COST SUMMARY		c	Option 2A	Option 2C	Option 3A	Option 3C	P	ixash Lane	Brassmill (Option 2)
Series 0100: Traffic Safety & Management	Series 0100	£	_	£ -	£ -	£ -	£	_	£ -
Series 0200: Site Clearance	Series 0200	£	43,674.06				£		£ 38,035.14
Series 0300: Fencing & Steps	Series 0300	£	58,240.00	£ 104,440.00			£	620.00	·
- '	Series 0500	£	585,591.10	•	•	£ 902,403.30	£		·
Series 0500: Drainage			· ·	•		•		1,580.00	·
Series 0600: Earthworks	Series 0600	£	2,521,923.28	£ 2,594,180.12			£	16,819.86	·
Series 0700: Pavements	Series 0700	£	• •	£ 1,937,849.10			£	24,452.96	·
Series 1100: Kerbs, Footways and Paved Areas	Series 1100	£	271,215.70	£ 348,239.60			£	22,684.02	•
Series 1200: Traffic Signs and Road Markings	Series 1200	£	52,440.00	•		•	£	6,085.28	,
Series 1300: Street Lighting and Electrical Works	Series 1300	£	227,174.00	£ 332,337.88		£ 401,012.36	£	•	£ 69,778.41
Series 1700: Structures	Series 1700	£	7,377,000.00	£ 21,706,000.00	£ 1,913,500.00	£ 16,239,000.00	£	•	£ 97,425.00
Series 2400: Brickwork, Blockwork and Stone Work	Series 2400	£	-	£ -	£ -	£ -	£	•	£ 55,029.00
Series 3000: Landscaping and Ecology	Series 3000	£	127,376.00	£ 132,024.00		£ 197,930.00	£	420.00	· ·
SUB-TOTAL		£ 13	3,130,328.85	£ 27,974,538.41	£ 11,396,944.60	£ 26,111,322.49	£	160,461.52	£ 1,161,054.26
									f 1,161,054.26
ADD ONS									
Preliminaries (10%)	10%	£	-	£ 2,797,453.84	£ -	£ 2,611,132.25	£		£ -
Preliminaries (15%)	15%		1,969,549.33	£ -	£ 1,709,541.69		£	24,069.23	£ 174,158.14
Utilities (5%)	5%	£		£ -	£ -	£ -	£	-	£ -
Utilities (10%)	10%	£	1,313,032.89	£ 2,797,453.84	£ 1,139,694.46	£ 2,611,132.25	£	_	£ -
Utilities (20%)	20%	f	-	£ -	f -	f -	£	32,092.30	£ 232,210.85
Utilities (30%)	30%	f -	_		£ -	f -	ŧ –	-	£ -
Utilities (50%)	60%	٦		£ -	Ē	£ .	£		E -
	Lump	£	35,000,00	£ 25,000.00	£ 50.000.00	£ 50,000.00	£	-	£ -
Toucan Crossing	20%	l c	25,000.00	£ 25,000.00	£ 50,000.00	,		-	
Restricted Working		i i	-	_	£ -	f -	£	-	£ 232,210.85
TRO	Lump	£	5,000.00	£ 5,000.00	•	£ 5,000.00	£	•	£ 5,000.00
Environmental	5%	£	656,516.44	£ 1,398,726.92	£ 569,847.23	£ 1,305,566.12	£	8,023.08	£ -
Environmental SUB-TOTAL	10%	t t	- 3,969,098.66	£ 7,023,634.60	£ 3,474,083.38	£ 6,582,830.62	£	69,184.61	f 116,105.43 f 643,579.84
30B-10TAL	Chack						E C		•
									£ 1,920,739.53 £ 1,804,634.10
LAND						-			2 220,200.10
Land - Residential (Built)		£	-	£ -	£ -	£ -	£	30,000.00	£ -
Land - Commercial (Built)		£	_	£ -	£ -	£ -	£	· · ·	£ -
Land - Residential (Planned)		£	_	£ -	£ -	£ -	£	_	£ -
Land - Commercial (Planned)		£	_	£ -	£ -	£ -	£	_	£ -
Land - Agirculture		£	155,000.00				£		£ 10,000.00
Land - Compensatory Greenbelt/ SSSI/ Common Land		£	155,000.00	f - 170,000.00	£ 223,000.00	£ 250,000.00	£		£ -
