

Appendix 2 - Ranked Countermeasures - Overall Programme - A619 A5004 and A5012 Safer Roads Fund sub Projects

Rank	Original Scheme	Countermeasure	Length	Fits Saved	VIDA Stage Pw of Safety benefits (2017)	VIDA Stage Estimated cost	Est OCC Costs (At 2017 Base)	Cost per FSI saved	Program BCR (Benefits to Cost Ratio)	Comments regarding BCR Ranking and Deliverability	Updated OCC Cost Estimate (Using BCR Construction Price Index Factors to 2021)	Cumulative Totals 2022 Prices	Cost Estimates at Q2 2023-24 Year	Cumulative Totals 2023-24 Prices	General Notes
1	A5004	Speed management reviews (potentially including Average Speed Camera System)	9.3 km				£433,000		8.1	High Priority , as reduced average speeds (achievable from Average Speed Camera System), will potentially improve driving habits / reduce collisions, and consequently improve safety at other potential hazard points along the route.	£940,000.00	£940,000.00	£1,034,000.00	£1,072,500.00	Cost estimate for this Countermeasure includes costs for 10 year Maintenance agreement with supplier. The calculated Benefits to Cost Ratio reflects this.
2	A5012	Speed management reviews (potentially including Average Speed Camera System)	11.4 km				£365,000		8.8	High Priority , as reduced average speeds (achievable from Average Speed Camera System), will potentially improve driving habits / reduce collisions, and consequently improve safety at other potential hazard points along the route.	£970,000.00	£1,910,000.00	£1,067,000.00	£2,139,500.00	Cost estimate for this Countermeasure includes costs for 10 year Maintenance agreement with supplier. The calculated Benefits to Cost Ratio reflects this.
3	A5012	50mph speed limit	8.4 km				£35,000			Associated with Speed Management review / Average Speed Camera System Countermeasure	£47,593.00	£1,957,593.00	£50,534.25	£2,190,034.25	Associated with Speed Management Review / Average Speed Camera System Countermeasure on A5012.
4	A5004	ETP	11.7 km				£46,000			High Priority. Order already placed with supplier of Virtual Reality Filming and Training. Will potentially improve driving habits / reduce collisions, and consequently improve safety at potential hazard points along the routes generally and further afield.	£62,550.80	£2,020,143.80	£66,416.44	£2,256,450.69	Order already placed with supplier of Virtual reality Filming and Training
5	A5012	ETP	15.4 km				£47,000			High Priority. Order already placed with supplier of Virtual Reality Filming and Training. Will potentially improve driving habits / reduce collisions, and consequently improve safety at potential hazard points along the routes generally and further afield.	£63,910.60	£2,084,054.40	£67,860.28	£2,324,310.96	Order already placed with supplier of Virtual reality Filming and Training
6	A619	ETP	5.9 km				£43,000			High Priority. Order already placed with supplier of Virtual Reality Filming and Training. Will potentially improve driving habits / reduce collisions, and consequently improve safety at potential hazard points along the routes generally and further afield.	£58,471.40	£2,142,525.80	£58,471.40	£2,382,782.36	Order already placed with supplier of Virtual reality Filming and Training
7	A619	Overall Programme Project Design & Project Management Fees									£450,000.00	£2,592,525.80	£495,000.00	£2,877,782.36	
