Bexhill to Hastings Link Road

Traffic and Transport Report Addendum

Issue and Revision Record

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Chapters

1 Introduction

1.1.1 This document responds to queries raised on the Economic Assessment Report which was Appendix D to the Travel and Transport Report provided with the Environmental Statement.

2 Issues to be addressed

2.1 *The Economic assessment is based on the Most Likely scenario. It is not explained what this scenario is and what other scenarios were considered.*

2.1.1 Most Likely trip matrices have been built using housing and commercial development assumptions supplied by East Sussex County Council. Estimated housing completions for Bexhill, Hastings and Battle, are based on April 2004 commitments which formed the basis of the South East Plan (SEP) housing provisions for East Sussex. They include an allowance for windfall sites and include new allocations necessary to meet SEP targets. Estimated commercial developments for Bexhill and Hastings for the modelling for this Scheme were agreed between ESCC and SeaSpace. TEMPRO v5.3 program growth factors have been applied to calculate traffic growth through potential growth in population and employment in zones outside of Bexhill and Hastings. In addition, ESCC has reviewed the population and employment planning data within the TEMPRO program for the East Sussex districts, and have provided revised projections for these areas which have been used in the preparation of the trip matrices. Further detailed information is available in the Traffic Forecasting Report.

2.1.2 A high growth sensitivity test was considered. However, the lack of certainty in the precise locations and level of this additional development together with its possible developer funded additional infrastructure requirements and implications led to the conclusion that to presume a high growth scenario, reflecting a specific land allocation, would be premature.

2.1.3 Additional details on the scenarios modelled and considered can be found in the Traffic Forecasting Report.

2.2 *The report does not state the cost base of the scheme cost, which would enable a check on the discounted 2002 investment costs shown in table 5-1.*

2.2.1 The scheme costs given in Table 2-1 of the Economic Assessment Report are in 2006 prices. This should provide sufficient information to allow the 2002 investment costs to be checked.

2.3 ***A cost is shown for a developer funded connection. The report does not say how these costs have been dealt with. A developer contribution should be shown both as a disbenefit to business (reducing the benefits), and also as an income against the costs of the scheme (reducing the costs). The breakdown in table 5-1 is not sufficiently detailed to check this.***

2.3.1 Within the ES TUBA assessments, the developer funding was included within the scheme construction costs and not included as a developer contribution. This has been corrected and Table 2.2 below shows the revised economic assessment results.

2.4 ***The annualisation factors appear to be unusual. The factors and text imply that the economic assessment covers a total of 9 hours, 0800-0900, 1000-1600 and 1600-1800, for weekdays only. Not including weekends and the off peak would probably make little difference assuming the benefits then were negligible if flows are generally low. However, given the flows in Figure 2-1, 0700-0800, 0900-1000 and 1800-1900 all have similar levels of flow to the interpeak period and omitting them is likely to have underestimated the benefits of the scheme.***

2.4.1 As detailed model results for the weekday hours of 0700-0800, 0900-1000 and 1800-1900 were not available, it was felt prudent to omit these from the calculation of scheme benefits. If benefits from these hours were included, we agree that the scheme benefits would increase in the order of £74,000,000, with a resulting BCR of 5.2.

2.5 ***The accident benefits, which have been based on AADT flows, are therefore not consistent with the travel time and vehicle operating cost benefits. This may also apply to the noise benefits, assuming they were also calculated from daily traffic figures (which is not explicit in the report).***

2.5.1 The AADT flows within the COBA assessments were based using the flows from each of the modelled time periods multiplied up to AADT levels using the same Automatic Traffic Counter that was used to calculate the annualisation factors for TUBA. COBA always presents results for AADT flows. Therefore for the Link Road assessment, the COBA results will include benefits from hours during the week for which TUBA benefits have not been included.

2.5.2 As specified in the Department of Transport memorandum "Calculation of Road Traffic Noise" the traffic flows used in the traffic noise assessment are the 18 hour (06:00 to 24:00) AAWT (Annual Average Weekday Traffic).

2.6 ***Local calculated accident rates are very high – in particular for A259 Glyne Gap where the local rate is almost 10 times higher than COBA default rates.***

2.6.1 There is an error in the calculation of local base year accident rates presented in the ES. Table 2.1 below shows the corrected local accident rates and Table 2.2 shows the revised economic benefit calculations.

Table 2-1: Accident Rate Comparison

	Local Accident Rate	COBA Default Accident Rate
A271	0.22	0.226
B2095	0.31	0.297
Henleys Down	0.09	0.297
A259 Glyne Gap	0.60	0.226
Scheme – Bexhill end		0.297
Scheme – Hastings end		0.102

Table 2-2: Overall Scheme BCR

Benefits/Disbenefits/Costs	Most Likely £000's
TUBA Benefits	199,241
COBA Benefits	28,542
Noise Benefits	-1,574
Present Value of Benefits (PVB)	**226,209**
Present Value of Costs (PVC)	**61,769**
Net Present Value (NPV)	**164,440**
BCR (PVB/PVC)	**3.7**

All entries are present values discounted to 2002, in 2002 prices

2.7 ***There is not much information on the derivation of the Noise benefits, is the figure a 60 year figure?***

2.7.1 Monetary noise benefits have been calculated over 60 years using the methodology given in WebTAG Unit 3.3.2. The output spreadsheet is

included in the appendices to Chapter 11 of the Environmental Statement which deals with noise and vibration. We hope this answers the question satisfactorily.

