

Appendix H

H.

H.A Projected Scheme Maintenance Profiles

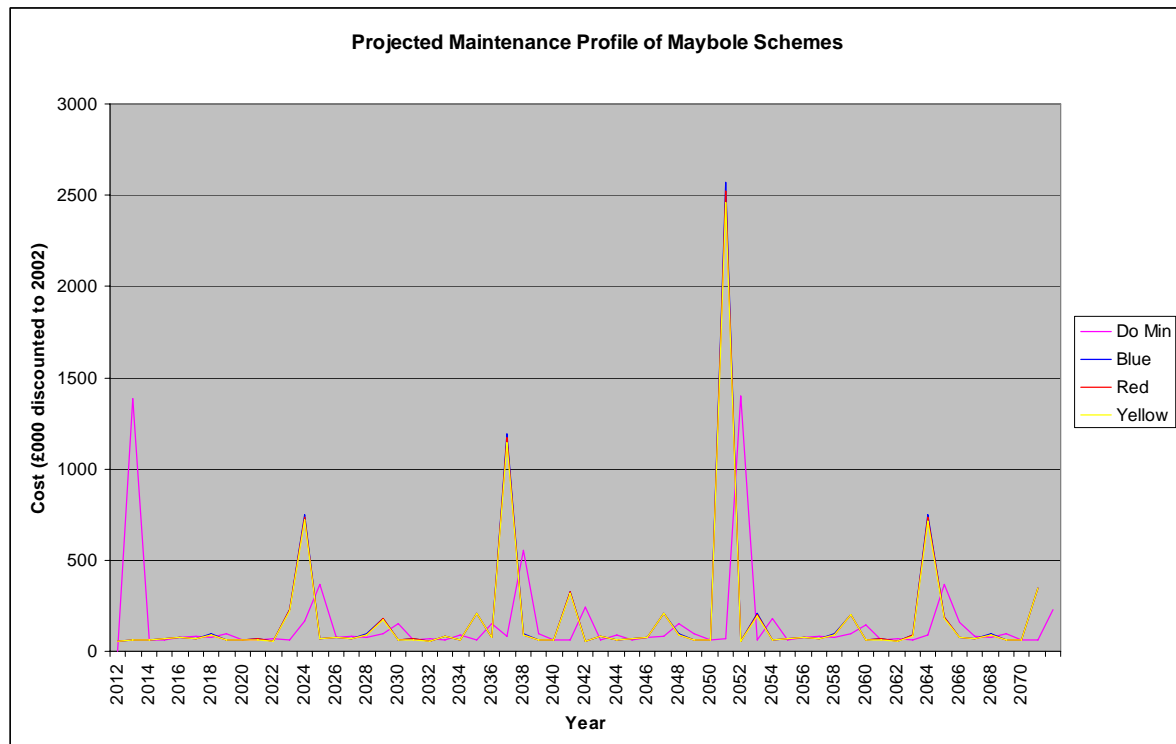
H.A.1 Maintenance costs for the 'Do Minimum' and 'Do Something' scenarios were calculated over a 60 year period from and including the opening year. An Optimism Bias of 44% was applied to Maintenance Costs, in accordance with the latest guidance from Transport Scotland. These costs are shown in Table H.1.

Table H.1 – Estimated scheme maintenance costs at 2005 Q2 prices

Scheme Option	Maintenance Cost		Total
	Funding Agency	Government	
'Do Minimum'	£13,036,234	0	£13,036,234
Option 1.1	£14,883,684	£13,036,234	£27,919,918
Option 1.2	£15,724,074	£13,036,234	£28,760,308
Option 1.3	£15,865,439	£13,036,234	£28,901,673
Option 1.4	£15,119,876	£13,036,234	£28,156,110
Option 2.1	£14,862,317	£13,036,234	£27,898,551
Option 2.2	£15,685,653	£13,036,234	£28,721,887
Option 2.3	£15,540,092	£13,036,234	£28,576,326
Option 2.4	£14,795,228	£13,036,234	£27,831,462
Option 3.1	£14,745,336	£13,036,234	£27,781,570
Option 3.2	£15,331,076	£13,036,234	£28,367,310
Option 3.3	£15,169,656	£13,036,234	£28,205,890
Option 3.4	£14,582,099	£13,036,234	£27,618,333

H.A.2 Figure A1 displays the projected maintenance profiles of the Maybole Scheme Options. All costs are in pounds sterling, discounted to 2002. Note that the Blue, Red and Yellow schemes have been aggregated and averaged.