SUB-TOTAL		£	155,000.00	£ 170,000.00	£ 225,000.00	£ 250,000.00	£	30,000.00	
JOB-TOTAL			133,000.00	1 170,000.00	1 223,000.00	250,000.00		30,000.00	1 10,000.00
SUB-TOTAL (Pre-Fees & Estimating Tolerence)		£ 17	7,254,427.51	£ 35,168,173.01	£ 15,096,027.98	£ 32,944,153.11	£	259,646.12	£ 1,814,634.10
FEES									
Design & Project Management	10%	£	1 725 442 75	£ 2 516 017 30	£ 1,509,602.80	£ 2.204.41F.24		25 064 64	£ 101.462.41
		£	1,725,442.75				£	25,964.61	
Site Supervision	5%		862,721.38				£	12,982.31	
SUB-TOTAL SUB-TOTAL		ŧ 2	2,388,184.13	1 3,2/5,225.95	£ 2,264,404.20	£ 4,941,622.97	£	38,946.92	£ 272,195.11
CONTINGENCIES									
Construction	25%	£ 4	1,274,856.88	£ 8,749,543.25	£ 3,717,757.00	£ 8,173,538.28	£	57,411.53	£ 451,158.52
Land	10%	£	15,500.00	£ 17,000.00	£ 22,500.00	£ 25,000.00	£	3,000.00	£ 1,000.00
Fees	10%	£	258,816.41	£ 527,522.60	£ 226,440.42	£ 494,162.30	£	3,894.69	
SUB-TOTAL		£ 4	1,549,173.29	£ 9,294,065.85	£ 3,966,697.41	£ 8,692,700.57	£	64,306.22	
			204 754 05	C 40 727 464 24	6 24 227 420 72	C 46 F70 476 67		262.622.27	C 2 ECC 207 CT
		£ 24	1,391,764.92	± 49,737,464.81	£ 21,327,129.59	£ 46,578,476.65	£		£ 2,566,207.25
AMALGAMATED ACTUAL TOTAL		f 27	7.320.871 44	f 50.100 364 08	£ 23,893,336.84	f 46.578 476 65	Add	I to 2A and 2C	Add to 2A and 3A
ANTALOANTALE ACTUAL TOTAL		L 2/	,320,071.44	_ 30,100,304.00	_ 23,033,330.64	_ <del>+0,370,470.03</del>			

## Scheme: OP2A

Scheme: OP2A		
Analysis of Monetised Costs and Bene	efits	
Noise	-	-12
Local Air Quality	-	-13
Greenhouse Gases	-	-14
Journey Quality	-	-15
Physical Activity	-	-16
Accidents	-	-17
Economic Efficiency: Consumer Users (Commuting)	20,646	(1a)
Economic Efficiency: Consumer Users (Other)	10,890	(1b)
Economic Efficiency: Business Users and Providers	20,809	-5
Wider Public Finances (Indirect Taxation Revenues)	0	- (11) - sign changed from PA table, as PA table represents costs, not benefits
Present Value of Benefits (see notes) (PVB)	52,344	(PVB) = (12) + (13) + (14) + (15) + (16) + (17) +(1a) + (1b) + (5) - (11)
Broad Transport Budget	20,132	-10
Present Value of Costs (see notes) (PVC)	20,132	(PVC) = (10)
OVERALL IMPACTS		-
Net Present Value (NPV)	32,212	NPV=PVB-PVC
Benefit to Cost Ratio (BCR)	2.60	BCR=PVB/PVC
appraisals, together with some where n which cannot be presented in monetise	nefits which are regularly or occasionally presen nonetisation is in prospect. There may also be o d form. Where this is the case, the analysis pre	ther significant costs and benefits, some of
measure of value for money and should	I not be used as the sole basis for decisions.	