8	A619	Sight distance (obstruction removal)	3.0 km	14.7	2934774.6	£7,534	£127,334	5318.7	37.6	Work already completed on site at A619	£173,148.77	£2,765,674.57	£173,148.77	£3,050,931.14	Work already completed on site at A619
9	A619	Shoulder rumble strips	4.1 km	11	2193534.9	£62,541	£24,600	5696.1	35.1	Work already substantially completed on site at A619	£33,451.08	£2,799,125.65	£33,451.08	£3,084,382.22	Work already substantially completed on site at A619
10	A619	Central hatching (or widened centreline)	1.4 km	2.9	574930	£17,773	£11,666	6176	32.3	Work already substantially completed on site at A619	£15,863.43	£2,814,989.08	£15,863.43	£3,100,245.64	Work already substantially completed on site at A619
11	A619	Roadside barriers - passenger side	0.5 km	4	804596.5	£118,100	£37,500	29324.3	6.8	Work already completed on site at A619	£47,677.50	£2,862,666.58	£47,677.50	£3,147,923.14	Work already completed on site at A619
12	A619	Roadside barriers - driver side	0.6 km	2.5	501335.3	£147,100	£45,000	58619.2	3.4	Work already completed on site at A619	£61,191.00	£2,923,857.58	£61,191.00	£3,209,114.14	Work already completed on site at A619
13	A619	Protected turn lane (unsignalised 3 leg)	1 sites	1.1	227579.3	£180,069	£100,000	158074.2	1.3	Work already completed on site at A619	£135,980.00	£3,059,837.58	£135,980.00	£3,345,094.14	Work already completed on site at A619
14	A5012	Sight distance (obstruction removal)	0.5 km	0.8	163381.4	£3,125	£41,921	3821.2	52.3	High Benefits to Cost Ratio	£57,004.18	£3,116,841.76	£60,527.03	£3,405,621.18	
15	A5012	Clear roadside hazards - driver side	1.6 km	1.7	338774.1	£38,757	£53,333	22855.7	8.7	Relatively High Benefits to Cost Ratio	£72,522.21	£3,189,363.97	£77,004.09	£3,482,625.26	
16	A5012	Clear roadside hazards - passenger side	2.9 km	0.6	129263.7	£70,247	£96,666	108569.2	1.8	Relatively High Benefits to Cost Ratio (Each side of road to be completed by Contractor at the same time, on each Project)	£131,446.43	£3,320,810.40	£139,569.82	£3,622,195.08	
17	A5004	Clear roadside hazards - passenger side	0.1 km	0.1	14776.7	£2,422	£1,000	27863	6.1	Relatively High Benefits to Cost Ratio	£1,359.80	£3,322,170.20	£1,443.84	£3,623,638.91	
18	A5012	Shoulder rumble strips	14.8 km	5.3	1054640.4	£231,773	£88,800	43905	4.6	Relatively High Benefits to Cost Ratio	£120,859.02	£3,443,029.22	£128,328.11	£3,751,967.03	
19	A5004	Sight distance (obstruction removal)	2.6 km	0.8	156621.3	£40,625	£76,000	51820.1	3.9	Relatively High Benefits to Cost Ratio	£106,064.40	£3,549,093.62	£112,619.18	£3,864,586.21	
20	A5004	Shoulder rumble strips	7.8 km	2.4	480907.3	£122,151	£46,800	52163.2	3.9	Relatively High Benefits to Cost Ratio	£63,638.64	£3,612,732.26	£67,571.51	£3,932,157.71	
21	A5012	Wide centreline	0.2 km	0.1	12913.6	£6,578	£1,000	95574	2.1	Relatively High Benefits to Cost Ratio	£1,359.80	£3,614,092.06	£1,443.84	£3,933,601.55	
22	A619	Roadside barriers - driver side	0.2 km	0.4	81449.7	£2,822,400	£279,500	6922843.1	0.7	Work already completed on site at A619	£380,064.10	£3,994,156.16	£380,064.10	£4,313,665.65	Work already completed on site at A619
23	A619	Unsignalised crossing	1 sites	0.2	45505.2	£61,899	£3,000	271754.4	0.7	Work already completed on site at A619	£4,079.40	£3,998,235.56	£4,079.40	£4,317,745.05	Work already completed on site at A619
24	A619	Footpath provision driver side (adjacent to road)	0.1 km			£16,370	£15,000			Work already completed on site at A619	£20,397.00	£4,018,632.56	£20,397.00	£4,338,142.05	Work already completed on site at A619