Figure H.1 – Projected Scheme Maintenance Costs



H.B Maybole Historical Accident Data

H.B.1 Table B1 displays historical accident data on the A77 in Maybole for the modelled Paramics area.

Table 0.1 – Maybole Accident Data 2000-2005

ROAD	SECTION	REF	EASTING	NORTHING	DATE	SEVERITY
A77	11632/23	UD71007	232180	612520	31/07/2003	FATAL
A77	11632/23	UD70209	232164	612543	13/09/2004	FATAL
A77	11632/23	RA70201	232236	612409	10/01/2000	SERIOUS
A77	11632/23	RA70403	232259	612422	08/03/2000	SERIOUS
A77	11632/23	RA21407	232231	612459	31/07/2000	SERIOUS
A77	11629/11	UD20606	229360	609590	12/06/2001	SERIOUS
A77	11629/05	UD21206	228939	609529	12/06/2002	SERIOUS
A77	11632/05	UD20802	232079	611701	18/02/2003	SERIOUS
A77	11629/52	UD20205	230407	610254	05/05/2003	SERIOUS
A77	11632/23	UD00104	232278	613103	01/04/2004	SLIGHT
A77	11629/45	RA21107	230152	610001	27/07/2000	SLIGHT
A77	11632/05	RA04111	232188	612211	21/11/2000	SLIGHT
A77	11629/52	UD20212	230470	610300	05/12/2000	SLIGHT
A77	11632/05	UD20706	232239	612398	09/06/2001	SLIGHT
A77	11629/45	UD21012	230026	609904	24/12/2001	SLIGHT
A77	11632/05	UD00803	231730	611057	05/03/2002	SLIGHT
A77	11632/05	UD20304	232127	611751	04/04/2002	SLIGHT
A77	11629/32	UD21505	229925	609827	27/05/2002	SLIGHT
A77	11629/45	UD20308	230136	610006	06/08/2002	SLIGHT
A77	11629/32	UD20307	229845	609765	02/07/2003	SLIGHT
A77	11629/32	UD21102	229731	609709	09/02/2004	SLIGHT
A77	11632/05	UD21303	232240	612372	27/03/2004	SLIGHT

H.C Abridged Traffic and Economic Evaluation Report (TEER) results for all scheme options

H.C.1 Table C.1. presents economic results for each scheme option. This table combines data from TUBA, NESA and QUADRO in TEER form.

Table 15A - The Economic Efficiency of the Road System in Market Prices (£M)

IMPACT	Blue Option				Red Option				Yellow Option				Yellow Option (High growth sensitivity)			
Consumer User Benefits	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	3.1	3.2	3.3	3.4
<i>User Benefits</i>																
Travel Time	81.42	83.69	82.85	86.03	86.54	88.39	86.73	90.24	85.82	88.88	87.06	91.05	103.47	106.05	105.14	108.19
Vehicle Operating Costs	3.04	3.28	2.99	3.18	3.00	3.06	2.94	3.12	3.14	3.25	3.09	3.19	3.00	3.09	2.96	3.04
<i>Travel Time & Vehicle Operating Costs</i>																
During Construction	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05
During Maintenance	1.11	0.00	1.10	-0.04	1.12	-0.08	1.10	-0.04	1.01	-0.30	1.00	-0.25	1.01	-0.30	1.00	-0.25
Net Consumer Benefits	85.53	86.92	86.90	89.13	90.61	91.32	90.72	93.27	89.92	91.78	91.09	93.95	107.43	108.79	109.05	110.92
<i>Business User Benefits</i>																
Travel Time	118.55	120.59	120.74	123.49	125.41	127.15	126.14	130.85	125.40	127.96	126.38	130.37	140.82	143.29	142.42	145.78
Vehicle Operating Costs	10.11	10.25	10.19	10.31	10.49	10.52	10.44	11.55	10.85	10.91	10.86	11.00	12.56	12.66	12.60	12.77
<i>Travel Time & Vehicle Operating Costs</i>																
During Construction	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04
During Maintenance	1.22	-0.35	1.20	-0.09	1.22	-0.14	1.20	-0.10	1.10	-0.39	1.08	-0.34	1.10	-0.39	1.08	-0.34
Net Business User Benefits	129.84	130.45	132.08	133.66	137.07	137.48	137.74	142.26	137.31	138.44	138.27	140.98	154.44	155.52	156.06	158.16
<i>Private Sector Provider Impacts</i>																
Operating Costs (Due to Scheme)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operating Costs (Due to Construction & Maintenance)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<i>Other Business Impacts</i>																
Developer and Other Contributions	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net Business Impact	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Present Value of TEE Impacts	215.38	217.38	218.98	222.79	227.69	228.81	228.46	235.53	227.24	230.22	229.37	234.93	261.88	264.30	265.11	269.09

