N72-N73 Mallow Relief Road
Stage 1 Option Selecton Matrices

	Option Reference	Parameters				O1	O2	O3	O4	O5	O6	O7	O8	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	L13	L14
Engineering	Mainline Road Length	<4km	4 - 6.2km	>6.2km		6.66	6.20	6.69	5.09	3.82	3.22	7.50	7.01	7.67	7.20	6.16	3.80	3.23	6.17	5.10	3.26	6.17	5.09	3.86	3.97	3.46	6.56
	Number of road crossings	<3	3	>3		3	2	3	3	2	2	2	4	3	3	3	3	3	2	2	2	2	2	2	2	2	2
	Length of National Road Connections	<=0.27km	0.28- 0.4km	>0.4m		0.45	0.27	0.00	0.26	0.45	0.38	0.40	0.40	0.27	0.27	0.37	0.55	0.48	0.27	0.16	0.38	0.27	0.00	0.45	0.45	0.00	0.40
	Length of Side Roads	<1.1km	1.1 - 1.37km	>1.37km		1.84	1.82	1.01	1.22	0.67	1.20	1.24	1.46	2.16	1.33	1.39	1.22	1.22	0.84	0.67	0.67	1.37	1.20	1.20	1.20	1.20	1.35
	Number of strategic services crossed	2	3	4		3	3	3	3	4	3	2	2	3	3	3	3	3	4	4	4	3	3	3	3	3	2
	Major River Crossings	0	1	>1		0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	Other Watercourse Crossings	1	2 - 3	>3		3	1	1	1	3	1	4	5	3	1	1	1	1	3	3	3	1	1	1	1	1	3
	Length of road within flood plain in metres (1:100 year)	0m	1 - 100m	>100m		0	0	0	0	0	53	168	168	0	0	0	0	53	0	0	53	0	0	0	0	53	168
	Earthworks - Cut / Fill balance	<105,000m³	105,000m³ - 240,000m³	>240,000m³		142,590	236,618	829,166	88,217	-24,729	773,871	-49,347	232,046	235,758	922,334	50,400	-79,306	5,739	104,977	142,794	53,822	825,027	862,844	803,211	182,524	231,199	157,061
	Overtaking Section (%)	>33	33 - 22	<22		35	21.6	34	18	35	0	30	39	28	27	33	19	0	39	32	0	36	28	18	23	0	50
	Alignment Constraints, Ac = 12·VISI/60 +2B/45	<7.84	7.84 - 8.67	>8.67		7.661	7.803	7.731	8.528	7.979	9.716	8.233	7.669	7.683	7.635	8.248	8.661	9.520	7.894	8.020	8.786	8.269	8.608	8.727	7.840	8.566	7.804
	Green					4	6	7	5	6	4	3	3	4	5	4	4	4	7	5	5	6	5	5	6	5	4
	Orange					4	3	2	5	3	4	5	2	5	4	6	5	4	3	5	3	4	5	2	4	5	5
	Red					3	2	2	1	2	3	3	6	2	2	1	2	3	1	1	3	1	1	4	1	1	2
	Average Performance Score					2.09	2.36	2.45	2.36	2.36	2.09	2.00	1.73	2.18	2.27	2.27	2.18	2.09	2.55	2.36	2.18	2.45	2.36	2.09	2.45	2.36	2.18
Environment	**AIR QUALITY**																										
	Air Quality - Dwellings with 50m of carriageway	<10	10 - 20	>20		2	4	3	99	1	0	4	0	4	5	96	96	95	2	12	1	4	13	1	1	1	5
	Air Quality - Schools, Health Centres and the like with 50m of carriageway					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Within 200m of River Blackwater SAC?	No	-	Yes		No	No	No	No	No	No	Yes	Yes	Yes	Yes	No	No	No	No	No	No	No	No	No	No	No	Yes
	Comments								High no. of receptors within 50m			SAC within 50m of option	SAC within 50m of option & Woodland	SAC within 50m of option	SAC within 50m of option	High no. of receptors within 50m	High no. of receptors within 50m	High no. of receptors within 50m		Relatively high no. of receptors within 50m			Relatively high no. of receptors within 50m				SAC within 50m of option
	Air Quality Overall Rating				**Count Cell**																						
	NOISE																										
	Noise Impacts (number of noise sensitive properties within 300m of centreline) - Potential Impact Rating (PIR)		155 - 585			48	65	79	1844	339	639	103	47	61	92	1814	1817	1856	342	446	386	607	710	584	154	209	163
