road. This option will improve access to the key employment sites in the centre of Elgin and at Edgar Rd, including the Edgar Road Retail Zone. It will also promote improved access to Barmuckity Farm, to the eastern edge of Elgin, the preferred location for a new Business Park.
- 4.5.7 Option E would implement a longer bypass option to the South of Elgin with intersections at the A941 South of Elgin, the Edgar Road extension and the A96 to the East and West of Elgin. Similar to option D this will promote improved access to key employment sites in the centre of Elgin and at the Edgar Road Retail Zone. It will also promote improved access to Barmuckity Farm, to the eastern edge of Elgin, the preferred location for a new Business Park.

4.5.8 Option F - The community accessibility impacts of this option are broadly similar to the impacts outlined above for Option A.

4.5.9 Option G - The community accessibility impacts of this option are broadly similar to the impacts outlined above for Option B.

Comparative Accessibility

- 4.5.10 Comparative accessibility is concerned with the distribution of impacts by location and by social groups relative to the population as a whole. This recognises that investment decisions can discriminate against particular groups in society, and that transport investment decisions should seek to support wider policy aims including social inclusion, regeneration and rural development.
- 4.5.11 The appraisal of options for Elgin has considered the distribution of impacts by people group e.g. age, income group, car ownership, etc. The current official measure of deprivation in Scotland is the Scottish Index of Multiple Deprivation (SIMD). The Moray Council area does not exhibit widespread deprivation or social exclusion. However, data extracted from the Scottish Index of Multiple Deprivation (2006) highlights that when Elgin, its constituent wards and datazones are compared to the Moray Council area some relative economic and social weaknesses exist.
- 4.5.12 Elgin has a marginally higher rate of unemployment and economic inactivity rate than the Moray Council average. Two of the Moray Council wards with the highest rates of unemployment are located within the Elgin area. A number of wards within Elgin exhibit qualification rates significantly lower than the Moray Council average. Car ownership in Elgin is lower than the Moray average.
- 4.5.13 Placing Elgin in a wider context highlights comparatively low levels of deprivation and social exclusion. None of the 28 datazones in Elgin are within the 15% most deprived areas of Scotland. Social inclusion impacts are therefore likely to be modest with widespread deprivation not a significant factor within Elgin.

4.6 Integration

4.6.1 Integrating transport investments to support wider policy objectives is a priority. Three aspects to the Integration analysis which have been considered in this appraisal. Transport Integration was considered to assess the degree to which options complement other transport infrastructure and services. Land-use Integration considered the fit between options and established land-use plans and land-use/transport planning guidance. Policy Integration considered the appropriateness of options when considered against wider policies both of central and local government e.g. health or social inclusion.

Transport Integration

An integrated transport system aids accessibility by connecting people to opportunities, and goods to markets with minimal disruption. The approach recommended to, and accepted by, Moray Council has been to adopt an objective-led approach to guide future transport policy and integration that will benefit the Elgin area. It is important to note that a pragmatic approach backed by quantifiable results and qualitative assessments has been adopted to identify a range of options. By identifying options that seek to improve local traffic conditions and encourage the efficient flow of public and private transport services the options appraised within this STAG Part 2 appraisal will have a beneficial impact on transport integration

Land Use Integration

The options appraised within this STAG Part 2 Appraisal are consistent with a broad range of land-use policies and plans. This includes the National Planning Framework (2004), Scottish Executive Planning Policy (SPP17 Transport and Planning), the Moray Structure Plan and the existing and emerging Local Plan for the Moray area. The Moray Local Plan outlines a number of transport options, defined as TSP schemes. These TSP schemes have been appraised within this STAG process.

- 4.6.4 The National Planning Framework (2004) highlights the need for improvements in transport infrastructure to support economic activity and improve access to social facilities. The framework acknowledges that greater mobility, in particular heavy reliance on the private car, gives rise to congestion that can exacerbate pollution producing adverse environmental impacts. The framework challenges public authorities to influence a shift to more sustainable modes of transport, and more sustainable patterns of transport and land-use planning.
- 4.6.5 The Scottish Executive Planning Policy (SPP17 Planning for Transport) identifies the importance of improving transport infrastructure. Rather than avoid improvements that encourage increased road-use the Scottish Executive promotes a range of interventions including; delivering improvements to key congestion points on the road network.
- 4.6.6 The options considered within this STAG Part 2 appraisal are consistent with national land-use planning policy and are complementary to regional and local land-use planning policies. Although national planning policy promotes a shift towards more sustainable transport options, it is clear that this does not mean abandoning improvements to the existing network, particularly, in areas where congestion is impacting or is likely to impact on the future economic development of an area.

Policy Integration

4.6.3

4.6.7	A key theme of Scotland's National Transport Strategy is to improve journey times and connections - making it easier and more reliable for individuals to travel between towns and cities and across global markets. Key challenges outlined in the strategy include making journey times more reliable, ensuring infrastructure supports economic activity and that congestion problems in Scotland's towns and cities are tackled.
4.6.8	Scotland's Framework for Economic Development highlights the need for an efficient transport system for the development of a competitive economy. Among the key transport issues outlined in the framework is the need to relieve traffic congestion through a rigorous appraisal of potential solutions, paying particular attention to how costs and benefits are distributed across different groups and regions in Scotland. The approach adopted by Moray Council is consistent with this view.
4.6.9	Highlands and Islands Strategic Transport Partnership (HITRANS) has established a number of strategic objectives including; improving journey times by investing to improve infrastructure, particularly roads, public transport and the rail network. The aim is to reduce costs to the users of the transport network and reduce costs in the movement of goods and services.
4.6.10	The Moray Local Transport Strategy published in 2001 was developed to complement sustainable development and encompasses economic, social and environmental considerations. The primary objectives of the Moray Local Transport Strategy include improving access to jobs, services and facilities and to promote sustainability and safety.
4.6.11	The options outlined in this report integrate well with wider government, and regional and local policies. This includes the emerging Moray Local Plan which identifies a number of transport options, defined as TSP schemes. The TSP schemes identified within the emerging local plan have been appraised within this STAG process.
4.6.12	The options appraised introduce a range of potential solutions to mitigate against present and future congestion within the Elgin area. The STAG

against present and future congestion within the Elgin area. The STAG Part 1 and STAG Part 2 methodology adopted by Moray Council ensures that the options that have been appraised are objective-led, and are complementary to existing transport, land-use and wider policy initiatives. This maximises the potential to implement the most efficient transport solution for Moray Council and to meet the Council's aspirations for the sustainable development of Elgin.

Summary of Main Findings

This section summarises the main findings within the appraisal process for each scheme option under consideration. Careful consideration consistent with Best-Value⁴ principles, should be given prior to the implementation of options outlined below.

5.2

5.1.1

Option A – Wittet Drive Link

- Option A performs best in terms of economic performance.
- The Option A scheme proposal is forecast to achieve a Net Present Value of £9.4m and return a Benefit to Cost ratio of 1.70:1. The present value cost of implementing this option is significantly less than the other six options being appraised.
- It achieves the objective of reducing congestion in Elgin.
- The environmental impacts of introducing this option are likely to be modest, ranging from neutral to minor negative.
- Car users will benefit from improved accessibility through a reduction in congestion and improved traffic flows. A number of key employment and service sites in the centre of Elgin would benefit from improved accessibility, particularly the Edgar Road Retail Zone. Social inclusion impacts are likely to be modest, although improvements to traffic flow will also benefit those relying on public transport to access and move around Elgin.
- Option A increases local severance levels from slight to moderate in the vicinity of Wittet Drive. This highlights a trade-off between the economic benefits of this option and wider benefits to Elgin as a whole.
- Increasing road-space can encourage increased vehicle use as journey times fall. This can impact adversely on accident and security levels. An analysis of annual vehicle kilometres travelled

5

⁴ The objective of Best Value is to ensure that effective management delivers better and more responsive public services. It is about local authorities, balancing the quality of services with cost, achieving sustainable development, being accountable and transparent, by engaging with the local community, ensuring equal opportunities, continuously improving the outcomes of the services they provide. Audit Scotland, Nov 2006. <u>http://www.audit-scotland.gov.uk/accounts/pdfs/Bestvaluebriefingnote.pdf</u>

shows little change from the do-minimum scenario, producing negligible impacts on accident and security levels.

• This option integrates well with the key planning objective; to provide a quicker, safer and more reliable transport system in and around Elgin while accommodating future development. It is also complements policies being directed towards efficient land-use and the stimulation of economic development.

Option B – Morriston Road Link

- The Option B scheme proposal is forecast to achieve a Net Present Value of -£12.1m and return a Benefit to Cost ratio of 0.50:1. The Present Value Costs of this option are significantly higher than the Present Value Benefits.
- While Option B reduces congestion in Elgin it does not perform well in economic terms, e.g. in offering value for money. This is attributable to the low level of benefits and the high level of costs.
- The environmental impacts of introducing this option are likely to be modest, ranging from minor positive to minor negative.
- This option also promotes improved access to the centre of Elgin and the Edgar Road Retail Zone. The main beneficiaries will be car-users with modest social inclusion impacts for those relying on public transport.
- An analysis of annual vehicle kilometres travelled shows little change from the do-minimum scenario, producing negligible impacts on accident and security levels.
- This option integrates well with the key planning objective; to provide a quicker, safer and more reliable transport system in and around Elgin while accommodating future development. It is also complements policies being directed towards efficient land-use and the stimulation of economic development. This option is complementary to improving the flow of traffic and meets the key planning objective established for this study.

Options C, D & E (Bypass Options)

- Similarly to Option B, while Options C, D and E reduce congestion in Elgin they do not perform well in economic terms or offer good value for money.
- The Option C scheme proposal is forecast to achieve a Net Present Value of £-23.2m and return a Benefit to Cost ratio of 0.53:1. The Present Value Costs of this option are significantly higher than the Present Value Benefits.
- The Option D scheme proposal is forecast to achieve a Net Present Value of -£26.5m and return a Benefit to Cost ratio of

5.3

5.4

0.52:1. The Present Value Costs of this option are significantly higher than the Present Value Benefits.

- The Option E Scheme proposal is forecast to achieve a Net Present Value of -£29.2m and return a Benefit to Cost ratio of 0.50:1. The Present Value Costs of this option are significantly higher than the Present Value Benefits.
- Implementing any of the three bypass option appraised would produce minor to moderate improvements to local air quality. A number of adverse impacts would also be produced including negative impacts on local bio-diversity, water quality, soils and cultural heritage. A separate environmental report outlines a number of approaches that could be used to manage and mitigate the environmental impacts of introducing an Elgin bypass.
- The implementation of an Elgin by-pass would improve access to and within Elgin and improve journey times for those travelling through Elgin. The main beneficiaries are likely to be existing car owners with modest social inclusion impacts for those relying on public transport.
- An analysis of annual vehicle kilometres travelled shows little change from the do-minimum scenario, producing negligible impacts on accident and security levels.
- The bypass options are complementary to improving the flow of traffic and meet the key planning objective established for this study.

Option F - Southern Distributor Route + Wittet Drive Link

- The Option F scheme proposal is forecast to achieve a Net Present Value of -£4.1m and return a Benefit to Cost ratio of 0.86:1.
- The environmental impacts of introducing this option are broadly similar to those of Option A with minor negative impacts. This option is however likely to produce minor to moderate improvements to local air quality.
- A number of key employment and service sites in the centre of Elgin would benefit from improved accessibility, particularly the Edgar Road Retail Zone. Social inclusion impacts are likely to be modest, although improvements to traffic flow will also benefit those relying on public transport to access and move around Elgin.
- An analysis of annual vehicle kilometres travelled shows little change from the do-minimum scenario, producing negligible impacts on accident and security levels.
- This option is complementary to improving the flow of traffic and meets the key planning objective established for this study.

5.5

Option G - Southern Distributor Route + Morriston Road Link

- The Option G scheme proposal is forecast to achieve a Net Present Value of -£24.7m and return a Benefit to Cost ratio of 0.45:1. The Present Value Costs of this option are significantly higher than the Present Value Benefits.
- The environmental impacts of introducing this option are broadly similar to those of Option B although negative impacts on Water Quality, Draining and Flood Defence increase from minor to moderate.
- This option promotes improved access to the centre of Elgin and the Edgar Road Retail Zone. The main beneficiaries will be carusers with modest social inclusion impacts for those relying on public transport.
- An analysis of annual vehicle kilometres travelled shows little change from the do-minimum scenario, producing negligible impacts on accident and security levels.
- This option is complementary to improving the flow of traffic and meets the key planning objective established for this study.