Table 15A - The Economic Efficiency of the Road System in Market Prices (£M)

IMPACT	Blue Option				Red Option				Yellow Option				Yellow Option (sensitivity test)			
	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	3.1	3.2	3.3	3.4
Local Government Funding																
Investment Costs (Capital Costs)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operating Costs	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99
Maintenance Costs																
Non-Traffic	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Traffic Related	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Developer & Other Contributions	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net Impact	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99
Central Government Funding																
Investment Costs (Capital Costs)	22.56	22.98	24.19	26.10	25.65	22.79	27.35	24.52	16.56	16.24	17.62	17.32	16.56	16.24	17.62	17.32
Operating Costs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maintenance Costs																
Non-Traffic	-0.46	-0.23	-0.18	-0.38	-0.46	-0.24	-0.28	-0.48	-0.50	-0.34	-0.38	-0.54	-0.50	-0.34	-0.38	-0.54
Traffic Related	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Developer & Other Contributions	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect Taxation	4.20	4.39	4.05	4.39	4.17	4.25	3.99	4.59	4.30	4.56	4.53	4.62	2.85	2.50	2.62	2.56
Net Impact	26.30	27.14	28.06	30.11	29.35	26.81	31.05	28.63	20.35	20.46	21.77	21.40	18.90	18.40	19.85	19.34
Present Value of Costs (PVCGov)	31.29	32.12	33.04	35.09	34.34	31.79	36.04	33.62	25.34	25.45	26.76	26.38	23.89	23.39	24.84	24.33
Present Value of Costs (PVCfa)	27.09	27.73	28.99	30.71	30.17	27.54	32.05	29.03	21.04	20.89	22.22	21.76	21.04	20.89	22.22	21.76

Table 15C - Analysis of Monetised Costs and Benefits in Market Prices (£M)

IMPACT	Blue Option				Red Option				Yellow Option				Yellow Option (sensitivity test)			
	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	3.1	3.2	3.3	3.4
TEE Impacts																
Consumer User Impacts	85.53	86.92	86.90	89.13	90.61	91.32	90.72	93.27	89.92	91.78	91.09	93.95	107.43	108.79	109.05	110.92
Business User Impacts	129.84	130.45	132.08	133.66	137.07	137.48	137.74	142.26	137.31	138.44	138.27	140.98	154.44	155.52	156.06	158.16
Private Sector Provider Impacts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Accident Benefits	1.78	0.58	2.70	3.02	1.81	0.64	2.72	3.07	1.97	1.02	2.84	3.47	1.97	1.02	2.84	3.47
Present Value of Benefits (PVB)	217.16	217.95	221.68	225.80	229.50	229.44	231.18	238.60	229.21	231.24	232.21	238.40	263.85	265.32	267.95	272.56
Government Funding																
Present Value of Costs (PVCGov)	31.29	32.12	33.04	35.09	34.34	31.79	36.04	33.62	25.34	25.45	26.76	26.38	23.89	23.39	24.84	24.33
Present Value of Costs (PVCfa)	27.09	27.73	28.99	30.71	30.17	27.54	32.05	29.03	21.04	20.89	22.22	21.76	21.04	20.89	22.22	21.76
Overall Impact																
Net Present Value (NPVGov)	185.87	185.83	188.63	190.71	195.17	197.65	195.14	204.98	203.86	205.79	205.45	212.02	239.96	241.94	243.10	248.23
Benefit to Cost Ratio (BCRGov)	6.9	6.8	6.7	6.4	6.7	7.2	6.4	7.1	9.0	9.1	8.7	9.0	11.0	11.3	10.8	11.2
Net Present Value (NPVfa)	190.07	190.22	192.69	195.10	199.33	201.90	199.13	209.57	208.17	210.36	209.99	216.63	242.81	244.44	245.72	250.79
Benefit to Cost Ratio (BCRfa)	7.9	7.7	7.5	7.2	7.5	8.2	7.1	8.1	10.7	10.9	10.2	10.7	12.4	12.6	11.9	12.4

