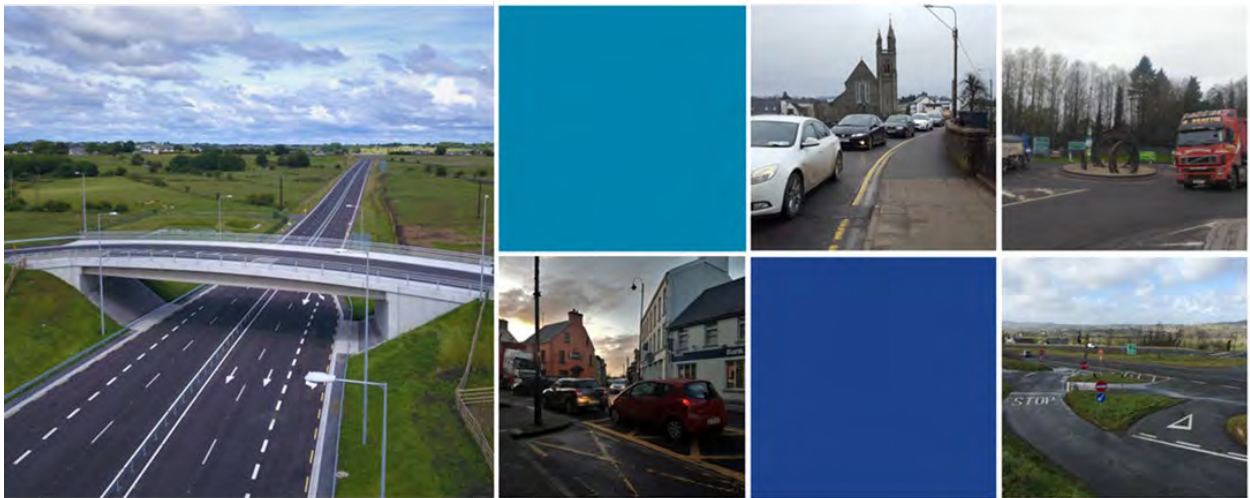




TEN-T Priority Route Improvement Project, Donegal

Phase 2, Option Selection Report Volume G1- Section 1 Stage 1 Option Selection Matrices



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Section 1 N15/N13 Ballybofey Stranorlar Urban Region
STAGE 1 - Option Assessment Matrices