2.8 ***Appraisal does not appear to have taken account of delays and accidents during construction and maintenance (QUADRO). It is possible that construction delays would be of minimal effect if the works would not affect any existing roads, and maintenance delays could also be minimal if works were only conducted in the off peak.***

2.8.1 Chapter 3B of the Environmental Statement entitled Construction Strategy states that programming of roadworks would aim to maintain traffic flow throughout the construction phase. The construction of the works has been assessed and the key areas of potential impact are at Belle Hill junction, Crowhurst Road and Queensway junction. The replacement of existing road bridges over the Scheme at Woodsgate Park Road and particularly Ninfield Road would also impact on the road network.

2.8.2 Management of the construction works associated with these areas would be designed to minimise the impact on the local road system. This would be achieved by the use of road closures at Crowhurst Road and Woodsgate Park Road, temporary traffic lights at Ninfield Road and Queensway and lane restrictions at Belle Hill. Advance notice and temporary signage would indicate the nature and duration of any restrictions.

2.8.3 Tie-in works to Belle Hill, Queensway and Crowhurst Road would be generally undertaken over short periods and during night time partial temporary closures.

2.8.4 The detail of the traffic management has not yet been confirmed and therefore QUADRO analysis of the delays during the works has not been carried out**.** For most schemes, QUADRO analysis is requested by the highway authority once detailed design is complete and the traffic management approach confirmed.

2.8.5 As for maintenance, currently any works required on the A259 between Glyne Gap roundabout in Bexhill and the junction with Harley Shute Road in Hastings requires single lane working with traffic signals. With the Link Road in place there will be an additional alternative route between Bexhill and Hastings for traffic to use and therefore delays as a result of works on the existing stretch of A259 should reduce as traffic switches to the Link Road. For works on the Link Road, the existing A259 will act as an alternative route. Therefore overall, we would consider that the levels of delays during maintenance are likely to be reduced with the Scheme.

2.9 ***No reference to maintenance costs being included in the costs – as this is a new link road there would be a difference in maintenance costs between the Do Min and Do Something.***

2.9.1 No specific assessment of maintenance cost has been made. This will simply form part of ESCC's annual programme with resources distributed on a needs basis. DMRB Volume 13 includes default non-traffic related maintenance costs per km of road. Using these figures, the maintenance costs for the Scheme would be £41,292 per year. Retaining the current TUBA annualisation factors but including these default maintenance costs would reduce the scheme BCR to 3.1.

2.10 ***It would be useful to have the full economic tables to see the breakdown of the costs and benefits, and ideally the full TUBA output to see the streams of benefits and costs over the 60 years.***

2.10.1 Appendix A contains the TEE, PA and AMCB worksheets for the economic assessment of the Most Likely scenario. The full TUBA output can be supplied electronically if required.

2.11 ***In the test delaying the opening year to 2012, it is not clear whether different assumptions have been made in the spend profile for the costs (ie would all costs be incurred two years later as well), or whether these remained the same regardless of the opening year. It is also not specified whether they were recalculated to reflect a delay in construction.***

2.11.1 The test assuming an opening year of 2012 uses a more spread out cost profile with construction inflation applied appropriately. Table 2.3 below shows the revised cost profile used.

Table 2-3: Scheme Costs Including Risk and Optimism Bias

		2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014	TOTAL
BHLR Scheme	**Construction**					4,049	28,639	25,437		58,125
	Land	120	1,700		6,250				1,300	9,370
	Preparation	1,810	320	700	880					3,710
	Supervision				170	380	340	100		990
	Risk		325	77	1,990	1,850	3,404	2,640	225	10,511
	TOTAL	1,930	2,345	777	9,290	6,279	32,383	28,177	1,525	82,706
	Optimism Bias	290	352	117	1,393	942	4,857	4,227	229	12,406
	TOTAL plus Optimism Bias	2,220	2,697	893	10,683	7,221	37,241	32,403	1,754	95,112
Development Connection	**TOTAL plus Optimism Bias**					17,940				17,940
Complementary Measures	**TOTAL plus Optimism Bias**						2,244			2,244

2.12 ***There is no information on where the figure comes from of 2000 additional jobs which will be facilitated by the scheme (paragraph 5.4.4 in the report). The estimated value of these jobs (£44.8m) does not add up with the figures. It would be useful to have more information on these jobs and when they would occur to be able to equate the discounted 2002 PVB to the £44.8m figure.***

2.12.1 The figure of 2,000 additional jobs is taken from the Regeneration Statement that accompanied the BHLR Planning Application. The 2,000 additional jobs were assessed as being worth £23,000 per job in 1999 prices. This equates to £48.9million in 2002 prices and £22.2m discounted assuming all jobs do not occur until 2025. The £44.8m undiscounted figure in the EAR was a typing error.