	T	Value		Source
Scheme Test	Select Test here>>	OP2A		Source
Traffic Composition:	Scient lest liele//	01 <i>L</i> 11		BANES Survey Data
				Note: Buses are included in the traffic flow information. This % is
	Mode	AM PM		maintained throughout following calculations but no benefits are estimated for PSV's
	Car	0.78 0.81		estilliated for PSV 5
	LGV	0.12 0.12		
	Buses	0.01 0.01		
	OGV	0.09 0.06		
Expansion Factors	AM	1		Madelling based on 2.8.4 hour totals. No expansion applied
expansion Factors	ID	0		Modelling based on 3 & 4 hour totals. No expansion applied
	PM	1		
Value of time (2017 VALUES -2010 PRICES)	CAR - EMP	16.18		From WEBTAG December 2017
	CAR- COMMUTE	10.83		
	CAR - OTH	4.94		
	LGV - work LGV - non work	13.25 4.94		
	OGV	15.62		
Vehicle Delay Savings				Based on Paramics modelling (hours / period)
	AM Peak Difference - 2029	179.00		
	PM Peak Difference - 2029	696.00		
		252		
Annualisation factor		252		Standard TUBA type assessment value for weekdays only
Split cars		AM PM		WebTAG Table A 1.3.4
	Work	16% 12%		
	Commuting	44% 41%		
	Other	39% 47%		
Split LGV	Work (freight)	88%		WebTAG Table A 1.3.4
Benefits by vehicle class	Non – Work	12%		Derived from splitting delay difference by relavent vehicle category
Benefits by venicle class	2029	AM PM		Derived from splitting delay difference by relavent vehicle category
	Total Benefit (hours)	179.00 696.00		
	CAR - EMP	22.84 66.60		
	CAR- COMMUTE	61.14 232.78		
	CAR - OTH	54.78 264.72		
	LGV - work	18.75 74.04		
	LGV - non work	2.56 10.10		
	Bus OGV	2.52 8.68 16 39		
	OGV	10 33		
Annual Delay (hours)				Time Period benefits * time period expansion factor * Annualisation Factor
	2029	AM PM	Combined	
	CAR - EMP CAR- COMMUTE	5755 16784 15408 58661	22540 74069	
	CAR - OTH	13804 66709	80513	
	LGV - work	4724 18657	23381	
	LGV - non work	644 2544	3188	
	Bus	635 2187	2822	
	OGV	4138 9849	13987	
Voors	Price Base	2017		
Years	Opening Year	2017		
	Opening real	2023		
			% of scheme	
Scheme Capex (includes land, design, supervision	)		cost	from CH2M spreadsheet (Process_scheme_costs.xlsx)
		2022 £0 1.00	0% 3%	Voor 0024 0026 0024 0026
		2023 £483,218 200 2024 £580,718 200	2% 2%	Year OP2A OP2C OP3A OP3C
		2024 £580,718 3.00 2025 £580,718 4.00	2%	2022 2023 - 483,218 885,695 422,767 823,604
		2026 £8,558,739 500	31%	2024 580,718 985,695 540,267 948,604
		2027 £8,558,739 600	31%	2025 580,718 985,695 540,267 948,604
		2028 £8,558,739 <sub>700</sub>	31%	2026 8,558,739 15,747,759 7,463,346 14,619,222
	Total	2029 £0	0%	2027 8,558,739 15,747,759 7,463,346 14,619,222
	Total	£27,320,871		2028 8,558,739 15,747,759 7,463,346 14,619,222 2029
				Total 27,320,871 50,100,364 23,893,337 46,578,477
Optimism Bias	OB - Capex	44%		
	OB - Maintenance	15%		TAG Unit A1.2 - Table 8.