	Noise Band 1 (0 to 50m), weighting 4					*1*	*4*	*3*	*55*	*1*	*0*	*3*	*0*	*3*	*5*	*52*	*52*	*51*	*2*	*9*	*1*	*4*	*11*	*1*	*0*	*0*	*4*
	Noise Band 2 (50 to 100m), weighting 3					*5*	*0*	*5*	*202*	*6*	*3*	*6*	*3*	*5*	*5*	*201*	*201*	*200*	*7*	*30*	*7*	*3*	*24*	*3*	*3*	*4*	*8*
	Noise Band 3 (100 to 200m), weighting 2					*12*	*12*	*19*	*358*	*90*	*179*	*17*	*9*	*12*	*19*	*349*	*348*	*372*	*89*	*99*	*111*	*157*	*172*	*150*	*28*	*53*	*42*
	Noise Band 4 (200 to 300m), weighting 1					*5*	*25*	*14*	*302*	*137*	*272*	*39*	*20*	*10*	*19*	*305*	*310*	*308*	*135*	*122*	*139*	*268*	*250*	*271*	*89*	*91*	*39*
	Comments								High no. of receptors within 50m & 100m	Green - because receptors in excess of 100m away	Green - because receptors in excess of 100m away					High no. of receptors within 50m & 100m	High no. of receptors within 50m & 100m	High no. of receptors within 50m & 100m	Green - because receptors in excess of 100m away	Relatively high no. of receptors within 50m & 100m	Green - because receptors in excess of 100m away	Green - because receptors in excess of 100m away	Relatively high no. of receptors within 50m & 100m	Green - because receptors in excess of 100m away	Green - because receptors in excess of 100m away	Green - because receptors in excess of 100m away
	Noise Overall Rating				**Count Cell**																						
	ECOLOGY																										
	Ecology - length of road within SACs & SPA's	0	1 - 150	>150		0	0	0	0	0	0	180	180	0	0	0	0	0	0	0	0	0	0	0	0	0	180
	Ecology - length of road within NHA's & pNHA's																										
	Ecology - length of road within mature woodland	<125	125 - 600	>600		594	121	417	0	0	0	0	1032	594	417	115	0	0	115	0	0	115	0	0	0	0	0
	Ecological sites impacted					6	5	6	6	3	2	2	5	6	6	6	5	5	4	4	3	3	3	2	2	2	2
	Bat sites impacted					9	6	7	5	4	2	3	5	10	8	5	4	4	4	4	3	3	3	2	3	3	3
	Barn owl sites impacted					1	1	1	0	0	0	1	1	1	1	1	0	0	1	0	0	1	0	0	0	0	1
	Peregrine sites impacted					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Wintering bird sites impacted																										
	Major River Crossings					0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	Other Watercourse Crossings					3	1	1	1	3	1	4	5	3	1	1	1	1	3	3	3	1	1	1	1	1	3
	Ecology Overall Rating				**Count Cell**																						
	PLANNING & DEVELOPMENT Area of road within zoned land (Ha)	<1.75	1.75 - 4.5	>4.5	**Count Cell**	0	0	1.7492	4.4708	3.8647	9.2053	1.176	0	0	1.7492	4.4708	8.108	8.1255	0.2275	3.8647	3.8822	5.5505	5.5505	9.1877	3.6372	3.6547	9.9886
	GEOLOGY Length of road over peat or soft ground																										
	LANDSCAPE & VISUAL																										
	Route option with least impact on valued landscape character/amenity features and visual receptors or scenic routes/viewpoints. Scoring is as follows: 1-Minor negative impact = High Preference 2-Moderately negative = Medium Preference 3-Major negative = Low Preference				**Count Cell**	3	2	2	2	2	1	3	3	2	2	2	2	2	2	2	1	2	1	1	2	2	2
	ARCHAEOLOGY, ARCHITECTURAL & CULTURAL HERITAGE																										
	Direct impacts or potential direct impact on known cultural heritage sites					3	4	2	7	1	1	1	3	5	4	10	7	7	5	2	2	4	1	1	1	2	2