Option Reference	OPTION 1.1	OPTION 1.2	OPTION 1.3	OPTION 1.4	OPTION 1.5	OPTION 1.6	OPTION 1.7	OPTION 1.8	OPTION 1.9	OPTION 1.10	OPTION 1.11	OPTION 1.12	OPTION 1.13	OPTION 1.14	OPTION 1.15	OPTION 1.16	OPTION 1.17	OPTION 1.18	OPTION 1.19	OPTION 1.20
Road Length (mainline - m)	10414	10400	10423	10409	10688	9256	9682	10391	8959	9385	10469	9038	9463	10993	9561	9987	9783	9934	11635	11793
Number of road crossings	12	12	11	11	10	9	12	12	11	14	13	12	15	11	10	13	12	11	10	10
Number of strategic services crossed	3	3	3	3	3	3	4	3	3	4	3	3	4	4	4	5	5	5	4	4
Length of link roads (m)	6405	6405	6405	6405	6405	4882	2637	6405	4882	2637	6405	6138	3893	6927	5403	3158	3215	2969	1273	1273
Connections to Primary / Regional roads	3	3	3	3	3	3	4	3	3	4	3	4	5	4	4	5	5	5	4	4
Major River Crossings	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Length of road within flood plain (m)	0	0	0	0	0	0	0	0	0	0	301	301	301	295	295	295	182	192	720	720
Other watercourse crossings	3	3	4	4	3	4	3	2	3	2	2	3	2	5	6	5	5	5	4	5
Road Safety Assessment																				
Earthworks - Cut / Fill balance (m³)	-1,118,337	257,741	474,797	-215,223	-561,950	-58,335	-402,765	7,355	70,231	15,649	84,735	-970,012	19,000	96,336	109,703	-558,112	-440,993	-865,997	-1,917,202	-1,874,097
Alignment Constraint	8.243	8.124	9.573	9.040	9.449	9.711	9.092	8.315	8.705	8.657	8.279	8.944	8.639	8.576	9.178	8.902	9.445	9.369	8.525	8.944
Green	4	4	4	4	5	6	3	6	5	5	5	3	5	3	3	3	3	3	4	4
Orange	4	5	5	5	3	4	8	3	5	6	4	6	5	7	7	7	8	7	5	5
Red	3	2	2	2	3	1	0	2	1	0	2	2	1	1	1	1	0	1	2	2
Average Score of Engineering criteria	2.091	2.182	2.182	2.182	2.182	2.455	2.273	2.364	2.364	2.455	2.273	2.091	2.364	2.182	2.182	2.182	2.273	2.182	2.182	2.182
Planning and Development - length of road within zoned land (m)	0	0	0	0	0	0	0	0	0	0	908	908	908	2,949	2,949	2,949	4,782	4,782	3,117	3,267
Geology - Length of road over peat / soft ground (m)	1,009	764	962	716	1,153	1,174	932	1,168	947	947	1,278	1,299	1,057	1,781	1,803	1,560	1,513	994	1,224	1,236
Ecology - Impact on SACs & SPA's	High indirect impact. Risk of direct impact.	High indirect impact. Risk of direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Medium indirect impact. No direct impact.	Medium indirect impact. No direct impact.	Medium indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Medium indirect impact. No direct impact.	Medium indirect impact. No direct impact.
Ecology - Impact on NHA's & pHNA's	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.
Ecology - length of road within mature woodland (m)	146	330	371	560	467	327	327	726	754	754	710	710	710	710	710	710	346	266	877	1,056
Landscape and Visual - length of road within high landscape sensitivity (m)	7,576	7,544	7,756	7,742	8,019	6,592	7,004	7,767	6,339	6,751	7,659	6,232	6,644	7,748	6,321	6,733	6,458	6,600	7,819	3,361
Archaeology and Cultural Heritage - number of RHM / BHPs direct hits	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Archaeology and Cultural Heritage - number of RHM / BHPs within 300m	1	2	1	2	2	2	2	2	2	2	1	1	1	4	4	4	5	5	2	2
Agriculture (m)	7,315	7,209	7,533	7,427	6,522	5,509	6,783	7,050	6,037	7,311	6,898	5,884	7,159	8,193	7,179	8,454	8,014	8,099	8,457	6,799
Residential / Private Properties - direct hits	10	12	11	13	7	9	10	7	9	10	7	9	10	6	8	9	7	9	4	3
Air quality / noise / vibration - properties within 300m	37	39	54	56	42	55	56	43	56	57	51	64	65	75	88	89	84	100	106	104
Community impacts (schools, sports grounds, churches etc)	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0
Communities severed	5	5	5	5	5	7	6	5	7	6	6	8	7	5	7	6	7	7	5	3
Green	5	6	6	6	6	6	6	4	4	4	4	4	4	4	4	4	5	5	3	6
Orange	5	5	5	5	6	7	6	8	9	8	8	8	9	5	5	4	4	5	6	4
Red	3	2	2	2	1	0	1	1	0	1	1	1	0	4	4	5	4	3	4	3
Average Score of Environmental criteria	2.154	2.308	2.308	2.308	2.385	2.462	2.385	2.231	2.308	2.231	2.231	2.231	2.308	2.000	2.000	1.923	2.077	2.154	1.923	2.231
Total Scheme Cost Comparison (Land + Construction - millions Euros)	162	135	134	136	150	120	134	131	112	118	138	155	131	156	140	163	161	177	274	272
Green						1			1	1										
Orange	1	1	1	1	1		1	1			1	1	1	1	1	1	1	1		
Red																			1	1
Average Score of Cost criteria	2.000	2.000	2.000	2.000	2.000	3.000	2.000	2.000	3.000	3.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	1.000	1.000
Total of average scores	6.245	6.490	6.490	6.490	6.566	7.916	6.657	6.594	7.671	7.685	6.503	6.322	6.671	6.182	6.182	6.105	6.350	6.336	5.105	5.413
Reason for elimination	Access to existing road network, landscape, property and bio-diversity impact	Access to existing road network, property and bio-diversity impact	Access to existing road network, property and landscape impact	Access to existing road network, property and landscape impact	Access to existing road network, landscape impact		Property impact	Access to existing road network, landscape impact			Access to existing road network, property and landscape impact	Community impact	Lower performing option than shortlisted options.	Poor ground, landscape, archaeology.	Poor ground, property and archaeology impact.	Property, poor ground and archaeology impact.	Property, poor ground and archaeology impact.	Property, poor ground and archaeology impact.	Cost (longer route), flooding, landscape and property impact.	Cost (longer route), flooding, landscape and property impact.
Route retained for Stage 2 Options Assessment						Shortlisted Option			Shortlisted Option	Shortlisted Option										

Note: Average scores were calculated based on the number of Green, Orange and Reds. The average scores are not directly utilised in choosing options, but give an indication of the overall performance of each option for consideration during comparison and shortlisting. The significance of the individual impacts is also a consideration in identifying options to be shortlisted.