				From CH2M spreadhseet (60 year maintenance costs.xlsx)
Scheme Routine Maintenance				110111 CHZIVI Spi Cualiscet (00 year maintenance costs.nisk)
				Estimated Total
				Maintenance
	Average Annual Maintenance Cost 33,379 £ / per year			Annual Maintenance Cost Cost
				OP2A 33,379 2,002,762 OP2C 35,795 2,147,729
				OP2C 35,795 2,147,729 OP3A 33,105 1,986,322
				OP3C 35,103 1,980,322 35,139 2,108,351
				, , , , , , , , , , , , , , , , , , , ,

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Scheme: OP2C		
Analysis of Monetised Costs and Bend	efits	
Noise	-	-12
Local Air Quality	-	-13
Greenhouse Gases	-	-14
Journey Quality	-	-15
Physical Activity	-	-16
Accidents		-17
Economic Efficiency: Consumer Users (Commuting)	27,406	(1a)
Economic Efficiency: Consumer Users (Other)	14,519	(1b)
Economic Efficiency: Business Users and Providers	27,485	-5
Wider Public Finances (Indirect Taxation Revenues)	0	- (11) - sign changed from PA table, as PA table represents costs, not benefits
Present Value of Benefits (see notes) (PVB)	69,410	(PVB) = (12) + (13) + (14) + (15) + (16) + (17) +(1a) + (1b) + (5) - (11)
Broad Transport Budget	36,569	-10
Present Value of Costs (see notes) (PVC)	36,569	(PVC) = (10)
OVERALL IMPACTS		
Net Present Value (NPV)	32,841	NPV=PVB-PVC
Benefit to Cost Ratio (BCR)	1.90	BCR=PVB/PVC
appraisals, together with some where r which cannot be presented in monetise	nefits which are regularly or occasionally present monetisation is in prospect. There may also be of ed form. Where this is the case, the analysis pres d not be used as the sole basis for decisions.	ther significant costs and benefits, some of

Company   Comp			Value		Source
# 1	Scheme Test	Salact Tast harass	Value OP2C		Source
Part		Jeiect Test Heless	OI ZC		BANES Survey Data
Control   Cont					Note: Buses are included in the traffic flow information. This % is
Control   Cont		Mode	AM	PM	
Marie   Mari		Car	0.78	0.81	estimateu iui F3V S
Second					
March   Marc		Buses	0.01	0.01	
Control   Cont		OGV	0.09	0.06	
Control   Cont	Emperies Factory	I A A A			Madelling based on 2.9.4 hours totals. No surgerises are 15.1
1	Expansion Factors	AM	1		Modelling based on 3 & 4 hour totals. No expansion applied
Security		PM	1		
Section   Sect			-		
March   Marc	Value of time (2017 VALUES -2010 PRICES)	CAR - EMP	16.18		From WEBTAG December 2017
Community   Comm					
15   15   15   15   15   15   15   15					
Proceedings					
Secretary (1997)  A Proportional Content (1997)  A Proportiona					
Martina principalities 2009   24   1	Vehicle Delay Savings				Based on Paramics modelling (hours / period)
Second   192	, ,	AM Peak Difference - 2029	214.00		
March   Marc		PM Peak Difference - 2029	948.00		
March   Marc					
Month   12	Annualisation factor		252		Standard TUBA type assessment value for weekdays only
Month   12					
Month   12	Split cars		AM F	PM	WebTAG Table A 1.3.4
Community   Mark   Ma		Work			
March   State   Stat		Commuting	44%	11%	
Company   Comp		Other	39%		
Process   Proc	Split LGV				WebTAG Table A 1.3.4
1885	Ponofits by vohiala slass	Non – Work	12%		Derived from colitting delay difference by relevent vehicle entages:
March   Marc	Benefits by Venicle class	2029	ΔΜ	PM	Derived from splitting delay difference by relavent vehicle category
Case					
Case					
Control   Cont		CAR- COMMUTE	73.10	317.07	
NO - mon work   1.06   13.27					
March   1900					
Married Delay Downs   1					
Trans. Deby (bours)  7.029 AM PM CAN- EMP CAN- E					
Color   Colo		OGV	20	<b>33</b>	
Color   Colo					
CAR - EMP	Annual Delay (hours)				Time Period benefits * time period expansion factor * Annualisation Factor
CAR - EMP					