25	A5004	Central hatching	0.6 km	0.3	50883.2	£34,902	£5,000	35427.2	1.5	Relatively High Benefits to Cost Ratio	£6,799.00	£4,025,431.56	£7,219.18	£4,345,361.23	
26	A5012	Roadside barriers - passenger side	0.6 km	1.1	224021.7	£193,015	£45,000	171669.8	1.2	Relatively High Benefits to Cost Ratio	£61,191.00	£4,086,622.56	£64,972.60	£4,410,333.83	
27	A5012	Roadside barriers - driver side	0.4 km	0.4	86537.8	£138,676	£30,000	297063	0.7	Relatively High Benefits to Cost Ratio (Each side of road to be completed by Contractor at the same time, on each Project)	£40,794.00	£4,127,416.56	£43,315.07	£4,453,648.90	
28	A5012	Definition and signing (intersection)	2 sites	0.3	31152.2	£23,463	£10,000	350469.1	1.3	Relatively High Benefits to Cost Ratio	£13,598.00	£4,141,014.56	£14,438.36	£4,468,087.26	

				£5,619,000
A619 Grant	A5004 Grant	A5012 Grant	Totalled Programme Grant	
£1,179,000	£2,540,000	£3,079,000	£6,798,000	
930,324	3,151,096	2,177,310	6,258,729	495,000 Fees
	5,328,406		6,753,729	

**KEY**

- Countermeasure Identified on the A5004 SRF "Long Hill" Project
- Countermeasure Identified on the A5012 SRF "Via Gellia" Project
- Countermeasure Identified on the A619 SRF "13 Bends" Project

28	A5012	Improve Delineation	0.1 km				£2,103	£10,000			0	Reference ranked item 27 above, All areas of the road / each side of road to be completed by Carriageway Markings Contractor at the same time, on each Project	£13,598.00	£4,154,612.56	£14,438.36	£4,482,525.61
29	A5004	Protected turn lane (unsignalised 3 leg)	1 sites	0.3	57738.1	£70,331	£100,000	243355.4			0.8	Medium Benefits to Cost Ratio, Desirable Works Package.	£135,980.00	£4,290,592.56	£144,383.56	£4,626,909.18
30	A5012	Protected turn lane (unsignalised 3 leg)	2 sites	0.5	102720.5	£140,862	£200,000	273574.7			0.7	Medium Benefits to Cost Ratio, Desirable Works Package.	£271,960.00	£4,562,552.56	£288,767.13	£4,915,676.30
31	A5004	Roadside barriers - driver side	0.8 km	0.6	125680.7	£257,353	£60,000	345737.1			0.5	Medium Benefits to Cost Ratio, Desirable Works Package.	£81,588.00	£4,644,140.56	£86,630.14	£5,002,306.44
32	A5004	Roadside barriers - passenger side	1.7 km	1.5	296959.1	£546,875	£127,500	310074.2			0.5	Medium Benefits to Cost Ratio, Desirable Works Package.	£173,374.50	£4,817,515.06	£184,089.04	£5,186,395.49
33	A5004	Unsignalised raised crossing	1 sites	0.1	20288	£56,271	£20,000	55418.7			0.4	Medium Benefits to Cost Ratio.	£27,196.00	£4,844,711.06	£28,876.71	£5,215,272.20
34	A5012	Unsignalised crossing	1 sites	0.1	23618	£61,899	£3,000	523593.7			0.4	Medium Benefits to Cost Ratio.	£4,079.40	£4,848,790.46	£4,331.51	£5,219,603.71
35	A5004	Horizontal Realignment	0.8 km	1.3	257459.1	£815,862	£600,000	633087.9			0.3	Medium Benefits to Cost Ratio, Desirable Works Package.	£815,880.00	£5,664,670.46	£866,301.38	£6,085,905.09
36	A5012	Roundabout (or Junction Improvement) Bonaill	1 sites	0	872	£1,034,880	£100,000	23705585.1				Low Benefits to Cost Ratio, but desired politically, and improved junction would reduce vehicle speeds.	£135,980.00	£5,900,650.46	£144,383.56	£6,230,288.66
37	A5004	Delineation and signing (Intersection)	1 sites	0	3449.2	£11,731	£5,000	679495.6			0.3	Medium Benefits to Cost Ratio.	£6,799.00	£5,807,449.46	£7,219.18	£6,237,507.83
38	A5004	Upgrade pedestrian facility quality	1 sites	0	6082.1	£26,528	£20,000	871361			0.2	Medium Benefits to Cost Ratio.	£27,196.00	£5,834,645.46	£28,876.71	£6,266,384.55
