





-  Proposed corridor
-  A - listed
-  B - listed
-  C(s) - listed

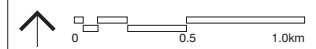
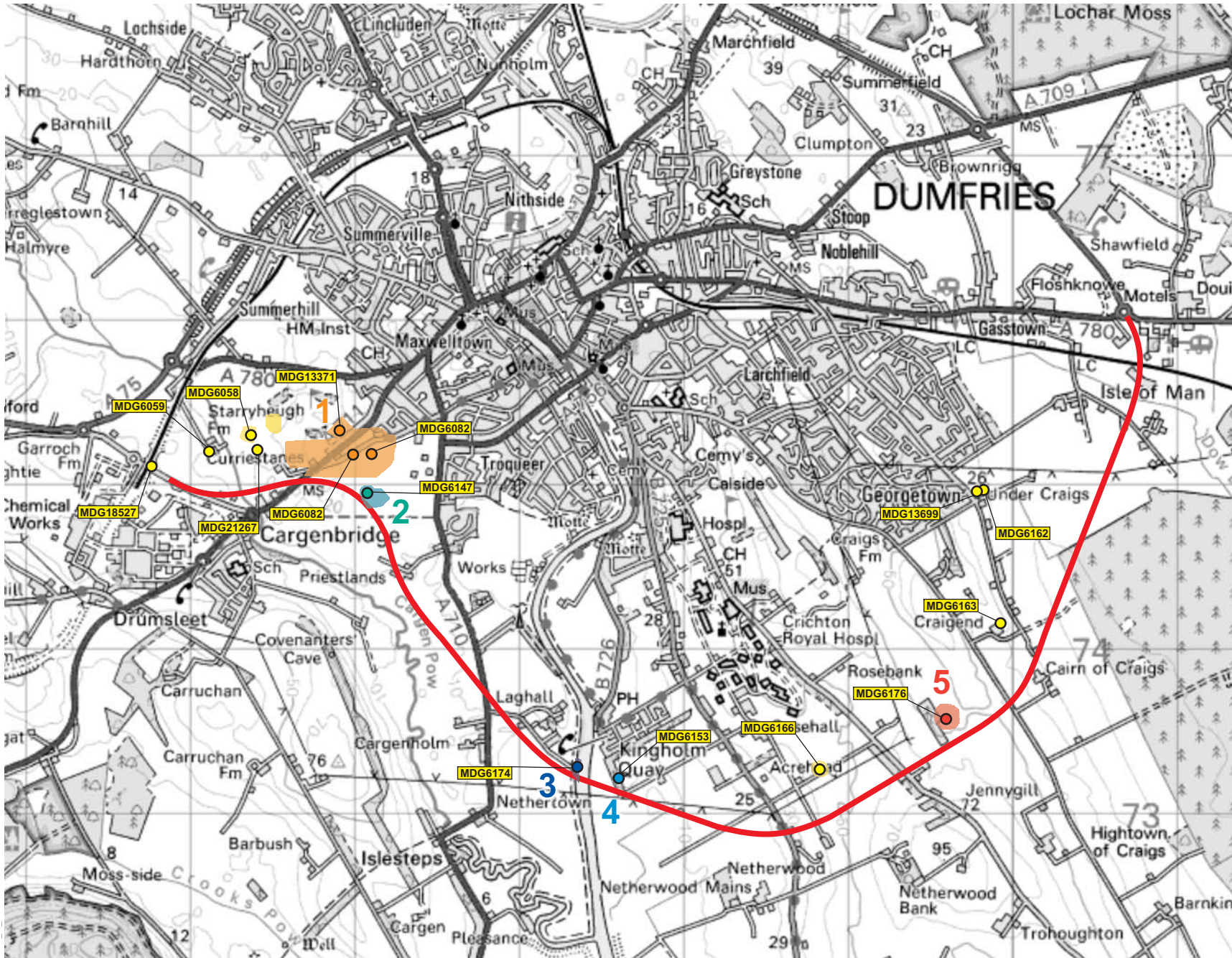


Figure 3.9
Listed Buildings



- Possible corridor
- Additional Cultural Heritage features

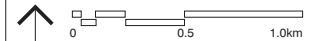


Figure 3.10
Dumfries & Galloway
Council
Additional
Archaeological
Information

Government Objective

To improve safety of journeys by reducing accidents and enhancing the personal safety of pedestrians, drivers, passengers and staff.

4.1 Nesting of Objectives

4.1.1 STAG requires appraisal of safety impacts under two sub-headings:

- accidents; and
- security.

4.1.2 We discuss each in turn below.

4.2 Accidents

4.2.1 In the next chapter we described in more detail the transport modelling work undertaken primarily to inform the cost-benefit analysis process. As part of this modelling work we were able to provide “before and after” comparisons of accident rates in the study area, and use these to identify the economic cost benefits of changes in accidents resulting from the proposed interventions.

4.2.2 STAG recommends that initial consideration of this sub-heading should identify the user groups likely to be affected by the interventions⁴. These are expected to be as follows:

- pedestrians;
- cyclists;
- car drivers and passengers;
- bus passengers; and
- rail passengers.

4.2.3 The impact on accidents will vary across these groups. The traffic modelling described in Chapter 5 has been used to estimate the impact of the bypass on the number of accidents. The impact on accidents is presented in terms of the number of casualties and monetary savings.

4.2.4 Estimates of the changes in the number and severity of accidents have been prepared using the ACCDNT V79 program, which was developed by MVA. This program evaluates traffic model outputs in the form of traffic flow by link type to estimate total accident rates and costs. The program conforms to the latest NESAs release (July 2005) and includes the application of the COBA accident rate data to Scotland. Table 4.1 presents the results of the accident analysis in terms of the estimated annualised number of casualties split by severity

⁴ STAG, section 7.2.1

for 2020. Table 4.2 presents the results in terms of annual monetary impacts for 2020 as well as over the sixty year economic appraisal period using standard discount rates.

Table 4.1 Estimated Number of Accidents

	Number of Casualties			
	Fatal	Serious	Slight	Total
Reference Case	1.4	14.7	151.1	167.2
With Bypass	1.8	15.8	156.3	173.9
Difference	-0.4	-1.1	-5.2	-6.6

Table 4.2 2020 Annualised Accident Costs

	Cost of Accidents (£k in 2002 Prices)
Reference Case	13482
With Bypass	14339
Difference	-857

- 4.2.5 Examination of the above tables indicates that the bypass is expected to have a minor negative impact in terms of accidents. This can be explained by the increase in total vehicle distances caused by vehicles travelling via the bypass rather than directly through Dumfries town centre. There is, of course, a positive impact on road traffic accidents on the town centre road network.
- 4.2.6 Closer inspection of the number of casualties indicates that the balance of accidents is largely unaffected with no notable change in the number of fatalities, a slight increase in serious casualties and an increase in slight accidents. It should be noted that the NESAs rate-based methodology of calculating changes in the number of accidents is estimation and that these changes are not considered significant in this context.
- 4.2.7 The above analysis relates primarily to car drivers and passengers. Pedestrians and cyclists will not be directly affected by the construction of a bypass. They will however notice the benefits of a less congested town centre as non through traffic is diverted away from the town centre. Benefits will be noted in relation to improved air quality and lack of congestion. As vehicle volume decreases so too should accident potential, making the town centre safer for pedestrians and cyclists.
- 4.2.8 It is assumed that the majority of public transport will remain on local urban roads within Dumfries town centre. These local roads will become less congested as non through traffic is diverted onto the bypass. This should have a positive impact on accident rates in the town centre and the potential for accidents on public transport.

4 Safety

- 4.2.9 As the proposed measure is designed to divert traffic away from Dumfries town centre, improved public transport will be a natural beneficiary. Buses will have greater priority and less congested routes, therefore completing the journey should be altogether safer.

4.3 Security

- 4.3.1 For the STAG Part 1 appraisal we argued that when considering a bypass scheme of this nature, there are no particular security concerns which require further consideration - based principally on the fact that the bypass is a new construction and there is:

- no pre-existing benchmark to compare them against; and
- an excellent opportunity to deliver best practice infrastructure of the highest quality.

