

Table 5.14: Southern Alignment Options - Engineering Comparison

Engineering Criteria	Weighting (W _c)	Option S1		Option S2A		Option S2B		Option S3	
		Rank	Score x W _c	Rank	Score x W _c	Rank	Score x W _c	Rank	Score x W _c
Alignment Geometry	30%	1	30	3	18	4	12	2	24
Junction with South Lantau Road	5%	1	5	2	4	2	4	3	3
Traffic Consideration	5%	1	5	2	4	3	3	4	2
Geotechnical Constraints	25%	1	25	2	20	3	15	4	10
Highway Structures	20%	1	20	2	16	4	8	3	12
Drainage Impacts	10%	1	10	3	6	4	4	2	8
Impacts on Utilities	5%	1	5	3	3	2	4	1	5
Total Weighted Score	100%		100		71		50		64

Table 5.15: Southern Alignment Options - Environmental Comparison

Environmental Criteria	Weighting (W _c)	Option S1		Option S2A		Option S2B		Option S3	
		Rank	Score x W _c	Rank	Score x W _c	Rank	Score x W _c	Rank	Score x W _c
Air Quality	5%	1	5	1	5	1	5	2	4
Noise	5%	1	5	1	5	1	5	2	4
Water Quality	20%	1	20	2	16	3	12	3	12
Construction Waste	10%	1	10	2	8	3	6	4	4
Ecology	35%	1	35	2	28	3	21	4	14
Landscape and Visual	15%	1	15	2	12	4	6	3	9
Heritage	5%	1	5	1	5	1	5	1	5
Hazard to Life	5%	2	4	4	2	3	3	1	5
Total Weighted Score	100%		99		81		63		57

Table 5.16: Southern Alignment Options - Land Use Comparison

Land Use Criteria	Weighting (W _c)	Option S1		Option S2A		Option S2B		Option S3	
		Rank	Score x W _c	Rank	Score x W _c	Rank	Score x W _c	Rank	Score x W _c
Impacts on Country Park	60%	1	60	2	48	3	36	4	24
Impacts on Private Land, etc	20%	4	8	2	16	3	12	1	20
Impacts on Burial Grounds	20%	1	20	1	20	1	20	2	16
Total Weighted Score	100%		88		84		68		60

Table 5.17: Southern Alignment Options - Costs and Programme Comparison

Costs and Programme Criteria	Weighting (W _c)	Option S1		Option S2A		Option S2B		Option S3	
		Rank	Score x W _c	Rank	Score x W _c	Rank	Score x W _c	Rank	Score x W _c
Capital Costs	40%	1	40	2	32	4	16	3	24
Recurrent Costs	20%	1	20	2	16	4	8	3	12
Time for Construction	40%	1	40	2	32	3	24	3	24
Total Weighted Score	100%		100		80		48		60

Table 5.18: Southern Alignment Options - Overall Comparison (Base Set A)

Criteria Set	Weighting (W _s)	Option S1		Option S2A		Option S2B		Option S3	
		Score	Score x W _s	Score	Score x W _s	Score	Score x W _s	Score	Score x W _s
Engineering	25%	100	25.00	71	17.75	50	12.50	64	16.00
Environmental	45%	99	44.55	81	36.45	63	28.35	57	25.65
Land Use	15%	88	13.20	84	12.60	68	10.20	60	9.00
Costs and Programme	15%	100	15.00	80	12.00	48	7.20	60	9.00
Total Weighted Score	100%		97.75		78.80		58.25		59.65

Table 5.19: Southern Alignment Options - Sensitivity Testing (Test Set B - Engineering Loaded)

Criteria Set	Weighting (W _s)	Option S1		Option S2A		Option S2B		Option S3	
		Score	Score x W _s	Score	Score x W _s	Score	Score x W _s	Score	Score x W _s
Engineering	40%	100	40.00	71	28.40	50	20.00	64	25.60
Environmental	40%	99	39.60	81	32.40	63	25.20	57	22.80
Land Use	10%	88	8.80	84	8.40	68	6.80	60	6.00
Costs and Programme	10%	100	10.00	80	8.00	48	4.80	60	6.00
Total Weighted Score	100%		98.40		77.20		56.80		60.40

Table 5.20: Southern Alignment Options - Sensitivity Testing (Test Set C - Environment Loaded)

Criteria Set	Weighting (W _s)	Option S1		Option S2A		Option S2B		Option S3	
		Score	Score x W _s	Score	Score x W _s	Score	Score x W _s	Score	Score x W _s
Engineering	20%	100	20.00	71	14.20	50	10.00	64	12.80
Environmental	60%	99	59.40	81	48.60	63	37.80	57	34.20
Land Use	10%	88	8.80	84	8.40	68	6.80	60	6.00
Costs and Programme	10%	100	10.00	80	8.00	48	4.80	60	6.00
Total Weighted Score	100%		98.20		79.20		59.40		59.00

Table 5.21: Southern Alignment Options - Sensitivity Testing (Test Set D - Land Use Loaded)

Criteria Set	Weighting (W _s)	Option S1		Option S2A		Option S2B		Option S3	
		Score	Score x W _s	Score	Score x W _s	Score	Score x W _s	Score	Score x W _s
Engineering	20%	100	20.00	71	14.20	50	10.00	64	12.80
Environmental	40%	99	39.60	81	32.40	63	25.20	57	22.80
Land Use	30%	88	26.40	84	25.20	68	20.40	60	18.00
Costs and Programme	10%	100	10.00	80	8.00	48	4.80	60	6.00
Total Weighted Score	100%		96.00		79.80		60.40		59.60

Table 5.22: Southern Alignment Options - Sensitivity Testing (Test Set E - Costs and Programme Loaded)

Criteria Set	Weighting (W _s)	Option S1		Option S2A		Option S2B		Option S3	
		Score	Score x W _s	Score	Score x W _s	Score	Score x W _s	Score	Score x W _s
Engineering	20%	100	20.00	71	14.20	50	10.00	64	12.80
Environmental	40%	99	39.60	81	32.40	63	25.20	57	22.80
Land Use	10%	88	8.80	84	8.40	68	6.80	60	6.00
Costs and Programme	30%	100	30.00	80	24.00	48	14.40	60	18.00
Total Weighted Score	100%		98.40		79.00		56.40		59.60

Table 5.23: Southern Alignment Options - Summary of Assessment Results

Set	Option S1	Option S2A	Option S2B	Option S3
Base Set A	97.75	78.80	58.25	59.65
Test Set B - Engineering Loaded	98.40	77.20	56.80	60.40
Test Set C - Environment Loaded	98.20	79.20	59.40	59.00
Test Set D - Land Use Loaded	96.00	79.80	60.40	59.60
Test Set E - Costs and Programme Loaded	98.40	79.00	56.40	59.60