2.13 ***Section 6 refers to sensitivity tests on the parameters within DIADEM. However, it is not clear which parameters have been changed or by how much to bring about this level of change in the BCR.***

2.13.1 Section 5.1 in the Traffic Forecasting Report explains that for this sensitivity test the DIADEM lambda parameters have been doubled.

2.14 ***Paragraph 6.1.1 refers to a BCR for the sensitivity test of 2.1. This is presumably including the accident benefits as it differs slightly from that reported in table 6-1. However, this BCR is inconsistent with that reported for the main scheme, as the sensitivity test does not include noise disbenefits, which are likely to be larger due to more and longer trips.***

2.14.1 Para 6.1.1 explains that the TUBA and COBA assessments have also been run using the results of the DIADEM parameters sensitivity test to check the robustness of the Scheme. This BCR calculation of 2.1 therefore includes the results in Tables 6.1 and 6.2. Noise disbenefits have not been recalculated using the flows from this sensitivity test. The disbenefits are likely to increase due to more and longer trips. However, the noise disbenefits make up only a small part of the overall scheme BCR.

Appendix A TUBA Outputs

Table 1: Economic Efficiency of the Transport System (TEE)

Consumers	**ALL MODES**		**ROAD**		**BUS & COACH**	**RAIL**		**OTHER**
User benefits	**TOTAL**		**Private Cars and LGVs**		**Passengers**	**Passengers**		
Travel time	96,529		96,529					
Vehicle operating costs	-21,196		-21,196					
User charges								
During Construction & Maintenance								
NET CONSUMER BENEFITS	75,333	*(1)*	75,333					
Business								
User benefits			**Goods Vehicles**	**Business Cars & LGVs**	**Passengers**	**Freight**	**Passengers**	
Travel time	125,664		55,517	70,147				
Vehicle operating costs	10,377		6,958	3,256	164			
User charges								
During Construction & Maintenance								
Subtotal	136,041	*(2)*	62,475	73,402	164			
Private sector provider impacts						**Freight**	**Passengers**	
Revenue	2,338				1,051		1,287	
Operating costs								
Investment costs								
Grant/subsidy								
Subtotal	2,338	*(3)*			1,051		1,287	
Other business impacts								
Developer contributions	-14,471	*(4)*	-14,471					
NET BUSINESS IMPACT	123,908	*(5) = (2) + (3) + (4)*						
TOTAL								
Present Value of Transport Economic Efficiency Benefits	199,241	*(6) = (1) + (5)*						

Notes: Benefits appear as positive numbers, while costs appear as negative numbers.
All entries are discounted present values, in 2002 prices and values

Table 1 Public Accounts

Public Accounts

	ALL MODES TOTAL		ROAD INFRASTRUCTURE	BUS AND COACH	RAIL	OTHER
Local Government Funding						
Revenue						
Operating Costs						
Investment Costs						
Developer and Other Contributions	-14,471		-14,471			
Grant/Subsidy Payments						
NET IMPACT	-14,471	*(7)*				
Central Government Funding						
Revenue						
Operating costs						
Investment Costs	95,103		95,103			
Developer and Other Contributions						
Grant/Subsidy Payments						
Indirect Tax Revenues	-18,863		-19,096	178	55	
NET IMPACT	76,240	*(8)*	76,007	178	55	
TOTAL Present Value of Costs (PVC)	61,769	*(9) = (7) + (8)*				

Notes: Costs appear as positive numbers, while revenues and 'Developer and Other Contributions' appear as negative numbers.

All entries are discounted present values, in 2002 prices and values

Table 2 Analysis of Monetised Costs and Benefits

Analysis of Monetised Costs and Benefits

Noise	-1,574	
Local Air Quality		
Greenhouse Gases		
Journey Ambience		
Accidents	28,542	
Consumer Users	75,333	
Business Users and Providers	123,908	
Reliability		
Option Values		
Present Value of Benefits (see notes) (PVB)	226,209	
Public Accounts	61,769	
Present Value of Costs (see notes) (PVC)	61,769	
OVERALL IMPACTS		
Net Present Value (NPV)	164,440	*NPV=PVB-PVC*
Benefit to Cost Ratio (BCR)	3.7	*BCR=PVB/PVC*

Note : This table includes costs and benefits which are regularly or occasionally presented in monetised form in transport appraisals, together with some where monetisation is in prospect. There may also be other significant costs and benefits, some of which cannot be presented in monetised form. Where this is the case, the analysis presented above does NOT provide a good measure of value for money and should not be used as the sole basis for decisions.