CAR-COMMUTE   18421   79901   89131   CAR-COMMUTE   18421   79901   89131   CAR-COMMUTE   16001   90964   31000   1000   90964   31000   1000   90964   31000   1000   90964   13100   1000   90964   13100   1000   90964   13100   90964   13100   90964   13100   90964					
CAR-OTH   150.00   508.83   1079.66   16V mon work   77.0   3465   40.745   18.90   79.9   2079   37.90   79.9   2079   37.90   79.9   2079   79.9					
LOV -work   5648   25412   31000   1000					
But   7.59   2979   3738   Control   2009   200					
Code		LGV - non work	770	3465 4235	
Pears					
Cheme Capex (Includes land, design, supervision)    Committee Capex (Includes land, design, supervision)   Committee Cape		OGV	4947	13415 18362	
Cheme Capex (Includes land, design, supervision)    Committee Capex (Includes land, design, supervision)   Committee Cape	Vears	Price Page	2017		
## Capex (Includes land, design, supervision)    2022	icais				
Cost		sporms real	2023		
Cost					
2022   E0					
1	Scheme Capex (includes land, design, supervision)		2022		from CH2M spreadsheet (Process_scheme_costs.xlsx)
2024   588,695					Year OP2A OP2C OP3A OP2C
2025   6985,695   2%   2026   2026   215,747,759   311%   2024   580,718   985,695   540,267   948,604   2027   215,747,759   311%   2026   8,588,739   15,747,759   7,463,346   14,619,222   2029   60   2028   25,004,267   2028   2029   60   2028   2029   60   2028   27   2028   27,477,59   7,463,346   14,619,222   2029   60   2029   60   2029   60   2029   60   2029   60   2029   60   2029   60   2029   60   2029   60   2029   60   2029   60   60,578,477   2029   60   2029   60   60,578,477   2029   60   2029   60   60,578,477   2028   8,588,739   15,747,759   7,463,346   14,619,222   2029   60   60,578,477					
2026   15,747,759					
2027   \$15,747,759					
15,747,759			2027 £15,747,759	soo <b>31%</b>	2025 580,718 985,695 540,267 948,604
Total £50,100,364 2028 8,558,739 15,747,759 7,463,346 14,619,222 2029					
Detimism Bias  OB - Capex OB - Maintenance OB - Maintenance OP2A OP3A  Average Annual Maintenance Cost 35,795 £ / per year  OP2A OP3A  OP3A  Average Annual Maintenance Cost 35,795 £ / 1,47,729 OP3A  Solution A1.2 - Table 8.  Estimated Total Maintenance Cost Maintenance Annual Maintenance Cost OP2A OP3A  33,795 £ / 1,47,729 OP3A  33,105 1,986,322		Tatal		8.00	
Total   27,320,871   50,100,364   23,893,337   46,578,477		тотаі	£50,100,364		
Optimism Bias  OB - Capex OB - Maintenance  OB - Maintenance  OB - Maintenance  From CH2M spreadhseet (60 year maintenance costs.xlsx)  Estimated Total Maintenance  Average Annual Maintenance Cost  Average Annual Maintenance Cost  OP2A OP2C OP3A 33,795 £ / per year OP3A 33,105 1,986,322					
Average Annual Maintenance Cost 35,795 £/per year  OP2A OP2C OP3A Synead Maintenance Cost 35,795 £,147,729 OP3A  TAG Unit A1.2 - Table 8.  From CH2M spreadhseet (60 year maintenance costs.xlsx)  Estimated Total Maintenance Cost Cost Cost OP2C OP3A S3,379 £,002,762 OP3A S3,795 £,147,729 OP3A S3,105 1,986,322					27,320,071 30,100,304 23,033,337 40,370,477
Average Annual Maintenance Cost 35,795 £/per year  OP2A OP2C OP3A Synead Maintenance Cost 35,795 £,147,729 OP3A  TAG Unit A1.2 - Table 8.  From CH2M spreadhseet (60 year maintenance costs.xlsx)  Estimated Total Maintenance Cost Cost Cost OP2C OP3A S3,379 £,002,762 OP3A S3,795 £,147,729 OP3A S3,105 1,986,322					
From CH2M spreadhseet (60 year maintenance costs.xlsx)  Estimated Total Maintenance  Average Annual Maintenance Cost 35,795 £/per year  OP2A OP2C OP3A OP3A 33,379 2,002,762 OP3A 33,375 2,147,729 OP3A 33,105 1,986,322	Optimism Bias				
Estimated Total Maintenance  Average Annual Maintenance Cost 35,795 £/per year  OP2A OP2C OP3A 33,105 1,986,322		OB - Maintenance	15%		TAG Unit A1.2 - Table 8.