- 4.3.2 One of the uses of the STAG Part 1 appraisal is to “scope out” the value of more detailed work during Part 2. The advice in ScoTAG is to refer to WebTAG for more detailed guidance on Part 2 appraisal for security. Investigation of WebTAG unit 3.4.2 shows that the approach revolves around “before and after” comparisons of facilities and the impact of proposed changes on personal security.

- 4.3.3 Therefore we concluded that there was little value in undertaking a more detailed appraisal of security, because:

- the Part 1 conclusion suggested no significant emphasis on security as a justification for the proposed interventions; and, in any case
- there was no obvious methodology to be adopted for a more detailed appraisal.

- 4.3.4 WebTAG does, however, set out a useful table for public transport passengers which we have adopted for application to road users and which could form the basis of best practice identification as detailed design gets under way.

- 4.3.5 Most of the security indicators that apply to road users mainly apply to situations where vehicles travel at slow speeds or in congested conditions, such as approaches to junctions, service areas or lay-bys. Consequently, no service areas or lay-bys are planned within this scheme so security indicators such as formal surveillance, site perimeters and landscaping are not as important in this context.

- 4.3.6 Lighting and informal surveillance from other road users will act as a deterrent to crime on the approaches to the junctions where vehicles will be travelling more slowly.

Table 4.3 Security Indicators for Road Users

Security Indicator	Poor	Moderate	High
Informal surveillance	Poor use of materials (fencing etc) and design. Poor visibility from site surrounds. Very isolated from other human activity.	Unfavourable use of materials (fencing etc) but reasonable proximity of other activity.	Positive use of materials (fencing etc) and design to encourage open visibility from site surrounds. Proximity of other activity.
Lighting and visibility	Poor design including, obstructions etc which hinder view. Poor or no lighting at lay-bys, junctions etc. No or poor lighting on any signing, information or help points.	Design is not problematical to view. Lighting provided at some, but not all appropriate locations. Lighting not to standard. Attention to lighting on signing, information and help points.	Good design to facilitate view. Lighting to standard at appropriate locations. Attention to lighting on signing, information and help points.
Emergency call	No or very poor provision of emergency phones. Little provision or information on emergency help procedures.	Basic provision of emergency phones. Improvements to these and on emergency help procedures needed.	Good provision of emergency phones and information on emergency help procedure.

Source: WebTAG unit 3.4.2 – Table 1

- 4.3.7 Our conclusion is that we should continue to expect a neutral impact on security as a result of the planned intervention, subject to the adoption of high standards for security indicators along the Bypass.

4 Safety

4.4 Conclusion Regarding Safety Benefits

The following table summarises the overall appraisal for safety.

Table 4.4 Summary of Safety Appraisal for STAG2

Option	Accidents	Security	Overall Appraisal for Safety
Dumfries Southern Bypass	x	0	x

4.5 Overall Safety Assessment

- 4.5.1 The safety assessment has indicated that there may be a slight increase in accidents associated with the increase in vehicle distances travelled as a result of the construction of a Southern Bypass. There are no direct implications in terms of security.

5 Economy

Government Objective

To promote economic growth by building, enhancing, managing and maintaining transport services, infrastructure and networks to maximise their efficiency.

5.1 Nesting of Objectives

5.1.1 STAG requires appraisal of economic impacts under two sub-headings:

- Transport Economic Efficiency (TEE); and
- Economic Activity and Location Impact (EALI).

5.1.2 In order to identify inputs to the TEE process, it was necessary to undertake transport modelling using the Dumfries SATURN model. This is described below. The modelling also provided information on the operational performance of the proposed intervention, which is also discussed below.

5.2 Dumfries South Study Transport Modelling

Reference Case

5.2.1 The options require to be considered against a Reference Case, which reflects the status of the roads infrastructure and land use development at the forecast year (2020). Dumfries and Galloway Council provided a Reference Case specification against which the Southern Bypass options were to be assessed. The Reference Case reflects the current local plan and assumes that the following infrastructure improvements have occurred by this point:

- introduction of the Parkhead Link Road;
- introduction of a roundabout at the existing New Abbey Road / Pleasance Avenue priority junction; and
- re-alignment of Glencaple Road to enable the introduction of a signal controlled T-junction at Bankend Road, approximately 180 metres south of the existing signalled controlled junction.

5.2.2 The developments included for the 2020 Reference Case matrices are indicated below. The trips predicted from these developments were added to the matrices derived from the application of background growth to create the Reference Case matrices.

- Heathhall / Airfield;
- Garroch Loaning;
- Tesco;
- Nithsdale Local Plan (including Marchfield).
- ICI Plastics Park;
- Maxwell Town Industrial Estate;
- Crichton Business Park; and

Do Something Specification

5.2.3 The Do Something modelling scenario consists of the Reference Case network with the Southern Bypass route as shown indicatively in Figure 1.1

5.2.4 The following assumptions have been adopted for modelling the bypass:

- one lane in each direction on all sections;
- all junctions are roundabouts;
- approaches flare to two lanes at each roundabout; and
- speed limit is 60mph for all sections.

Model Results

5.2.5 This Section provides comparisons of the 2020 Reference Case and the Do Something scenario (with the Southern Bypass alignment). Results are presented in terms of traffic flows across screenlines, traffic flows on the Southern Bypass, journey time changes and network statistics for travel time, distance and average speed.

Cordons and Screenlines

5.2.6 The following section presents details of traffic flows over the RSI cordon and several screenlines. Figures 5.1 and 5.2 provide a summary for the AM and PM peaks respectively.

5.2.7 Comparisons of the 2020 Reference Case and Do Something option traffic flows are provided in Appendix B alongside flow bandwidth plots and flow diagrams for the Southern Bypass.