39	A5012	Central hatching	0.9 km	0.1	16016.1	£69,804	£7,200	870713.3			0.2	Medium Benefits to Cost Ratio.	£9,790.56	£5,844,436.02	£10,395.62	£6,276,780.16
40	A5004	Footpath provision passenger side (adjacent to road)	0.2 km			£31,103	£37,000				0	Low Benefits to Cost Ratio, but desirable to assist interconnectivity / access and safety, therefore Desirable Works Package.	£50,312.60	£5,894,748.62	£53,421.92	£6,330,202.08
41	A5004	Bicycle Lane (off-road) part, (with improvements to assist interconnectivity with existing ProW Network, and quiet roads.	10 km	1.1	218795.4	£1,497,189	£300,000	1367079.8			0.1	Low Benefits to Cost Ratio, but desirable to assist interconnectivity / access and safety, therefore Desirable Works Package.	£407,940.00	£6,302,688.62	£433,150.60	£6,763,352.77
42	A5004	Side road unsignalised pedestrian crossing	1 sites	0.1	11622.8	£80,468	£20,000	1381148.3			0.1	Low Benefits to Cost Ratio, but improvements for vulnerable highway users within the local community desirable.	£27,196.00	£6,329,884.62	£28,876.71	£6,792,229.49
43	A5004	Shoulder sealing passenger side (>1m)	1.1 km	0.2	44314.2	£85,114	£225,850	883718.2			0.5	Medium Benefits to Cost Ratio, but Monitor, and DCC Future Maintenance Programme could address locally in future, if necessary.	£307,110.83	£6,636,995.45	£326,090.28	£7,118,310.77
44	A5004	Shoulder sealing driver side (>1m)	1.1 km	0.2	40364.7	£85,114	£225,850	421263.1			0.5	Medium Benefits to Cost Ratio, but Monitor, and DCC Future Maintenance Programme could address locally in future, if necessary.	£307,110.83	£6,944,106.28	£326,090.28	£7,444,410.04
4619	A5004	Shoulder sealing passenger side (<1m)	0.6 km	0.4	82814	£24,499	£1,200	59101			3.4	Monitor, and DCC Future Maintenance Programme could address in future, if necessary.				Monitor, and DCC Future Maintenance Programme could address in future, if necessary.
4619	A5004	Shoulder sealing driver side (<1m)	0.6 km	0.5	94350.6	£23,313	£1,200	49364.3			4	Monitor, and DCC Future Maintenance Programme could address in future, if necessary.				Monitor, and DCC Future Maintenance Programme could address in future, if necessary.
4619	A5004	Sideslope improvement - driver side	1.3 km	5.7	1144603.6	£3,216,407	£135,000	561398.7			0.4	Not achievable within landtake available. Monitor, and locally DCC Future Maintenance Programme could address in future, if necessary.				Not achievable within landtake available. Monitor, and locally DCC Future Maintenance Programme could address in future, if necessary.
4619	A5004	Sideslope improvement - passenger side	0.1 km	0.8	156157.9	£382,906	£15,000	489872.8			0.4	Some regrading carried out within landtake available, but generally not achievable within landtake available. Monitor, and DCC Future Maintenance Programme could address locally in future, if necessary.				Some regrading carried out within landtake available, but generally not achievable within landtake available. Monitor, and DCC Future Maintenance Programme could address locally in future, if necessary.
A5004	A5004	Road surface rehabilitation	0.6 km	0.1	18633.5	£73,765	£139,000	790876			0.3	Monitor, and DCC Future Maintenance Programme has, and will continue to address in future, if necessary.				Monitor, and DCC Future Maintenance Programme has, and will continue to address in future, if necessary.