Estimated Total Maintenance  Average Annual Maintenance Cost 35,795 £/per year  OP2A OP2C OP3A 33,105 1,986,322					From CH2M enroadheant (60 year maintananac caste ylav)
Average Annual Maintenance Cost 35,795 £/per year  Average Annual Maintenance Cost 35,795 £/per year  OP2A 33,379 2,002,762 OP2C 35,795 2,147,729 OP3A 33,105 1,986,322	Scheme Routine Maintenance				From Сн2ім spreadnseet (60 year maintenance costs.xlsx)
Average Annual Maintenance Cost 35,795 £ / per year  OP2A OP2C OP3A  Maintenance  Maintenance  Op2  Annual Maintenance Cost OP2  33,379 2,002,762 35,795 2,147,729 OP3A  33,105 1,986,322	Scheme Noutine Maintellance				
Average Annual Maintenance Cost 35,795 £ / per year  OP2A OP2C OP3A  Maintenance  Maintenance  Op2  Annual Maintenance Cost OP2  33,379 2,002,762 35,795 2,147,729 OP3A  33,105 1,986,322					Estimated Total
OP2A OP2C OP3A 33,379 2,002,762 35,795 2,147,729 33,105 1,986,322					Maintenance
OP2C 35,795 2,147,729 OP3A 33,105 1,986,322		Average Annual Maintenance	Cost 35,795 f	E / per year	
OP3A 33,105 1,986,322					
OL 2C 22,129.221					
					33,133 2,108,331

Scheme: OP3A		
Analysis of Monetised Costs and Bene	efits	
Noise	_	-12
	-	-12 -13
Local Air Quality Greenhouse Gases	-	-13 -14
Journey Quality	· ·	-14 -15
Physical Activity	-	-15 -16
Accidents	-	-16 -17
Economic Efficiency: Consumer Users (Commuting)	17,822	
Economic Efficiency: Consumer Users (Other)	9,362	(1b)
Economic Efficiency: Business Users and Providers	18,046	-5
Wider Public Finances (Indirect Taxation Revenues)	0	- (11) - sign changed from PA table, as PA table represents costs, not benefits
Present Value of Benefits (see notes) (PVB)	45,229	(PVB) = (12) + (13) + (14) + (15) + (16) + (17) +(1a) + (1b) + (5) - (11)
Broad Transport Budget	17,663	-10
Present Value of Costs (see notes) (PVC)	17,663	(PVC) = (10)
OVERALL IMPACTS		
Net Present Value (NPV)	27,567	NPV=PVB-PVC
Benefit to Cost Ratio (BCR)	·	BCR=PVB/PVC
		<b>1</b>
appraisals, together with some where r which cannot be presented in monetise	nefits which are regularly or occasionally present monetisation is in prospect. There may also be of ed form. Where this is the case, the analysis pres d not be used as the sole basis for decisions.	ther significant costs and benefits, some of

	T	Value		Source
Scheme Test	Select Test here>>			Source
Traffic Composition:	Jeieet Test Hele/	01 5/1		BANES Survey Data
				Note: Buses are included in the traffic flow information. This % is
	Mode	AM PM		maintained throughout following calculations but no benefits are estimated for PSV's
	Car	0.78 0.81		estilliated for PSV 5
	LGV	0.12 0.12		
	Buses	0.01 0.01		
	OGV	0.09 0.06		
Funancian Factors	A N A	1		Madelling based on 2.9.4 hourstately No supposing applied
Expansion Factors	AM	0		Modelling based on 3 & 4 hour totals. No expansion applied
	PM	1		
	·	-		
Value of time (2017 VALUES -2010 PRICES)	CAR - EMP	16.18		From WEBTAG December 2017
	CAR- COMMUTE	10.83		
	CAR - OTH	4.94		
	LGV - work	13.25		
	LGV - non work OGV	4.94 15.62		
Vehicle Delay Savings		13.02		Based on Paramics modelling (hours / period)