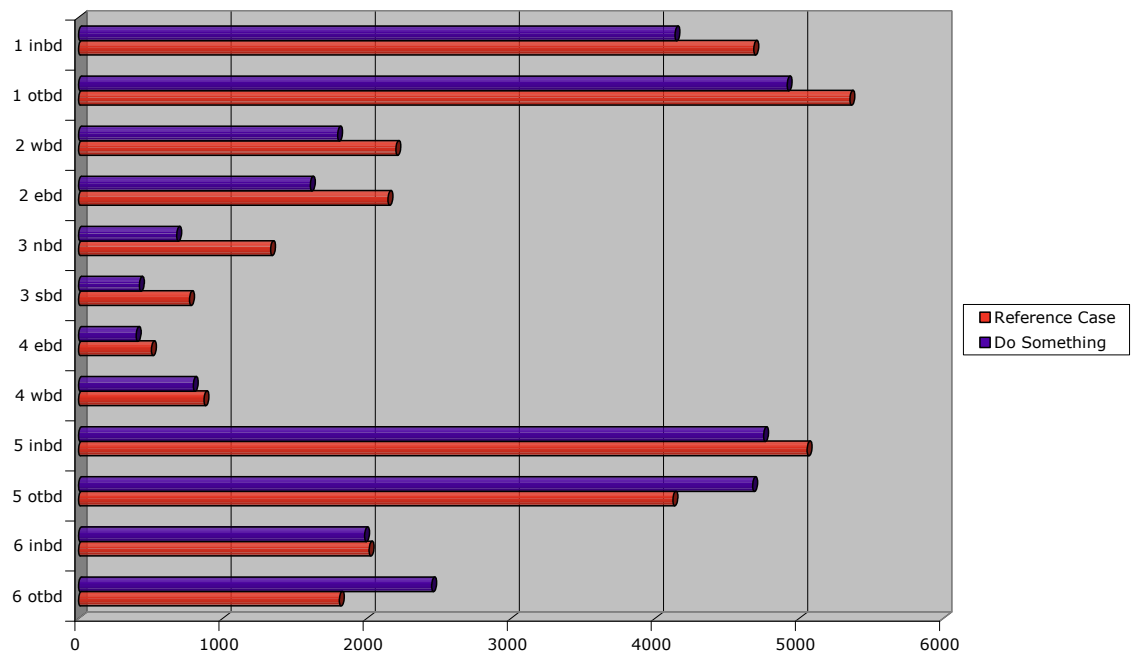


Figure 5.1 2020 Screenline Traffic Flows – AM Peak

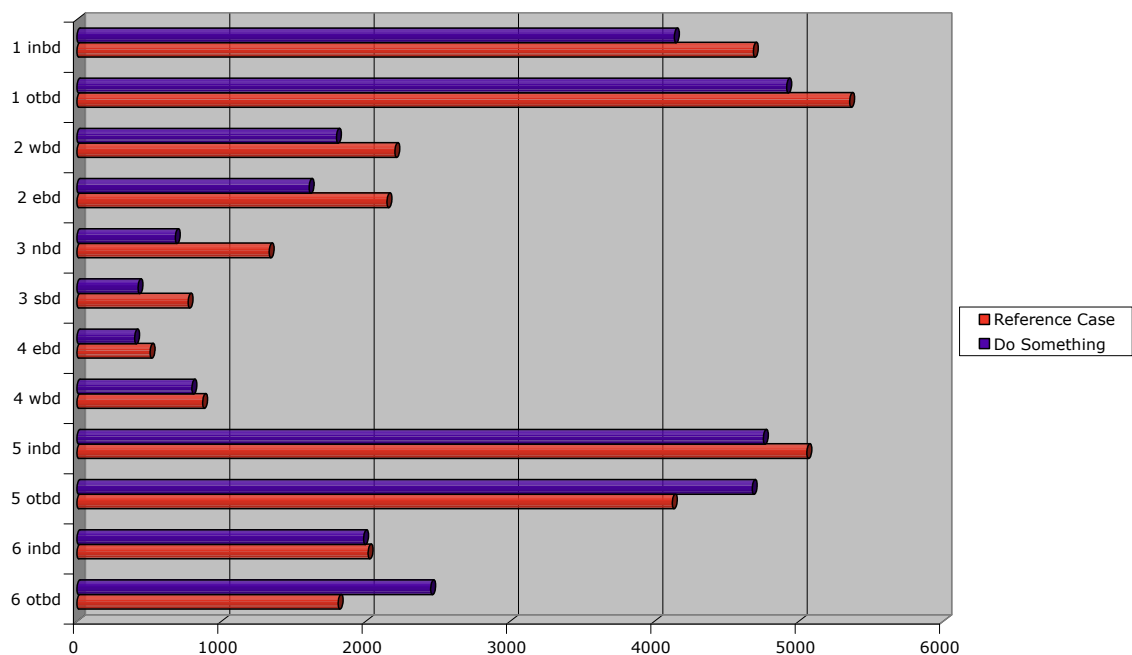


Figure 5.2 2020 Screenline Traffic Flows - PM Peak

5.2.8 It should be noted that some of the screenlines presented are not, in strict traffic terms, screenlines as they have some possible leakage. Nonetheless, they are a useful way of presenting flow data to allow comparisons.

5.2.9 Screenline 1, the RSI cordon, shows a large decrease in traffic for both the AM and PM Peak. This confirms traffic will use the Southern Bypass rather than travel through the town centre.

5.2.10 The bandwidth plots show that the introduction of the Southern Bypass leads to an increase in traffic in the AM Peak on the northern bypass to the east of the town centre.

5.2.11 Screenline 2, located to the north of the town centre also indicates that a large number of vehicles are predicted to re-route via the A75 northern bypass onto the proposed Southern Bypass to avoid the town centre.

5.2.12 Screenline 3 confirms a decrease in traffic levels in both directions north of the Crichton area for the AM and PM Peaks.

5.2.13 Screenlines 5 and 6 show large traffic increases at the southbound approaches to the Southern Bypass, northbound on Glencaple Road and Bankend Road. There is also a large decrease in traffic travelling into town on Annan Road.

Journey Time Results

5.2.14 We compared the average modelled car journey times for the 2020 Reference Case compared with the Do Something option for both the AM and PM Peak periods. Figure 5.4 shows the routes used for comparing journey times.

- 5.2.15 Examination of the journey times indicates that the most noticeable journey time decreases occur at the St. Michael’s Bridge Road, St. Michael Street and Nith Bank areas in both the AM and PM Peak periods. The journey time savings are directly associated with traffic re-routing to the Southern Bypass, relieving pressure on a congested area of the network.
- 5.2.16 Other congested routes around the town centre in the Reference Case scenario, such as the A780 Laurieknowe, Shakespeare Street, Brooms Road and Annan Road also exhibit journey time decreases.

Network Statistics

- 5.2.17 By way of a summary of the network conditions, Table 5.1 compares the network statistics for the Reference Case with the Southern Bypass route in place.

Table 5.1 2020 Network Travel Statistics

	Reference Case	Do Something	Diff	% Diff.
AM Peak – High Growth				
Travel Time (PCU Hrs / hr)	3171.1	2037.0	-1134.1	-36%
Travel Distance (PCU Kms / hr)	77391	86560	9169	12%
Average Speed (Kph)	24.4	42.5	18.1	74%
PM Peak – High Growth				
Travel Time (PCU Hrs / hr)	2990.6	2124.9	-865.7	-29%
Travel Distance (PCU Kms / hr)	75512	85409	9897	13%
Average Speed (Kph)	25.2	40.2	15	60%

- 5.2.18 The results show decreases in travel time with increases in distance and average speed. This reflects traffic choosing to travel via the bypass, which offers a reduction in travel time even though the route may be longer in terms of distance.

Impact of the Bypass

- 5.2.19 Modelling outputs reveal that both Buccleuch Street Bridge and St Michaels bridge are currently operating at capacity. As such, actual flows between scenarios do not change significantly on these bridges and do not take into account any queuing upstream at these locations. In order to get a better understanding of the impact of the bypass on these key corridors into the town centre, we have investigated the demand for those traffic movements and subsequent queuing vehicles in each modelled time period. Table 5.2 illustrates both the modelled demand and total queuing vehicles across the current base scenario, and both future year models, with and without the bypass.

Table 5.2 Modelled Impacts of the Southern Bypass (PCUs per hour)

		Demand		Queuing	
		AM	PM	AM	PM
Base Network					
Buccleuch St Bridge	In	1069	842	78	10
Buccleuch St Bridge	Out	703	1167	40	16
St Michaels Bridge	In	788	459	3	2
St Michaels Bridge	Out	560	763	19	19
2020 No Bypass					
Buccleuch St Bridge	In	1329	1419	311	471
Buccleuch St Bridge	Out	850	1582	217	301
St Michaels Bridge	In	950	670	126	144
St Michaels Bridge	Out	1102	1366	370	410
2020 With Bypass					
Buccleuch St Bridge	In	1120	1090	132	142
Buccleuch St Bridge	Out	658	1338	81	86
St Michaels Bridge	In	766	472	8	9
St Michaels Bridge	Out	614	899	52	55

5.2.20 Inspection of this data clearly reveals that introduction of the Southern Bypass will play a role in significantly reducing any flows into the town centre that could be expected if there was no bypass. However, the model predicts continued traffic growth from the base year in the future year scenario which includes implementation of the Southern bypass.

5.2.21 Taking this into account, it is important to note that the bypass will play a role in managing traffic flows into the town centre, but will not in itself be enough to reduce current levels of traffic flow.

5.3 Transport Economic Efficiency

5.3.1 There is no specific requirement to prepare a detailed TEE (Cost-Benefit) appraisal for STAG Part 1 purposes. Given the level of traffic modelling data available, however, we did undertake an economic analysis of the preferred scheme.

5 Economy

- 5.3.2 TEE appraisal has now been carried out using TUBA software and the output of the SATURN traffic modelling described above. Table 5.2 shows the results of the TEE appraisal.
- 5.3.3 Scheme capital costs were prepared by MVA Consultancy and have been uplifted to 2006 construction prices. An optimism bias of 44% was applied to the costs. Operating and maintenance costs were calculated using NESAs values. These values were input to TUBA to compare government costs with the TEE Benefits, as shown in Table 5.1. Chapter 8 discusses the overall economic appraisal, including public sector impacts.