H.D Full Traffic and Economic Evaluation Report (TEER) form for Yellow Option 3.2

Trunk Roads: Infrastructure and
Professional Services
Transport Scotland
Buchanan House
58 Port Dundas Road
Glasgow G4 0HF
Tel: 0141-272-7234
Fax: 0141-272-7272

NRD Project Engineer:	Jo Blewett
NRD-PDD File:	
Date Form Completed:	05/09/2007

Part A – General Information**A1. Project Details**

Route Number(s)	A77
Project Title	A77 Maybole Bypass
Scheme Location (including OSGR):	See title.
Study carried out by	Atkins

A2. Stage of Scheme Preparation Reached (see DMRB 5.1.2)

Preliminary Assessment (Stage 1)	
Route Option Assessment (Stage 2)	✓
Preferred Scheme Assessment (Stage 3)	
Works Commitment (Pre-Tender)	
Post Tender	
Post Construction	
Other (please specify)	

A3. Traffic and Economic Reporting to Date (see DMRB 12.2.1)

Report Title	Date of Final Report
A77 Maybole Transportation Study: STAG Part 1 Appraisal	March 2006
A77 Maybole Transportation Study: Bypass Route Options Assessment Report (5028091/05/02/001 Rev 2)	December 2006
A77 Maybole Transportation Study: DMRB Stage 2 Report (5028091/05/02/005 Rev 1)	October 2007

A4. Network Classification and Proposed Level of Provision:

Network Classification (see	Road Standard (km)	Number of Junctions
------------------------------------	---------------------------	----------------------------

DMRB 15.1.5.2.3)					
Urban		Single 2 lane	✓	Grade Separated	
Inter-Urban Local		Climbing Lane	✓	Roundabouts	3
Inter-General		Wide Single 2 Lane		Priority	
Inter-Tourist		Dual 2/3 lane All Purpose		Traffic Signals	
Rural Local		Dual 2/3 lane Motorway		Other (Please Specify)	
Rural General	✓	Other (Please Specify):			
Rural Tourist		WS2+1			

A5. Nature of the proposed scheme:

Improvement on existing line	5.3	Km
Improvement on new alignment		Km
Bypass		Km
New Route		km
Junction Improvement		km
Other (Please Specify)		km
Total Length of Scheme	5.3	km

Is the scheme isolated, or part of a larger improvement? (please specify) - Isolated scheme.

Part B – Calibration and Validation of the Traffic Model

B1. Model Base:

Year	2004
Traffic Flow Units (e.g. pcus/vehicles, AAWDT)	Vehicles
Modelled Time Period(s)	AM(7-10)/IP(10-16)/PM(16-19)

B2. Size of Model (Calibration Base)

Number of Zones	19
Number of Links	678
Number of Nodes	332
Number of Modelled Junctions	12 Major junctions + minor junctions

Please ensure the Local Model Validation Report contains a network diagram showing numbered links and nodes, for both base and design networks.

B3. Model Trip Database

Please list those counts used to derive the base-year matrices (as detailed in Traffic Survey Report).