	Potential impacts on setting or indirect impacts					1.5	3	2.5	1.5	2	1.5	3.5	1.5	3.5	3.5	1.5	2	1.5	2	1.5	2	1.5	1	1.5	2.5	2	3.5
	Adjusted	<4.5	4.5 - 8.3	>8.3	**Count Cell**	4.5	7	4.5	8.5	3	2.5	4.5	4.5	8.5	7.5	11.5	9	8.5	7	3.5	4	5.5	2	2.5	3.5	4	5.5
	Total																										
	AGRICULTURE																										
	Agriculture - length of improved grassland/arable land (km)	<4.2	4.2 - 6.2	>6.2	***0.50***	6.3	6.05	6.30	4.4	4.08	3.2	7	5.65	7.1	7.15	5.45	3.66	2.6	6.05	5.05	3.2	7.4	5.05	3.2	4.33	3.2	7.08
	Agriculture - key agricultural constraints (No./km)	<0.9	0.9 - 1.1	>1.1	***0.75***	1	0.8	1.3	0.9	1.5	0.9	1.3	0.9	1.0	1.3	0.9	1.1	0.8	0.7	1.0	1.3	0.9	1.0	0.9	1.2	0.6	1.3
	Agriculture - farmhouse properties within corridor (150m)	<1	1 - 2	>2	***1.00***	2	0	2.00	0	0	0	1	0	3	3	0	0	0	1	0	0	0	0	0	0	0	2
	Agriculture - farmyard buildings within corridor (150m)	<1	1 - 3	>3	***0.75***	3	2	4	2	2	0	3	2	4	5	0	0	0	3	4	2	0	2	0	0	0	4
	Agriculture - Level of sensitive key agricultural constraints (%)	<25%	25 - 40%	>40%	***1.00***	60.8	44.6	48.4	39.8	36.8	9.4	31.4	23.9	58.2	46.9	27.5	10.9	11.5	46.3	51.5	43.8	23	29.7	9.4	15	17.2	25.4
	Overall Agricultuarl Impact based on weighting	<0.2	0.2 - 0.37	>0.37	**Count Cell**	0.61	0.37	0.63	0.37	0.39	0.16	0.48	0.30	0.71	0.73	0.25	0.20	0.15	0.46	0.46	0.38	0.27	0.33	0.16	0.23	0.16	0.56
	COMMUNITIES																										
	Residential / Private Properties - direct hits	<1	1 - 2	>2	**Count Cell**	0	0	2	3	0	0	1	0	2	4	3	3	3	0	0	0	0	0	0	0	0	1
	Residential Gardens	<1	1	>1	**Count Cell**	0	0	2	1	0	0	0	0	0	2	0	0	0	0	1	0	0	1	0	0	0	0
	Communities severed																										
	Community impacts (schools, sports grounds & churches etc)					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Green					5	5	3	0	6	8	3	4	3	2	2	3	2	5	2	7	5	4	8	6	7	2
	Orange					1	4	3	4	2	0	2	2	2	2	3	1	2	3	6	1	3	4	0	3	2	3
	Red					3	0	3	5	1	1	4	3	4	5	4	5	5	1	1	1	1	1	1	0	0	4
	Average Performance Score					2.22	2.56	2.00	1.44	2.56	2.78	1.89	2.11	1.89	1.67	1.78	1.78	1.67	2.44	2.11	2.67	2.44	2.33	2.78	2.67	2.78	1.78
Economy	Estimated Total Scheme Cost (€m)																										
	Performance Score					2.000	2.000	1.000	2.000	3.000	2.000	1.000	1.000	1.000	1.000	2.000	2.000	3.000	3.000	3.000	3.000	1.000	2.000	1.000	3.000	3.000	1.000
	Total Average Score					6.31	**6.919**	**5.455**	**5.808**	**7.919**	**6.869**	**4.889**	**4.838**	**5.071**	**4.939**	**6.051**	**5.960**	**6.758**	**7.990**	**7.475**	**7.848**	**5.899**	**6.697**	**5.869**	**8.121**	**8.141**	**4.960**
	Overall Performance Score					**2.10**	**2.31**	**1.82**	**1.94**	**2.64**	**2.29**	**1.63**	**1.61**	**1.69**	**1.65**	**2.02**	**1.99**	**2.25**	**2.66**	**2.49**	**2.62**	**1.97**	**2.23**	**1.96**	**2.71**	**2.71**	**1.65**
Option Elimination	Step 1 - Contributing Reasons for Elimination							**O3**	**O4**			**O7**	**O8**	**L1**	**L2**							**L9**		**L11**			**L14**
	Step 2 - Mini Competition					**Option 1**					**Option 6**									**Link 7**			**Link 10**				
	Options Retained for Stage 2 Options Assessment						**Option 2**			**Option 5**						**Link 3**	**Link 4**	**Link 5**	**Link 6**		**Link 8**				**Link 12**	**Link 13**	