, ,	AM Peak Difference - 2029	169.00		
	PM Peak Difference - 2029	586.00		
Annualisation factor		252		Standard TUBA type assessment value for weekdays only
Split cars		AM PM		WebTAG Table A 1.3.4
Split Cars	Work	16% PM		WEDTAG Table A 1.3.4
	Commuting	44% 41%		
	Other	39% 47%		
Split LGV	Work (freight)	88%		WebTAG Table A 1.3.4
	Non – Work	12%		
Benefits by vehicle class				Derived from splitting delay difference by relavent vehicle category
	2029	AM PM		
	Total Benefit (hours)	169.00 586.00		
	CAR - EMP CAR- COMMUTE	21.56 56.08 57.73 195.99		
	CAR - OTH	51.72 222.88		
	LGV - work	17.70 62.33		
	LGV - non work	2.41 8.50		
	Bus	2.38 7.31		
	OGV	16 33		
Annual Delay (hours)				Time Period benefits * time period expansion factor * Annualisation Factor
	2029	AM PM	Combined	
	CAR - EMP	5434 14131	19565	
	CAR- COMMUTE	14547 49390	63937	
	CAR - OTH	13033 56166	69199	
	LGV - work	4460 15708	20169	
	LGV - non work	608 2142	2750	
	Bus	599 1841	2441	
	OGV	3906 8293	12199	
Voars	Price Base	2017		
Years	Opening Year	2017		
		2023		
			% of scheme	
Scheme Capex (includes land, design, supervision)			cost	from CH2M spreadsheet (Process_scheme_costs.xlsx)
		2022 £0 100	0%	Vocation of the control of the contr
		2023 £422,767 200	2% 2%	Year OP2A OP2C OP3A OP3C
		2024 £540,267 100 2025 £540,267 400	2% 2%	2022 2023 483,218 885,695 422,767 823,604
		2025 £540,267 400 2026 £7,463,346 500	2% 31%	2023 483,218 885,695 422,767 823,604 2024 580,718 985,695 540,267 948,604
		2027 £7,463,346 600	31%	2025 580,718 985,695 540,267 948,604
		2028 £7,463,346	31%	2026 8,558,739 15,747,759 7,463,346 14,619,222
		2029 £0 soo	0%	2027 8,558,739 15,747,759 7,463,346 14,619,222
	Total	£23,893,337		2028 8,558,739 15,747,759 7,463,346 14,619,222
				2029
				Total 27,320,871 50,100,364 23,893,337 46,578,477
Optimism Bias	OB - Capex	44%		
	OB - Maintenance	15%		TAG Unit A1.2 - Table 8.
				From CH2M spreadhseet (60 year maintenance costs.xlsx)
Scheme Routine Maintenance				
				Estimated Total
				Maintenance
	Average Annual Maintenance Cost 33,105 £ / per year			Annual Maintenance Cost Cost
		-, = , ,50. ,501		OP2A 33,379 2,002,762
				OP2C 35,795 2,147,729
				OP3A 33,105 1,986,322
				OP3C 35,139 2,108,351

Scheme: OP3C

Analysis of Monetised Costs and Bene	efits	
_		
Noise		-12
Local Air Quality	-	-13
Greenhouse Gases		-14
Journey Quality		-15
Physical Activity		-16
Accidents		-17
Economic Efficiency: Consumer Users (Commuting)	21,561	(1a)
Economic Efficiency: Consumer Users	11.525	
(Other)	11,525	(1b)
Economic Efficiency: Business Users and Providers	21,402	-5
Wider Public Finances (Indirect Taxation Revenues)		- (11) - sign changed from PA table, as PA table represents costs, not benefits
Present Value of Benefits (see notes) (PVB)		(PVB) = (12) + (13) + (14) + (15) + (16) + (17) +(1a) + (1b) + (5) - (11)
Broad Transport Budget	34,027	-10
Present Value of Costs (see notes) (PVC)	34,027	(PVC) = (10)
OVERALL IMPACTS		
Net Present Value (NPV)	20,461	NPV=PVB-PVC
Benefit to Cost Ratio (BCR)	1.60	