Survey Type	Number	Date(s) of Survey
Roadside Interviews		
Registration Number Survey	6	May 2004
Manual Classified Counts		
Automatic Traffic Counts	6	May 2004
Junction Counts	5	May 2004
Link Count Only		
Commercial Vehicle Survey		
Postcard Questionnaires		
Household Interviews		

B4. Details of sub-models used:

Traffic Assignment Model (name and version of modelling suite, including any sub-models)	PARAMICS 2004.2
Trip End Model	
Trip Distribution Model	
Mode Choice Model	
Other (Please Specify)	

B5. Details of road network speed coding (please tick relevant coding):

Speed/flow curves validated to observed journey times (please give details):	
Link speeds adjusted to calibrate model in accordance with NESA speed/flow curves.	
NESA Default Link Speeds (see DMRB 15.1.3)	
Other (Please specify) Default link speeds used with vehicle characteristics calibrated to observed journey times.	✓

B6. Trip Matrices

If NESA is used, are User Classes 1 to 15 (see DMRB 15.1.5.2) input as single all vehicle matrix? **Yes /No**

If **No** and for other programs than NESA, please state number of matrices and detail input matrix data composition:

Matrix Number	Time Period	Vehicle Type/Trip Purpose (NESA User Classes)	Base Year Matrix Totals (vehicles)
1	Weekday – 12 hours	Car	7589

2	Weekday – 12 hours	LGV	1418
3	Weekday – 12 hours	OGV1 & OGV2	658
4	Weekday – 12 hours	Bus/Coach	192

B7. Flow Group Definition (see DMRB 15.1.5.2) [NESA and COBA only]

Flow Group	Number of Hours	Representative Time Period (where appropriate)
FG1	759	AM Peak (7-10 avg hr)
FG2	1518	Inter-Peak (10-16 avg hr)
FG3	759	PM Peak (16-19 avg hr)
FG4	3036	Off Peak (19-7 avg hr)
FG5 (optional)	2688	Weekend (Friday - Sunday avg hr)
FG6 (optional)		

B8. Vehicle Category Proportions (see DMRB 15.1.5.2)

Please detail vehicle category proportions for the Calibration Base matrix. The source of these proportions should be detailed in the Economic Assessment Report.

Flow Group or Time Period	Car	LGV	OGV1	OGV2	Bus / Coach
Weekday	0.69	0.13	0.06	0.10	0.02

PCU Factor(s) (where appropriate): N/A

B9. Matrix Estimation Technique used (see DMRB 12.2.4.3):

Link and Junction Count only	Yes
Observed Matrix	
Synthetic Matrix (give details below)	Yes- Entropised Matrix
Partial Matrix (give details below)	
Combination of Observed and Synthetic (give details below)	
Other (Please specify)	

Further Details (including software used): PARAMICS Matrix Estimation Module

B10. Assignment Details

Matrix	Generalised Cost Equation(s)	Assignment Method e.g. All or Nothing, Multi-routeing, etc

1. All Vehicle	C=1.0T	All or Nothing
2. Other (Please specify)		

Was any fitting of route choice parameters undertaken?

Yes/No

For NESA Analyses: Number of trees built = N/A

Value of P (multi-routeing parameter) = N/A

B11. Mode Choice

Was modal competition assessed?

Yes/No

If **Yes** please specify:

B12. Values of any other factors of parameters where defaults are not used and/or further details regarding the traffic model: Calibrated vehicle characteristics were used as specified in the Traffic and Economic Report.

B13. Network Checks

Please identify which of the following have been undertaken and ensure that details are given in the Local Model Validation Report.

Range checks on link characteristics (speed, length, etc)	
Link length checks against crow-fly distance	
Other network checks (please specify):	Manual checks of network coding and visual inspection of simulation.

B14. Assignment Checks

Please identify which of the following have been undertaken and ensure that details are given in the Local Model Validation Report.

Route checking from selected zones	
Link speeds checked against journey time survey results	✓
Overtaking rate checks (REVS only)	
Assigned flow comparisons with traffic counts for model calibration?	✓
Assigned flow comparison with independent traffic counts for model validation?	