Section 1 N15/N13 Ballybofey Stranorlar Urban Region

STAGE 1 - Option Assessment Matrices

Option reference	OPTION 1.21	OPTION 1.22	OPTION 1.23	OPTION 1.24	OPTION 1.25	OPTION 1.26	OPTION 1.27	OPTION 1.28	OPTION 1.29	OPTION 1.30	OPTION 1.31	OPTION 1.32	OPTION 1.33	OPTION 1.34	OPTION 1.35	OPTION 1.36
Road Length (mainline - m)	13,627	14,380	14,234	14,075	9,345	9,329	9,094	9,111	12,388	8,064	7,249	9,106	9,414	9,397	9,163	7,576
Number of road crossings	10	10	12	12	14	14	13	13	10	10	9	13	15	15	14	10
Number of strategic services crossed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Length of link roads (m)	1,273	1,459	1,273	1,273	3,893	3,893	4,567	4,567	1,459	4	3,893	3,893	4,567	4,567	4,567	4,567
Connections to Primary / Regional roads	4	4	4	4	5	5	5	5	4	5	5	4	5	5	5	5
Major River Crossings	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Length of road within flood plain (m)	720	930	783	783	315	315	315	315	1,020	315	315	301	301	301	301	301
Other watercourse crossings	3	3	4	3	2	2	2	2	4	2	3	4	3	3	3	3
Road Safety Assessment	55,121	1,196,257	-3,014,344	-1,482,812	-758,875	-836,612	-544,802	-993,746	-7,823	9,229	-81,525	1,702,572	-1,432,422	-245,203	-659,066	-207,064
Earthworks - Cut / Fill balance (m³)	8,204	8,560	7,950	8,324	9,185	8,914	8,353	8,862	9,011	10,065	9,660	9,236	9,326	9,289	8,731	7,473
Alignment Constraint																
Green	5	4	3	3	4	4	4	4	5	7	6	3	3	3	3	5
Orange	4	4	5	5	6	6	6	6	4	4	5	6	6	7	7	6
Red	2	3	3	3	1	1	1	1	2	0	0	2	2	1	1	0
Average Score of Engineering criteria	2.273	2.091	2.000	2.000	2.273	2.273	2.273	2.273	2.273	2.636	2.545	2.091	2.091	2.182	2.182	2.455
Planning and Development - length of road within zoned land (m)	1,779	1,529	1,627	1,537	2,250	2,512	2,512	2,250	2,867	2,947	2,947	1,300	2,642	2,904	2,904	2,642
Geology - length of road over peat / soft ground (m)	1,400	1,267	1,061	1,049	1,129	1,129	697	697	1,607	1,543	1,241	1,441	1,272	1,272	839	839
Ecology - Impact on SACs & SPA's	Medium indirect impact. No direct impact.	Medium indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Medium indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.
Ecology - Impact on NHA's & PNHA's	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.	Low indirect impact. No direct impact.
Ecology - length of road within mature woodland (m)	2,384	2,374	2,374	2,195	439	439	439	420	846	420	420	410	420	420	420	420
Landscape and Visual - length of road within high landscape sensitivity (m)	5,156	5,344	5,334	5,156	6,507	6,491	6,274	6,272	3,504	6,495	6,285	6,183	6,511	6,490	6,282	6,282
Archaeology and Cultural Heritage - number of RHM / BMPs direct hits	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Archaeology and Cultural Heritage - number of RHM / BMPs within 300m	1	2	2	1	1	1	0	0	3	2	1	1	1	1	0	0
Agriculture (m)	8,220	8,033	8,143	8,793	7,517	7,453	6,957	7,020	8,270	5,307	3,580	4,752	6,385	6,321	5,825	4,412
Residential / Private Properties - direct hits	3	5	3	4	10	8	7	9	6	7	4	8	9	7	6	6
Air quality / noise / vibration - properties within 300m	107	81	84	86	62	64	64	62	80	106	41	61	59	61	61	49
Community impacts (schools, sports grounds, churches etc)	0	0	0	0	1	1	1	1	0	1	1	1	1	1	1	1
Communities severed	4	3	3	4	7	7	6	6	3	5	4	7	6	6	5	5
Green	5	4	6	5	4	4	6	6	5	4	6	5	4	4	6	7
Orange	4	7	4	5	7	8	6	6	5	6	6	7	8	8	6	5
Red	4	2	3	3	2	1	1	1	3	3	1	1	1	1	1	1
Average Score of Environmental criteria	2.077	2.154	2.231	2.154	2.154	2.231	2.385	2.385	2.154	2.077	2.385	2.308	2.231	2.231	2.385	2.462
Total Scheme Cost Comparison (Land + Construction - millions Euros)	220	256	321	273	158	155	150	149	228	125	116	144	176	143	155	126
Green											1					
Orange					1	1	1	1		1		1	1	1	1	1
Red	1	1	1	1					1							
Average Score of Cost criteria	1.000	1.000	1.000	1.000	2.000	2.000	2.000	2.000	1.000	2.000	3.000	2.000	2.000	2.000	2.000	2.000
Total of average scores	5.350	5.245	5.231	5.154	6.427	6.503	6.657	6.657	5.427	6.713	7.930	6.399	6.322	6.413	6.566	6.916
Reason for elimination		Cost, flooding, ecology and community impact.	Cost, flooding, ecology and community impact.	Cost, flooding, ecology and community impact.	Lower performing option than shortlisted options.	Lower performing option than shortlisted options.	Lower performing option than shortlisted options.	Lower performing option than shortlisted options.	Cost and impact on flooding.			Lower performing option than shortlisted options.	Lower performing option than shortlisted options.	Lower performing option than shortlisted options.	Lower performing option than shortlisted options.	
Route retained for Stage 2 Options Assessment										Shortlisted Option	Shortlisted Option					Shortlisted Option

Note: Average scores were calculated based on the number of Green, Orange and Reds. The average scores are not directly utilised in choosing options, but give an indication of the overall performance of each option for consideration during comparison and shortlisting. The significance of the individual impacts is also a consideration in identifying options to be shortlisted.