Table 5.3 TEE Appraisal Results

	£k, in 2002 Prices
Consumer Benefits/Disbenefits	
Travel Time	89849
Vehicle Operating Costs	4761
Net Consumer Benefits	94610
Business Benefits/Disbenefits	
Travel Time	131344
Vehicle Operating Costs	8982
Private Sector Provider Impacts	Nil
Other Business Impacts	Nil
Net Business Impacts	140326
Present Value of TEE Benefits (PVB)	234936

5.4 Economic Activity and Location Impacts (EALIs)

- 5.4.1 At the conclusion of the Initial Appraisal we concluded that the Bypass would have a **Moderate Positive** benefit in terms of EALIs.
- 5.4.2 The EALI analysis undertaken at that time remains valid, and is reproduced below.

Service Sector Opportunities

- 5.4.3 Looking in more detail at trends in GVA for Dumfries and Galloway and potentially “competing” locations showed the following comparisons⁵. Figure 5.3 shows the trends in total GVA, showing that Dumfries and Galloway total GVA was lower than most of the surrounding regions apart from South Ayrshire.

⁵ All data has been extracted from Office for National Statistics’ Regional Accounts at NUTS3 level

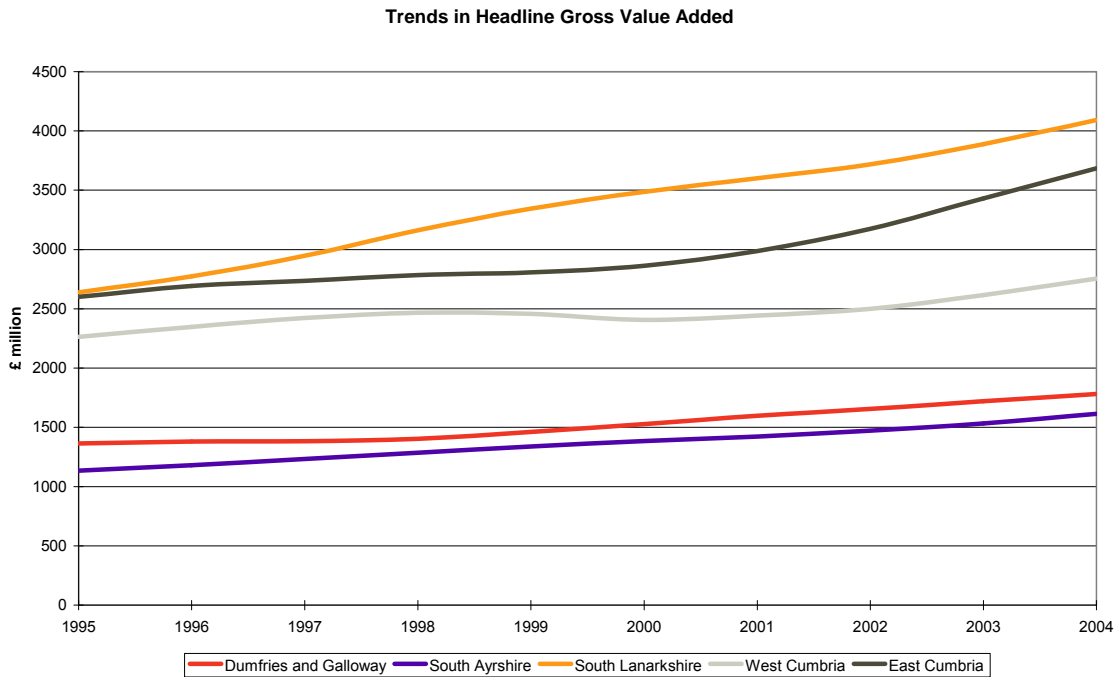


Figure 5.3 Trends in Headline Gross Value Added

5.4.4 More significantly, as shown in Figure 5.4, growth in GVA has been at a lower rate in Dumfries and Galloway than for the other “competing” regions apart from West Cumbria.

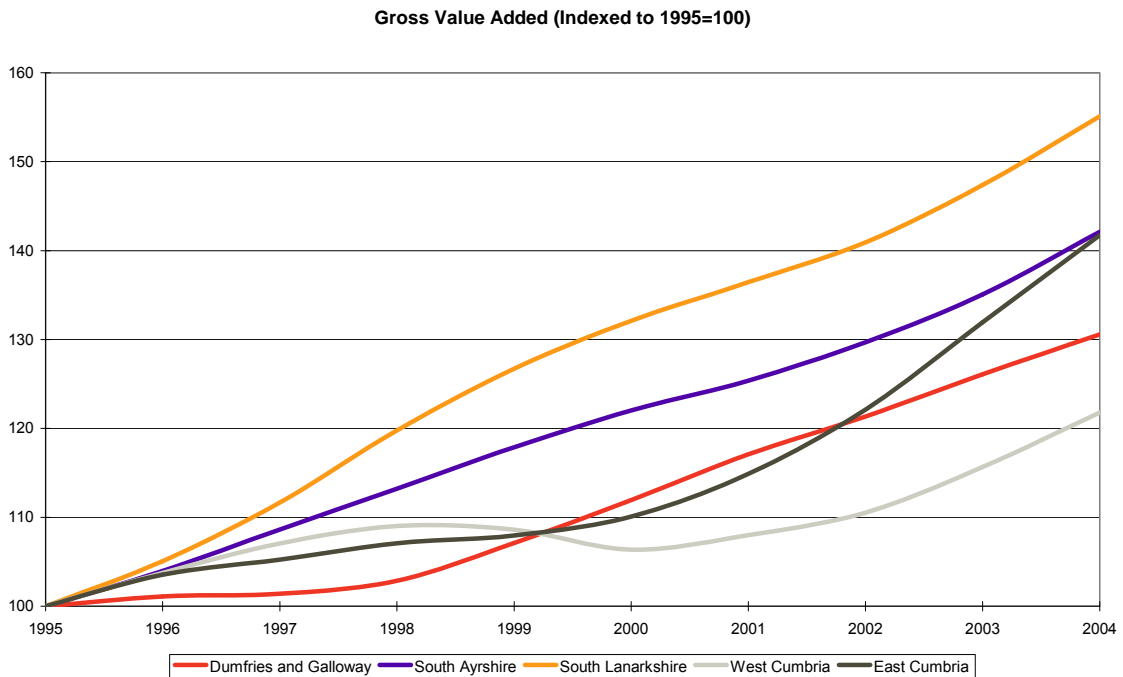


Figure 5.4 Growth in Gross Value Added (1995=100)

5.4.5 Turning to the key service sector, Figure 5.5 shows that although there has been growth in the proportion of GVA earned in the service sector, it remains the case that this sector’s share of GVA is still lower in Dumfries and Galloway than any other area apart from West Cumbria, and even in West Cumbria service sector growth has been significantly above that in Dumfries and Galloway. This is illustrated in Figure 5.6 which shows that service sector

GVA growth has been lowest in Dumfries and Galloway. Comparisons with Cumbria are particularly concerning given that Cumbria represents the worst performing English sub-region in terms of GVA growth⁶.