A5012	A5012	Shoulder sealing driver side (<1m)	1.5 km	0.1	13630.2	£64,040	£3,000	938651.7			0.2	Medium Benefits to cost ratio, but Monitor, and DCC Future Maintenance Programme has and will continue to address in future, if necessary.				Medium Benefits to Cost Ratio, but Monitor, and DCC Future Maintenance Programme has and will continue to address locally in future, if necessary. Proposed Average Speed Camera system will reduce average vehicle speeds, and hence should reduce occurrence of vehicle encroachment on highway margins.
A5012	A5012	Shoulder sealing passenger side (<1m)	1.4 km	0.1	11173.8	£60,851	£3,000	1087979.1			0.2	Medium Benefits to Cost Ratio, but Monitor, and DCC Future Maintenance Programme has and will continue to address in future, if necessary.				Medium Benefits to Cost Ratio, but Monitor, and DCC Future Maintenance Programme has and will continue to address locally in future, if necessary. Proposed Average Speed Camera system will reduce average vehicle speeds, and hence should reduce occurrence of vehicle encroachment on highway margins.



AS012	Lane widening (up to 0.5m)	0.9 km	0.2	41294.2	£1,171,472	£225,000	5667590.3	0	Not achievable widespread within landtake available. Monitor, and locally DCC Future Maintenance Programme has, and could further address locally in future, if necessary. Proposed Average Speed Camera system will reduce average vehicle speeds, and hence reduce occurrence of vehicle encroachment on bends.	Not achievable widespread within landtake available. Monitor, and locally DCC Future Maintenance Programme has, and could further address locally in future, if necessary. Proposed Average Speed Camera system will reduce average vehicle speeds, and hence reduce occurrence of vehicle encroachment on bends.
AS004	Sideslope improvement - passenger side	0.1 km	0.1	20489.4	£382,906	£5,000	3731695	0.1	Monitor, and locally DCC Future Maintenance Programme has and will continue to address locally in future, if necessary.	
AS004	Sideslope improvement - driver side	0.9 km	0.5	104141.5	£3,561,022	£45,000	6831350.3	0	Monitor, and locally DCC Future Maintenance Programme has and will continue to address locally in future, if necessary.	
AS012	Road surface rehabilitation	6.6 km			£861,379	£1,580,000		0	Monitor, and DCC Future Maintenance Programme has, and will continue to address in future, if necessary.	
AS012	Bicycle Lane (off-road)	1.2 km			£200,952	£135,000		0	Through area of SSSI. Upgrade of footpath to bridleway status not achievable on current footpath route. Line would have to change significantly, and would necessitate excessive embankments to slacken off gradients sufficiently. Similarly significant structure full length would be required if adjacent to roadside within the SSSI.	Through area of SSSI. Upgrade of footpath to bridleway status not achievable on current footpath route. Line would have to change significantly, and would necessitate excessive embankments to slacken off gradients sufficiently. Similarly significant structure full length would be required if adjacent to roadside within the SSSI.
AG19	Parking improvements	0.1 km	0.2	43594.8	£78,131	£1,000	6639.4	30.1	Not achievable / not supported at Consultation. Limited off road parking for residents. Therefore TRO not pursued.	Not achievable / not supported at Consultation. Limited off road parking for residents. Therefore TRO not pursued.
AG19	Horizontal Realignment	1.1 km	29.8	5948632	£1,050,422	£340,000	35278	5.7	Not achievable / not supported at Consultation. Strong Objections at Consultation from Town Council, and from Car Park Operators, as change of priorities involved would have potentially negative impact on Access and Egress to immediately adjacent Car Parks. Also in Conservation Area, and also tree surgery required. Therefore horizontal realignment / junction improvement not pursued.	Not achievable / not supported at Consultation. Strong Objections at Consultation from Town Council, and from Car Park Operators, as change of priorities involved would have potentially negative impact on Access and Egress to immediately adjacent Car Parks. Also in Conservation Area, and also tree surgery required. Therefore horizontal realignment / junction improvement not pursued.