Over-Capacity Links and Junctions

List over-capacity links and junction nodes in the Calibration Base (base year):

Year	Link/Junction Node (including	Flow Group or Time Period	Ratio of Flow to Capacity
------	-------------------------------	---------------------------	---------------------------

	location)		
N/A	N/A	N/A	N/A

B15. Present Year Validation

Is model base year more than three years earlier than the current year? ~~Yes~~/No

If **Yes** has a Present Year validation been undertaken? **Yes**/No

Part C – Traffic Forecasting**C1. Do-Minimum Assumptions**

Please identify schemes, policies or measures assumed to be in place before opening year:
None.

C2. Traffic Growth

Please indicate the type of growth factors used (if any) and the manner in which they were applied:

Growth Factor (see DMRB 15.1.5.6)		Description (e.g. NRTF applied to commercial vehicle matrix)
NRTF	✓	Central Growth - individual factors applied to each vehicle type
Local Planning Data and TEMPRO		
Other (Please Specify)		

Were any growth constraint techniques (see DMRB 12.2.1 Appendix G) used? ~~Yes~~/No

If **Yes**, please indicate the precise technique below:

Growth Constraint Techniques	N/A
User determined factors or cut-offs	N/A
Matrix Capping Techniques	N/A
Elasticity Techniques	N/A
Incremental Loading Techniques	N/A
Shadow Network Techniques	N/A
Other (Please specify)	N/A

Have local developments been considered (outwith any planning data input)? ~~Yes~~/No

Were Variable Trip Matrices used? ~~Yes~~/No

If **Yes**, please specify methodology used:

C3. Forecast Years

Opening Year(s)	2012
Design Year(s)	2027
Forecast Years	2022/2031/2072

C4. Over-Capacity Links and Junctions [NESA and COBA only]

List over-capacity links and junction nodes (for both Do-Minimum and Do-Something networks, low and high growth, opening and design years):

Year	Link/Junction Node (including location)	Network (DM/DS)	Growth Scenario (low/high)	Flow Group or Time Period	Ratio of Flow Capacity
N/A	N/A	N/A	N/A	N/A	N/A

Part D – Economic Assessment

D1. Economic Assessment Details

Program Used	TUBA
Version	1.7
Date of runs	07/08/07
Variable or Fixed Trip Matrix Analysis	Fixed

D2. Design Scheme Costs (£m)

Route Option (e.g. preferred line)	3.2 Yellow Alignment S2 with climbing lanes and a roundabout with the B7023
Capital Cost of Scheme	£15.803M (excluding Optimism Bias) £22.705M (including Optimism Bias 44%)
Year and Month of Estimate	2007 Q1 Scheme Costs
Retail Price Index	203.0
Relative Price Factor (if used)	1.00
Capital Cost in mid-2002 prices discounted to 2002 (£m)	£13.701M (excluding Optimism Bias)

Capital Cost Profile

Year	Percentage Expenditure
2011	100%

D3. Base Network Costs (if appropriate) (see DMRB 15.1.3.2)

Year	Cost (£)	Base Network Improvement
2013	1,804,000	Introduction of traffic signals at the Smithston Bridge Improvements to signs and road marking Traffic calming within Maybole Pavement Overlay and reconstruction

Year and Month of Estimates	2007 Q1
Retail Price Index	203.0
Retail Price Factor (if used)	
Base Network Costs in mid-1998 prices discounted to 1998 (£m)	

D4. Traffic Flow Conversion Factors (see DMRB 15.1.5.2) (where appropriate)

Factor (if appropriate)	Value(s)	Source
Modelled Time Period(s) to 12 hour	N/A	N/A
E-factor (12 hour to 16 hour)	N/A	N/A
M-factor (16 hour to annual)	N/A	N/A
F-factor (matrix units to 12 hour)	N/A	N/A
Seasonality Index	N/A	N/A
Other (Please specify)	N/A	N/A

Please ensure that derivation of factors is contained in the Economic Assessment Report (see DMRB 15.1.9.5). If factors vary throughout the evaluation period, please specify.

D5. Traffic Modelling Input

Please indicate the forecast years for which traffic flow data is input to the economic assessment (see DMRB 12.2.1.6.2). For standard NESAs and COBA assessments, only the base year is input but note that NESAs and COBA allow future year traffic flows to be input (see DMRB 15.1 S.6).

Year 1	2012
Year 2	2022
Year 3	2031

Please ensure that relevant details of the traffic modelling are contained in the Economic Assessment Report, particularly details of convergence statistics where appropriate.