appraisals, together with some where m which cannot be presented in monetised	nefits which are regularly or occasionally present nonetisation is in prospect. There may also be ot ed form. Where this is the case, the analysis pres I not be used as the sole basis for decisions.	ther significant costs and benefits, some of

	T	Value		Source
Scheme Test	Select Test here>>			Source
Traffic Composition:				BANES Survey Data
	Mode	AM PM		Note: Buses are included in the traffic flow information. This % is maintained throughout following calculations but no benefits are
	IVIOUC			estimated for PSV's
	Car	0.78 0.81		
	LGV Buses	0.12		
	OGV	0.09 0.06		
Expansion Factors	AM	1		Modelling based on 3 & 4 hour totals. No expansion applied
	PM	0 1		
		-		
Value of time (2017 VALUES -2010 PRICES)	CAR - EMP	16.18		From WEBTAG December 2017
	CAR- COMMUTE CAR - OTH	10.83 4.94		
	LGV - work	13.25		
	LGV - non work	4.94		
	OGV	15.62		
Vehicle Delay Savings	AM Peak Difference - 2029	130.00		Based on Paramics modelling (hours / period)
	PM Peak Difference - 2029			
Annualisation factor		252		Standard TUBA type assessment value for weekdays only
Split cars		AM PM		WebTAG Table A 1.3.4
	Work	16% 12%		
	Commuting	44% 41%		
Split LCV	Other	39% 47%		WebTAC Table A 1.2.4
Split LGV	Work (freight) Non – Work	88% 12%		WebTAG Table A 1.3.4
Benefits by vehicle class				Derived from splitting delay difference by relavent vehicle category
	2029	AM PM		
	Total Benefit (hours) CAR - EMP	130.00 785.00		
	CAR- COMMUTE	16.59 75.12 44.41 262.55		
	CAR - OTH	39.78 298.57		
	LGV - work	13.62 83.50		
	LGV - non work	1.86 11.39 1.83 9.79		
	Bus OGV	1.65 9.79		
Annual Delay (hours)				Time Period benefits * time period expansion factor * Annualisation Factor
	2029	AM PM	Combined	
	CAR - EMP	4180 18930	23110	
	CAR- COMMUTE	11190 66162	77353	
	CAR - OTH LGV - work	10025 75240 3431 21043	85265 24474	
	LGV - non work	468 2869	3337	
	Bus	461 2467	2928	
	OGV	3005 11109	14114	
Years	Price Base	2017		
rears	Opening Year	2029		
			0/ of a -b	
Scheme Capex (includes land, design, supervision)			% of scheme cost	from CH2M spreadsheet (Process_scheme_costs.xlsx)
and the state of t		2022 £0	0%	
		2023 £823,604 2.00	2%	Year OP2A OP2C OP3A OP3C
		2024 £948,604 3.00	2%	2022
		2025 £948,604 4.00 2026 £14,619,222 5.00	2% 31%	2023 483,218 885,695 422,767 823,604 2024 580,718 985,695 540,267 948,604
		2027 £14,619,222 600	31%	2025 580,718 985,695 540,267 948,604
		2028 £14,619,222 <sub>7.00</sub>	31%	2026 8,558,739 15,747,759 7,463,346 14,619,222
	Total	2029 £0 500 500	0%	2027 8,558,739 15,747,759 7,463,346 14,619,222
	Total	£46,578,477		2028 8,558,739 15,747,759 7,463,346 14,619,222 2029
				Total 27,320,871 50,100,364 23,893,337 46,578,477
Optimism Bias	OB - Capex	44%		
Optimism bias	OB - Capex OB - Maintenance	44% 15%		TAG Unit A1.2 - Table 8.
Sahama Bariti Adii				From CH2M spreadhseet (60 year maintenance costs.xlsx)
Scheme Routine Maintenance				
				Estimated Total
	Average Annual Maintenance Cost 35,139 £ / per year			Maintenance
			ar	Annual Maintenance Cost Cost OP2A 33,379 2,002,762
				OP2A 33,379 2,002,762 OP2C 35,795 2,147,729
				OP3A 33,105 1,986,322
				OP3C 35,139 2,108,351