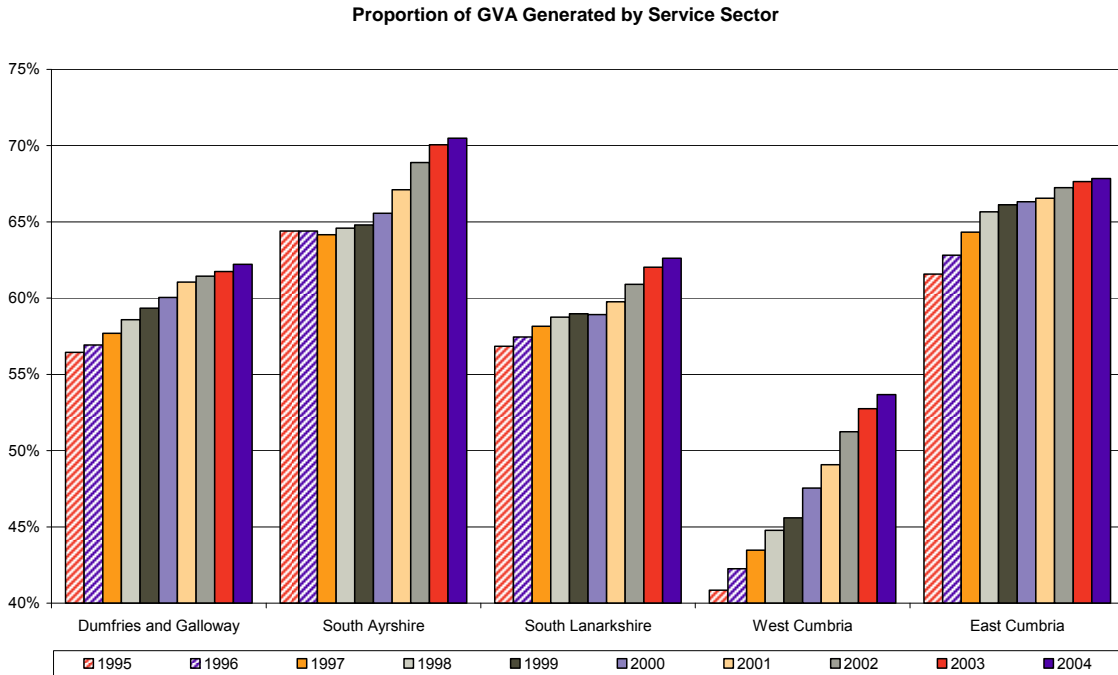


Figure 5.5 Proportion of GVA Generated by Service Sector

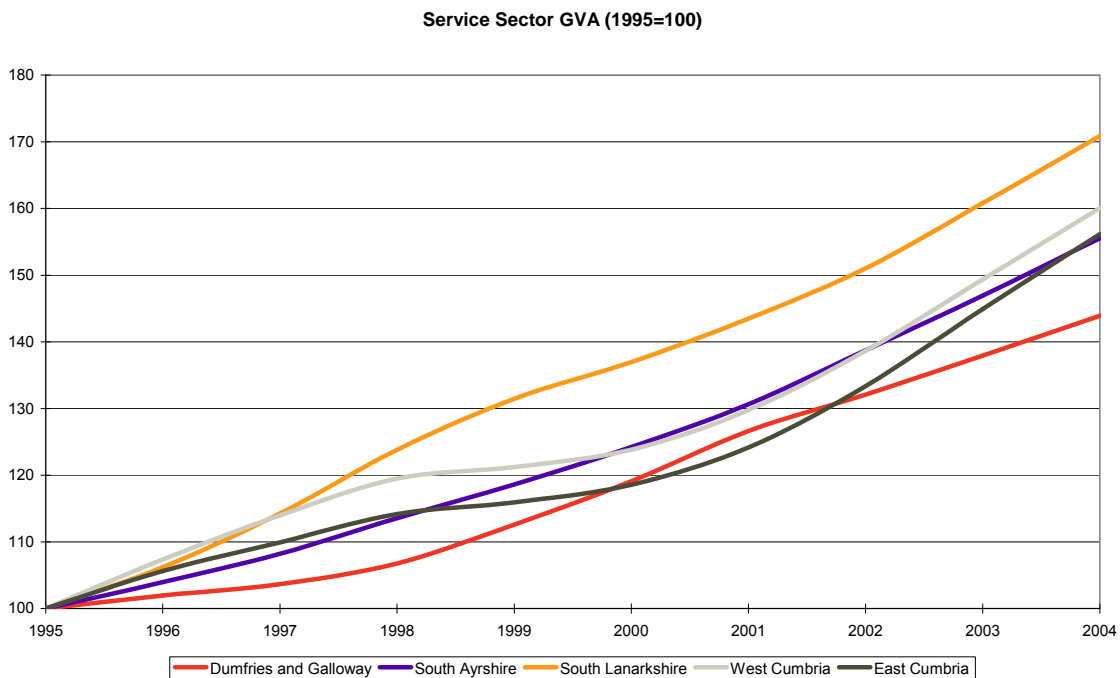


Figure 5.6 Index of Service Sector GVA (1995=100)

⁶ Cumbria Economic Bulletin, September 2006, page 26

5.4.6 More detailed information⁷ shows considerable variation in the performance of components of the service sector. Figure 5.7 shows that whilst some components have grown between 1998 and 2003, others have experienced periods of decline, and overall a very mixed picture is presented.

Figure 9 Service sector output by sub-sector (£ million) 1998-2003

Service Sector	1998	1999	2000	2001	2002	2003
Sale, maintenance and repair of vehicles	40.5	41.4	33.7	76.1	53.1	44.9
Wholesale and commission trade	42.0	74.3	64.2	95.4	79.3	51.8
Retail and repair	124.3	115.8	133.5	164.3	166.8	192.4
Hotels and restaurants	84.1	109.7	88.9	99.3	92.5	122.8
Transport, storage & communication	220.1	248.3	249.9	282.5	241.9	252.5
Real estate, renting & business activities	104.4	96.1	99.2	206.5	149.9	190.6
Education, health & social work	41.8	36.3	33.0	45.9	31.1	29.9
Other community, social & personal services	49.4	66.3	52.5	93.3	98.9	79.5
Total	707	788	755	1,063	914	964

Source: Scottish Annual Business Statistics, Scottish Executive. Based on provisional 2003 figures.

Figure 5.57 Service Sub-Sectors Output

5.4.7 The Dumfries and Galloway Annual Labour Market and Economic Intelligence Report 2006 projected Scottish employment trends which help to inform a “Do Minimum” situation for Dumfries and Galloway, and concluded that⁸:

“There will be a net demand for around 18,500 jobs across the South of Scotland up to 2008, with around 10,290 of these in Dumfries and Galloway. This level of demand is slightly lower than across Scotland as a whole (in terms of the demand as a % of workforce). This is likely to be because the area has a higher proportion of jobs in the manufacturing sector where demand is relatively low, whilst it has a lower proportion of jobs in the banking, finance and insurance sector.”

5.4.8 For Dumfries itself data from the 2001 Census⁹ shows that

“Dumfries’ role as the administrative centre for the region means it has a much higher proportion of employment in Education and health (+6.5%) and public administration (+1.4%) than across Scotland as a whole. It also has a higher share of retail and wholesale jobs reflecting its role as a shopping centre (+2.5%). However there are lower shares of employment in finance (-2.6%) and business, services (-3.2%).”

5.4.9 If the GVA of the service sector in Dumfries and Galloway had grown by the same rate as that achieved in East Cumbria (the sub-region incorporating Carlisle) then as Figure 5.8 shows in most years additional GVA would have been created - almost £300 million in total over the 10-year period.

⁷ Extracted from Scottish Annual Business Statistics (Scottish Executive) and quoted in the Dumfries and Galloway Annual Labour Market and Economic Intelligence Report 2006

⁸ Dumfries and Galloway Annual Labour Market and Economic Intelligence Report 2006, page 32

⁹ Quoted in Dumfries Settlement Profile 2005 (South of Scotland Labour Market and Economic Intelligence)

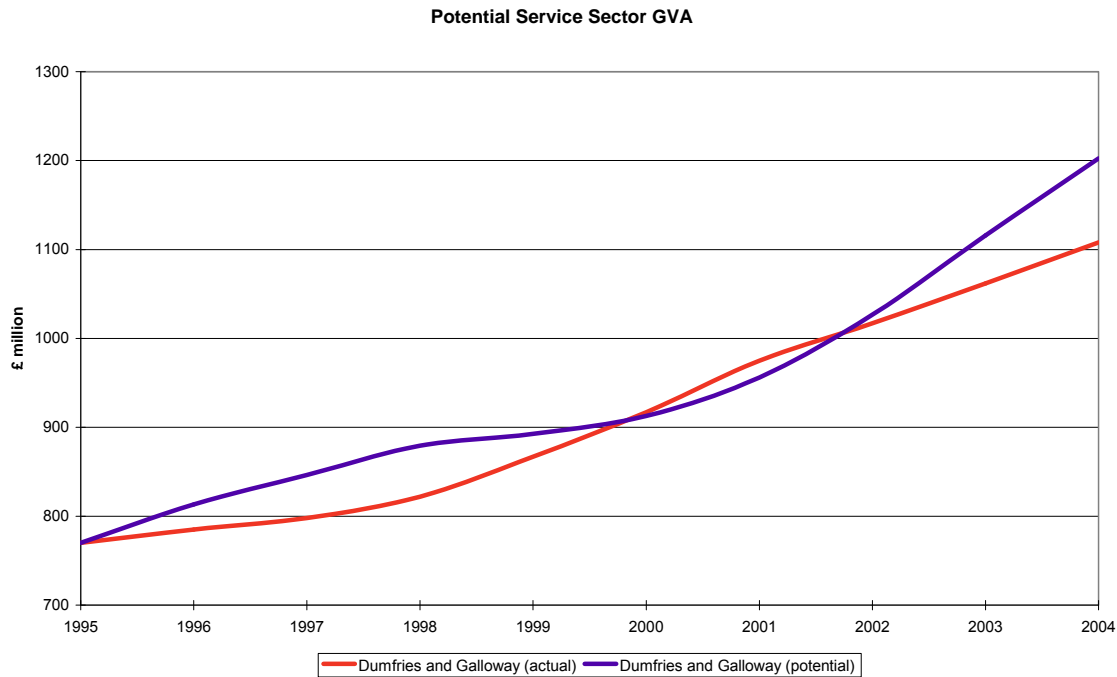


Figure 5.8 Potential Service Sector GVA

- 5.4.10 This poses the question – what would Dumfries and Galloway have needed in order to deliver this growth in service sector GVA? It is clearly simplistic to single out any one factor, however it may be illuminating to consider the relative differences in “geographical access deprivation” – ie how accessible key services are between the two adjacent areas. Using the relevant indices of multiple deprivation, it was possible to identify the proportions of data zones falling into a range of deciles (where Decile 1 = worst access and Decile 10 = best access).
- 5.4.11 Figure 5.9 shows a comparison of access deprivation between Carlisle and Dumfries and Galloway – because of differences in survey methodologies between England and Scotland, comparison of absolute values is not possible. Nevertheless it is clear that accessibility seems to be worse in Dumfries and Galloway: More than half its data zones are categorised as amongst the worst 30% in Scotland, whereas the equivalent figure for Carlisle is around one third. Recently published data for deprivation in 2006 shows no improvement in accessibility within Dumfries and Galloway – in fact data zones with the best 30% accessibility nationally have reduced in number since 2004.

Comparison of Accessibility Deprivation

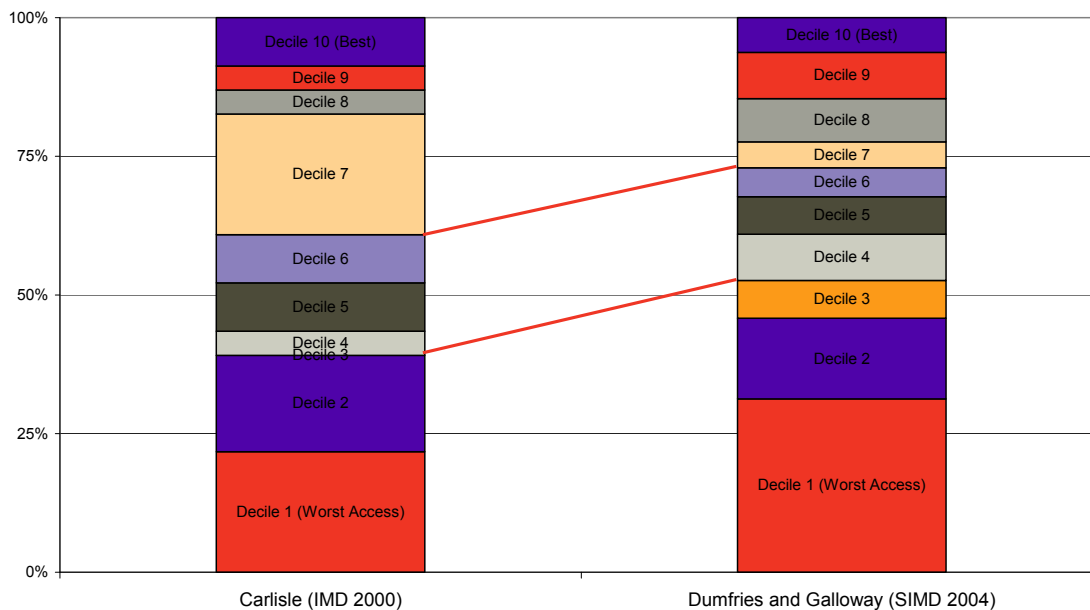


Figure 5.9 Comparisons of Geographical Access Deprivation

5.4.12 It would appear that there could well be economic benefits for Dumfries and Galloway from improved accessibility, and that this in turn could be delivered by the Dumfries Southern Bypass.

Residential Market

5.4.13 Table 5.4 shows data relating to housing and population, comparing Dumfries and Galloway with Carlisle. As can be seen rates of housing completion in the area either side of the border are broadly comparable – although average dwelling prices in Dumfries and Galloway are slightly lower than Carlisle, they are increasing by a much faster rate. Nevertheless population growth has been negligible, suggesting that there may particular benefits for the Dumfries and Galloway residential market through the improved access offered by the Dumfries Southern Bypass.

Table 5.4 Housing and Population Comparisons (generally for 2004/2005 unless stated otherwise)

	Housing Completions (as % of Total Stock)	Average Dwelling Price	% Change in Average Dwelling Price	Population Change ¹ 1995/2005 ² 1982/2002
Dumfries and Galloway	0.82%	£117,000	14.9%	-0.1% ¹
Carlisle	0.76%	£128,000	8.1%	+0.4% ²

Tourism

- 5.4.14 Again a comparison between Dumfries and Galloway and Cumbria may be useful, albeit with the caveat that because statistics are only available for Cumbria as a whole there may be some distortion due to the impact on Cumbria of the Lake District with its international reputation.
- 5.4.15 Table 5.5 compares employment in tourism between the two regions, showing that although Dumfries and Galloway has lower absolute numbers employed in the sector, this actually represents a slightly larger proportion of total jobs in the region than is the case for Cumbria. In Dumfries and Galloway, employment in this sector declined by 8% between 2004 and 2005, one of only three Scottish regions to experience a decline. Tourism-related employment also declined in Cumbria over the same period, but only by around 1.5%¹⁰.

Table 5.5 Tourism-related Regional Employment in 2005

	Tourism-related Employment	As % of Total Employment
Dumfries and Galloway	5,800	10.2%
Cumbria	17,000	8.9%

Sources: Tourism-related Employment in Scotland 2005 (VisitScotland); Tourism Sector Fact Sheet (Careers North West)

- 5.4.16 In terms of the value of tourism to the region, again it is useful to compare Dumfries and Galloway with Cumbria using the figures presented in Table 5.6. This shows that trips declined in both regions because of adverse impacts on the overall tourist market, with Dumfries and Galloway experiencing a greater decline than Cumbria. However Dumfries and Galloway was able to partially offset the impact of declining tourist numbers by growing spending per head – if it proved possible to maintain spending per head but increase trips back to the 2000 level then this would generate in excess of £100 million additional tourist spending per annum in the region.
- 5.4.17 Current figures suggest that approximately 1 tourist-related job is supported by circa £35,000 of tourist-spending¹¹ – on this basis an increase in total spending of the magnitude suggested could generate an additional 2,500 to 3,000 tourist-related jobs in Dumfries and Galloway.

¹⁰ Data for Cumbria taken from "Cumbria Tourism Data 2000-2005"

¹¹ From "Tourism-related Employment in Scotland 2005" (VisitScotland)

Table 5.6 Tourist Numbers and Spending

	2000			2002		
	Trips	Spending	Spending per Trip	Trips	Spending	Spending per Trip
	millions	£millions	£	millions	£millions	£
Dumfries and Galloway	1.25	174	139	0.94	182	194
Cumbria	5.20	822	158	4.48	769	172

Source: Tourist Statistics website (www.star.org.uk)

5.4.18 The economic health of the tourist sector can also be measured by occupancy rates, as shown in Figure 5.10. As can be seen occupancy rates in Dumfries and Galloway are consistently well below those achieved by Cumbria; in neither region is there any evidence of recent improvements in occupancy rates. Again there may be benefits for tourism in Dumfries and Galloway through improved accessibility to the UK market.

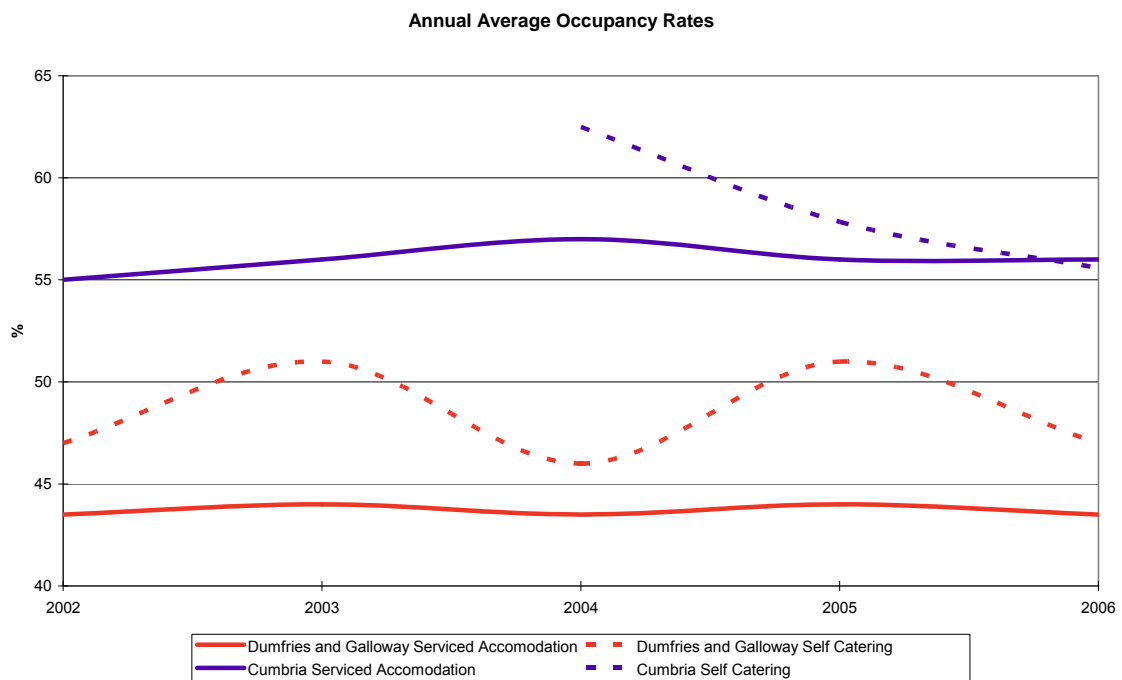


Figure 5.10 Annual Average Occupancy Rates

Sources: Accommodation Occupancy in Dumfries and Galloway (VisitScotland); Served Accommodation Occupancy Survey and Self Catering Occupancy Survey (both Cumbria Tourism)

Summary of EALIs

- 5.4.19 Taking account of the discussion set out above, we have concluded that the Dumfries Southern Bypass would have a positive impact on the regional economy, and that some of these impacts will be net positive even at the “All Scotland” level. If the continuing development of the Crichton site is supported by the Bypass then this will have positive impacts on expansion of the region’s service sector, which in turn would impact positively on the GVA. There may also be more limited, but nevertheless positive, impacts on the region’s residential and tourist markets and the Bypass may contribute to securing Dumfries’ competitiveness vis-à-vis Carlisle.
- 5.4.20 For these reasons we have concluded that the Bypass would have a **Moderate Positive** benefit in terms of EALIs, although we would recommend that further, more detailed examination of potential EALIs should be undertaken when a full STAG Part 2 appraisal is undertaken.

5.5 Overall Economic Assessment

	Transport Economic Efficiency (TEE)	Economic Activity and Location Impacts (EALIs)
Dumfries Southern Bypass	✓✓✓	✓✓

6 Integration

Government Objective

To improve integration by making journey planning and ticketing easier and working to ensure smooth connection between different forms of transport.

6.1 Summary of Position after STAG Part 1

6.1.1 During the STAG Part 1 appraisal we undertook a detailed scoping exercise of integration impacts for the proposed interventions, under the three STAG sub-headings:

- transport integration;
- transport land-use integration; and
- policy integration.

6.2 Transport Integration

6.2.1 As outlined in the initial STAG Part 1 Appraisal, the guidance recognises that the most of the assessment of this sub-objective will be captured by TEE. Transport integration should only be appraised if **both** of the following justifications apply:

- there is an identifiable impact on transport interchange; **and**
- aspects of this impact are not captured elsewhere in the appraisal (eg TEE).¹².

6.2.2 Transport interchange as it affects people is subdivided by STAG into:

- services and ticketing; and
- infrastructure and information.

6.2.3 Taking account of the criteria set out above, the new Bypass proposal would have **no significant impact** on transport interchange in the area. However the bypass would by its nature redirect non essential traffic around Dumfries town centre rather than through it. This would have the effect of freeing up essential road space which would allow public transport to move more freely. The bypass will significantly reduce the through traffic entering the town and provide local traffic with better access to other routes into the town centre. This should mean less congestion which is beneficial for drivers and for the environment.

¹² STAG, section 9.2.1

6.3 Transport Land Use Integration

6.3.1 For Initial (ie Part 1) Appraisal, STAG is specifically aimed at determining whether any land required is preserved for uses that are entirely incompatible with transport, although there is also a need to ensure that proposals fit with transport land-use policies of the local authority and the Scottish Executive.

6.3.2 We therefore considered in some detail at this initial stage the relationship between such documents as Structure Plans, Local Plans and Scottish Planning Policy statements on the one hand, and the intervention being appraised. Because of the depth of appraisal already undertaken, our work in this more detailed phase was simply to ensure that we took cognisance of any recent changes to land-use plans in the area – for the most part this was reflected in the EALI analysis reported in the previous chapter. The remainder of this section therefore simply reprises our analysis from the initial appraisal phase to present a full picture of the benefits of the Dumfries Southern Bypass.

6.3.3 The following documents were consulted as part of this sub-heading:

- Nithsdale Local Plan;
- Dumfries and Galloway Structure Plan;
- SPP17;
- PAN 75; and
- and PAN 66.

6.3.4 A summary showing how the Southern Bypass proposal fits with the policies included in the above documents is provided in Appendix C. This shows that a Southern Bypass would complement the land-use policies or, at worst, have a neutral effect, ie there are no 'showstoppers' where the development of a bypass is in contradiction to existing policies.

Nithsdale Local Plan

6.3.5 Within the existing Nithsdale Local Plan suitable sites were allocated for housing in the short-medium term. Additional policy provided for business and industrial development together with specific policies relating to the Crichton and Ladyfield areas targeted at Further and Higher Education, Business, Recreation and Cultural uses.

6.3.6 A number of potential sites in and around Dumfries Town Centre were deemed not satisfactory for development during this process, mainly due to the either one or a combination of the following factors:

- sites that currently act as flood plains for the River Nith / Cluden Water;
- ground conditions; and
- existing issues with traffic congestion on the two main routes (the A780 and A756 bridges) accessing/egressing the town centre from west / south-west of the River Nith.

6.3.7 Consequently, continuing to develop the regions economy and status may be difficult in the longer term as a result of the above constraints and appropriate land availability.

- 6.3.8 The development of the Marchfield area, to the north-east of the town centre, is now underway which will significantly increase the residential traffic in the area – 920 houses by 2015, of various types, will be built reinforcing the need for traffic relief in the area. In addition, proposals exist for a further 400 residential properties and a business park located on neighbouring land.
- 6.3.9 The Barnhill area, on the western peripheral of Dumfries is also underway with around 200 of the forecast 400 residential properties complete. It is estimated that the remaining 200 properties will be constructed by 2014-2015. This additional residential traffic will exhibit increased pressure on presently constrained routes between Dumfries Town Centre, the Crichton area and the west.

Imminent Local Development Plan (LDP)

- 6.3.10 The construction of a Southern Bypass will be a significant consideration in the delivery of the imminent Local Development Plan. As indicated above, suitable land availability for development in the vicinity of Dumfries Town Centre in the medium-longer term (2015 onwards) is restricted. Consequently, the bypass could facilitate the release of land in the south and west suitable for development, whilst providing a critical additional crossing over the River Nith, which will attribute to safeguarding aspirations for long-term growth and increased prosperity.
- 6.3.11 It should be noted, appropriate analysis of available land will be a prerequisite to the LDP.
- 6.3.12 In more general terms the Southern Bypass will provide an opportunity to define a hard southern edge to development around Dumfries contributing to preservation of the remaining greenbelt.

Town Centre Integration and Promotion of Sustainable Transport

- 6.3.13 It is essential to highlight that this is not a 'predict and provide' scheme – existing traffic conditions in Dumfries are untenable and heavy congestion is a familiar occurrence at a number of 'bottlenecks' in the town environs, most notably Nith Bank and the two bridges over the River Nith linking the town centre to the west.
- 6.3.14 The proposed Bypass will displace traffic from the town centre, assisting the integration of the town centre and its immediately surrounding area. The obvious relief in traffic congestion will release road space that would be re-allocated to support complimentary, sustainable transport measures which will provide viable alternatives to the private vehicle.

6.3.15 Thus far, no complementary measures have been designed; however, opportunities exist to promote better public transport services, including bus priority, and the use of cycling and walking as sustainable modes of transport which will, in turn, increase the attractiveness and amenity of the town centre environ. For example, the following measures identified during the Dumfries South Study could be investigated and developed further with a view to implementing these solutions in the same time-frame as the bypass to capitalise on the capacity released from the redistribution of vehicle trips:

- bus interchange facility;
- revised traffic signal settings or traffic management measures to reflect altered traffic patterns;
- bus priority measures;
- additional cycling and pedestrian facilities.

6.3.16 The increase in network capacity, reliability and safety, together with carefully designed complementary measures will assist in mode shift towards more sustainable transport modes. An opportunity exists to specifically target new development opportunities to ensure emerging trips have a viable alternative to the private vehicle available from the outset.

6.3.17 It is also worth highlighting that discussions are on-going with regards to regenerating the town centre retail area. Discussions have suggested linking the High Street with the Whitesands. Thus, the traffic decongestion in the town centre as a result of the bypass will assist and could potentially increase the scope of any proposal offered, eg pedestrianisation.

6.4 Policy Integration

6.4.1 This has been approached in two parts; firstly *“a simple check to see if the proposal is in harmony with the aims of wider government policies and national transport targets”*¹³; secondly to briefly assess the intervention against transport policies, such as the Local Transport Strategy and central government policies/targets, before then turning to non-transport policies including:

- disability;
- health;
- rural affairs; and
- social exclusion.

6.4.2 The Disability and Social Exclusion issues are dealt with in the next chapter, and thus only Health and Rural Affairs need to be assessed separately in terms of integration with wider government policy.

¹³ STAG, section 9.4.2

6.4.3 Reference was made to the following documents:

- Scotland's Transport Future – Scottish Executive White Paper; and
- Scotland's National Transport Strategy 2006.
- SWestrans Regional Transport Strategy

6.4.4 The first set of statutory Regional Transport Strategies was submitted by all 7 Regional Transport Partnerships by April 2007, and revised in April 2008. SWestrans RTS and its subsequent draft Delivery Plan recommends a number of interventions designed to support and contribute towards their Vision for transport in and around the region.

6.4.5 The RTS draft delivery plan recognises the A75 Dumfries Southern Bypass as a priority intervention. It recommends that this intervention should proceed as a standalone project, as it is of sufficient scale to deliver critical economic and social benefits in its own right. The document goes on to state that it will *“deliver improved traffic conditions in Dumfries town centre, which in turn facilitate investment in the public realm, improved conditions for walking and cycling, better safety, and improved local air quality”*¹⁴.

6.4.6 In addition to this, the RTS places specific emphasis on the benefits the Southern Bypass would offer in terms of improved connectivity to the critical Crichton area and the health and education services located there.

6.4.7 Consequently, we believe that there is strong synergy between the contents of RTS document and the proposals we have brought forward in this report and are consistent with the following key policies outlined in the RTS¹⁵, viz:

- **Policy 1** – The Partnership will promote schemes which will not only benefit Dumfries and Galloway but will add value to the broader Scottish economy and underpin national economic growth, aligning to local and national policy objectives.
- **Policy 2** - Transport interventions promoted through the Regional Transport Strategy will support the regional economy in relation to local jobs and also facilitate sustainable connectivity internally as well as externally to key business centres in the central belt and other locations such as Ayrshire and Cumbria.
- **Policy 3** - The Regional Transport Strategy seeks to improve quality of life by promoting vibrant places which provide access for all to employment, healthcare, education and other services.
- **Policy 4** - Transport interventions incorporated in the Regional Transport Strategy seek to address peripherality between the region's main settlements and outlying areas, and between the region and its external markets.
- **Policy 6** - The Partnership will assist the Scottish Government in delivering on its five high level national objectives and the National Transport Strategy. A presumption will be given in favour of transport improvements linked to the strategic vision based on well defined economic, social and environmental objectives

¹⁴ Regional Transport Strategy Delivery Plan (SWestrans, March 2009), Chapter 3

¹⁵ Regional Transport Strategy (SWestrans, April 2008), sections 9.3

6 Integration

- 6.4.8 Overall, it can be seen that the policy context is consistent with proposals for a Dumfries Southern Bypass. As such, we have concluded that a Southern Bypass would complement national transport policies or, at worst, have a neutral effect, ie there are no 'showstoppers' where the development of a bypass is in contradiction to existing policies.
- 6.4.9 In addition, as recommended by STAG, a check was undertaken comparing the identified options against national transport targets¹⁶ and wider, non-transport government policies. A summary showing how the Southern Bypass proposal fits with the policies included in the above documents is provided in Appendix C.

6.5 Non Transport Policies

Health

- 6.5.1 The recent transport White Paper acknowledges: "How we choose to travel has an impact on our health ... Good travel habits can contribute to a healthier lifestyle ... The health improvement challenge sets out a framework for action and emphasises the importance of physical activity."¹⁷
- 6.5.2 The Scottish Executive has set out its aspirations for improving Scotland's health¹⁸ and it is clear that measures which promote physical activity over inactivity will contribute to furthering these aims – the promotion of so-called "active travel". In this regard modal shift to public transport will generally be favoured, particularly where access to the/from the public transport network is either by walking or cycling.
- 6.5.3 Looking at the creation of the Dumfries Southern Bypass under appraisal, whilst the scheme does not aim to achieve some degree of modal shift towards public transport, it should free up road space within Dumfries town centre which would allow better public transport movements. It can be argued that the creation of the Dumfries Southern Bypass would indirectly produce a positive benefit for public transport patronage in the town. As the bypass relieves traffic congestion within the town, positive benefits should be expected in the form of better air quality and possibly accident reduction.

Rural Affairs

- 6.5.4 As emphasised on its website, the Scottish Executive *"is committed to supporting rural life, rural communities and the rural economy. To do so it has 'mainstreamed' the needs of rural Scotland within all its policies."*
- 6.5.5 The contribution that the creation of a bypass can make to supporting rural life is not obvious, however given that Dumfries and Galloway due to its geographical location is essentially a car dependant community, better transport routes can only enhance life for the rural community who are dependant on their vehicles.

¹⁶ Scotland's Transport: Delivering Improvements – Transport Indicators for Scotland (*Scottish Executive*, 2002), Annex A

¹⁷ Scotland's Transport Future (*Scottish Executive*, June 2004), paragraphs 4.59, 4.60 & 4.61

¹⁸ Improving Health in Scotland (*Scottish Executive*, March 2003)

6 Integration

6.6 Overall Assessment against Government Objective for Integration

	Transport Integration	Transport Land Use Integration	Policy Integration	Overall Appraisal for Integration
Dumfries Southern Bypass	0	✓	✓	✓