D6. Car-In-Work Time Proportions (see DMRB 15.1.5.2)

Please detail Car-in-Work Time proportions. The source of these proportions should be detailed in the Economic Assessment Report.

Flow group or Time Period	Car-In-Work Time Proportions
7am-10am	
10am-4pm	
4pm-7pm	
7pm-7am	
Weekend (48 hours)	

D7. Comparison Between Coded and Calculated Link Speeds

List rural and motorway links where coded and calculated light vehicle speeds differ by more than 20 kph and urban links where they differ by more than 10kph (for both Do-Minimum and Do-Something networks, low and high growth, opening and design years):

[NESA and COBA Only]

D8. Accidents

Please indicate the source of accident rates and costs:
All costs in £000s, discounted over 60 years to 2002 prices.

Accident Input		Default (NESA)	Local
Do-Minimum Link and Junction Combined	Rates		
	Costs	44.20	
Do-Minimum Junction and Link calculated separately	Rates		
	Costs	25.07	
Do-Something Link and Junction Combined	Rates		
	Costs	31.06	
Do-Something Junction and Link calculated separately	Rates		
	Costs	22.10	

Please ensure that details of the accident modelling are contained in the Economic Assessment Report.

D9. Annual Costs

The following table should be completed for the scheme opening year and at least one other forecast year (preferably the design year):

Costs (DS-DM £000's discounted to 2002)	Opening Year - 2012		Final Growth Year - 2031	
	DS Cost	Benefit	DS Cost	Benefit
Link Travel Time		1234		5311
Junction Delays				
Vehicle Operating Costs		67		424
Link Accidents				
Junction Accidents				
Maintenance				

D10. Rates of Return

These are not readily available from TUBA but can be extracted if required.

D11. Summary of Costs and Benefits from Economic Assessment

All costs are discounted to 2002 values (at 3.5/3.0%) and expressed at mid-2002 prices (RPI = 176.2) in £m's to two decimal places.

IMPACT	£M
Consumer User Benefits	Total
<i>User Benefits</i>	
Travel Time	88.88
Vehicle Operating Costs	3.25
<i>Travel Time & Vehicle Operating Costs</i>	
During Construction	-0.05
During Maintenance	-0.30
Net Consumer Benefits	91.78
Business User Benefits	
<i>User Benefits</i>	
Travel Time	127.96
Vehicle Operating Costs	10.91
<i>Travel Time & Vehicle Operating Costs</i>	
During Construction	-0.04
During Maintenance	-0.39
Net Business User Benefits	138.44
Private Sector Provider Impacts	
Operating Costs (Due to Scheme)	0.00
Operating Costs (Due to Construction & Maintenance)	0.00
Other Business Impacts	
Developer and Other Contributions	0.00
Net Business Impact	0.00
Total Present Value of TEE Impacts	230.22

IMPACT	
Local Government Funding	
Investment Costs (Capital Costs)	0.00
Operating Costs	4.99
Maintenance Costs	
Non-Traffic	0.00
Traffic Related	0.00
Developer & Other Contributions	0.00
Net Impact	4.99
Central Government Funding	
Investment Costs (Capital Costs)	16.24
Operating Costs	0.00
Maintenance Costs	
Non-Traffic	-0.34
Traffic Related	0.00
Developer & Other Contributions	0.00
Indirect Taxation	4.56
Net Impact	20.46
Present Value of Costs (PVC)	25.45

IMPACT	
TEE Impacts	
Consumer User Impacts	91.78
Business User Impacts	138.44
Private Sector Provider Impacts	0.00
Accident Benefits	1.02
Present Value of Benefits (PVB)	231.24
Government Funding	
Present Value of Costs (PVC)	25.45
Overall Impact	
Net Present Value (NPV)	205.79
Benefit to Cost Ratio (BCR_{Gov})	9.1
Benefit to Cost Ratio (BCR_{FA})	10.9

D12. Audit Procedures

	Name	Date
Form completed by	Glen Moon	5 th September 2007
Project Design Division		
Audit Completed		
Database Entry		

Printout Received? YES/NO If YES, location: