

Appendix 4 Benefit Cost Analysis

Commentary

1. Compare the total costs of carrying out the scheme with the costs of minimal maintenance over the full lifecycle of the scheme.
2. The total cost of maintenance if the application is unsuccessful.
 - a. Sacrificial thin inlay surfacing to Higher Eanam & Borough Road every 4 years during the lifecycle of the proposed works. The most recent surfacing has lasted 4 years.
 - b. The costs of traffic delays during the sacrificial surfacing.
 - c. The cost of reactive maintenance to other roads in the proposal for the lifecycle of the proposed scheme.
 - d. The costs of traffic delays during reactive maintenance.
3. The total cost of carrying out the scheme include:
 - a. The scheme costs
 - b. The costs of microasphalt after 15 years & a further 10 years.
 - c. The costs of mid life asphalt inlay.
 - d. The costs of further microasphalt after 15 years & a further 10 years.
 - e. The costs of delays to traffic associated with the above treatments.
4. Benefit to Cost Ratio, calculated to demonstrate the efficiency of the scheme.
5. Although the full reconstruction of Borough Road, Darwen and Higher Eanam, Blackburn are expected to last for many years the analysis period has been restricted to 60 years, in line with Webtag guidance, to allow this scheme to be easily and readily compared with other schemes submitted by other highway authorities.

Appendix 4 Benefit Cost Analysis

Maintenance cost summary without scheme

Sacrificial Surfacing	£	399,620
Traffic delays during sacrificial surfacing	£	3,079,026
Reactive patching	£	2,157,112
Traffic delays during reactive patching	£	2,634,906
Total maintenance Costs	£	8,270,664

Maintenance Cost Summary with Scheme

Scheme works & associated maintenance	£	2,517,117
Costs of traffic delays during scheme & associated maintenance	£	1,308,757
Total costs	£	3,825,874
Benefit to Cost Ratio		2.16

Cost of Traffic delays during sacrificial inlays

From Traffic sheet

Location	AADFYear	CP	PedalCycles	Motorcycles	CarsTaxis
Eanam	2015	81191	61	91	15807
A666_Duckworth	2015	74496	120	96	13481

Working hours 9:30 to 15:30

[Percentage of traffic during working hours from table tra0307 TAG sheet](#) 36%

Vehicles delayed	Ann Av Daily				
Location	AADFYear	CP	PedalCycles	Motorcycles	CarsTaxis
Eanam	2015	81191	22	33	5,648
A666_Duckworth	2015	74496	43	34	4,817

Person Cost £ per hour	WebTAG Table A 1.3.	£	20.49	£	22.78	£	26.68
Vehicle cost £ per hour	Table A 1.3.5: Market	Price Values of Time per Vehi	£	33.59			
Item value		£	20.49	£	22.78	£	60.28

Delay at Eanam due to temporary lights,	4 mins for	5 days each oc
Delay at A666 due to temporary lights, r	4 mins for	8 days each oc
Cost of delay		
Eanam	£ 149	£ 247 £ 113,471
A666_Duckworth	£ 469	£ 417 £ 154,838

Cost of Traffic

Construction inflation	1.03	Discount Rat
General inflation	1.025	

Sacrificial inlay traffic delays Reconciliation

		Cost 2017	Inflate Cost	2017 years of project
1	2017 Sacrificial inlay	£ 330,760	£ 330,760	0
2	2018		£ -	1
3	2019		£ -	2
4	2020 Sacrificial inlay	£ 330,760	£ 335,624	3
5	2021		£ -	4
6	2022		£ -	5

7	2023 Sacrificial i	£ 330,760	£ 340,560	6
8	2024		£ -	7
9	2025		£ -	8
10	2026 Sacrificial i	£ 330,760	£ 345,568	9
11	2027		£ -	10
12	2028		£ -	11
13	2029 Sacrificial i	£ 330,760	£ 350,650	12
14	2030		£ -	13
15	2031		£ -	14
16	2032 Sacrificial i	£ 330,760	£ 355,807	15
17	2033		£ -	16
18	2034		£ -	17
19	2035 Sacrificial i	£ 330,760	£ 361,039	18
20	2036		£ -	19
21	2037		£ -	20
22	2038 Sacrificial i	£ 330,760	£ 366,348	21
23	2039		£ -	22
24	2040		£ -	23
25	2041 Sacrificial i	£ 330,760	£ 371,736	24
26	2042		£ -	25
27	2043		£ -	26
28	2044 Sacrificial i	£ 330,760	£ 377,202	27
29	2045		£ -	28
30	2046		£ -	29
31	2047 Sacrificial i	£ 330,760	£ 382,749	30
32	2048		£ -	31
33	2049		£ -	32
34	2050 Sacrificial i	£ 330,760	£ 388,378	33
35	2051		£ -	34
36	2052		£ -	35
37	2053 Sacrificial i	£ 330,760	£ 394,089	36
38	2054		£ -	37
39	2055		£ -	38
40	2056 Sacrificial i	£ 330,760	£ 399,884	39
41	2057		£ -	40
42	2058		£ -	41
43	2059 Sacrificial i	£ 330,760	£ 405,765	42
44	2060		£ -	43
45	2061		£ -	44
46	2062 Sacrificial i	£ 330,760	£ 411,732	45
47	2063		£ -	46
48	2064		£ -	47
49	2065 Sacrificial i	£ 330,760	£ 417,787	48
50	2066		£ -	49
51	2067		£ -	50
52	2068 Sacrificial i	£ 330,760	£ 423,931	51
53	2069		£ -	52
54	2070		£ -	53
55	2071 Sacrificial i	£ 330,760	£ 430,165	54
56	2072		£ -	55

57	2073		£	-	56	
58	2074	Sacrificial i	£	330,760	£ 436,491	57
59	2075		£	-	58	
60	2076		£	-	59	

Cost of Traffic delays during reactive patching works

Days delay per month 5 37 hrs

Hours per off peak

Preston New Road, Beardwood	4 hours
Whalley New Road, Wilpshire	4 hours
Whalley New Road, Roe Lee	4 hours
Whalley New Road, Whalley Range	4 hours
Eanam	4 hours
Duckworth Street, A666, Darwen	4 hours
Bury Street, A666, Darwen	4 hours
Green Street, A666, Darwen	4 hours
Bolton Road, A666, Darwen	5 hours
total	37.0 hours

Location	AADFYear	CP	PedalCycles	Motorcycles	CarsTaxis
PNR_Beardwood	2015	47472	23	45	11905
WNR_Wilpshire	2015	73068	38	22	11230
WNR_Roe Lee	2015	7429	59	63	8447
WNR_Whalley Range			58	62	8363
Eanam	2015	81191	61	91	15807
A666_Duckworth	2015	74496	120	96	13481

Working hours 9:30 to 15:30

Percentage of traffic during working hours from table tra0307 TAG sheet 6 hrs 36%

Location	Ann Av	CP	PedalCycles	Motorcycles	CarsTaxis
	Off Peak				
	traffic 6				
	hrs				
PNR_Beardwood	2015	47472	8	16	4253
WNR_Wilpshire	2015	73068	14	8	4012
WNR_Roe Lee	2015	7429	21	23	3018
WNR_Whalley Range			21	22	2988
Eanam	2015	81191	22	33	5648

A666_Duckworth	2015	74496	43	34	4817
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Hourly Off Peak traffic flow

Location	Hourly Off Peak traffic	CP	PedalCycles	Motorcycles	CarsTaxis
PNR_Beardwood	2015	47472	1.4	2.7	708.9
WNR_Wilpshire	2015	73068	2.3	1.3	668.7
WNR_Roe Lee	2015	7429	3.5	3.8	503.0
WNR_Whalley Range			3.5	3.7	498.0
Eanam	2015	81191	3.6	5.4	941.3
A666_Duckworth	2015	74496	7.1	5.7	802.8

Vehicles During Patching works

	Hours on site	PedalCycles	Motorcycles	CarsTaxis
PNR_Beardwood	4	5.5	10.7	2835.6
WNR_Wilpshire	4	9.1	5.2	2674.9
WNR_Roe Lee	4	14.1	15.0	2012.0
WNR_Whalley Range	4	13.9	14.9	1992.1
Eanam	4	14.5	21.7	3765.0
A666_Duckworth	17	121.5	97.2	13646.8

Person Cost £ per hour	WebTAG Table A 1.3.	20.49	22.78	26.68
Vehicle cost £ per hour	Table A 1.3.5: Market	Price Values of Time per Vehi		33.59
Item value		20.49	22.78	60.28

Delay cost per hour	37	£ 20.49	£ 22.78	£ 60.28
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	Delays due to Temp lights, mins	PedalCycles	Motorcycles	CarsTaxis
PNR_Beardwood	3	£ 6	£ 12	£ 8,546
WNR_Wilpshire	3	£ 9	£ 6	£ 8,061
WNR_Roe Lee	3	£ 14	£ 17	£ 6,064
WNR_Whalley Range	3	£ 14	£ 17	£ 6,004
Eanam	3	£ 15	£ 25	£ 11,347
A666_Duckworth	3	£ 124	£ 111	£ 41,129

Cost of traff

Routine Maintenance Reconciliation

Cost 2017	Inflate Cost	2017 years of project
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1	2017 Routine	£	97,010	97010	0
2	2018 Routine	£	97,010	97483	1
3	2019 Routine	£	97,010	97959	2
4	2020 Routine	£	97,010	98437	3
5	2021 Routine	£	97,010	98917	4
6	2022 Routine	£	97,010	99399	5
7	2023 Routine	£	97,010	99884	6
8	2024 Routine	£	97,010	100371	7
9	2025 Routine	£	97,010	100861	8
10	2026 Routine	£	97,010	101353	9
11	2027 Routine	£	97,010	101847	10
12	2028 Routine	£	97,010	102344	11
13	2029 Routine	£	97,010	102844	12
14	2030 Routine	£	97,010	103345	13
15	2031 Routine	£	97,010	103849	14
16	2032 Routine	£	97,010	104356	15
17	2033 Routine	£	97,010	104865	16
18	2034 Routine	£	97,010	105377	17
19	2035 Routine	£	97,010	105891	18
20	2036 Routine	£	97,010	106407	19
21	2037 Routine	£	97,010	106926	20
22	2038 Routine	£	97,010	107448	21
23	2039 Routine	£	97,010	107972	22
24	2040 Routine	£	97,010	108499	23
25	2041 Routine	£	97,010	109028	24
26	2042 Routine	£	97,010	109560	25
27	2043 Routine	£	97,010	110094	26
28	2044 Routine	£	97,010	110631	27
29	2045 Routine	£	97,010	111171	28
30	2046 Routine	£	97,010	111713	29
31	2047 Routine	£	97,010	112258	30
32	2048 Routine	£	97,010	112806	31
33	2049 Routine	£	97,010	113356	32
34	2050 Routine	£	97,010	113909	33
35	2051 Routine	£	97,010	114465	34
36	2052 Routine	£	97,010	115023	35
37	2053 Routine	£	97,010	115584	36
38	2054 Routine	£	97,010	116148	37
39	2055 Routine	£	97,010	116714	38
40	2056 Routine	£	97,010	117284	39
41	2057 Routine	£	97,010	117856	40
42	2058 Routine	£	97,010	118431	41
43	2059 Routine	£	97,010	119008	42
44	2060 Routine	£	97,010	119589	43
45	2061 Routine	£	97,010	120172	44
46	2062 Routine	£	97,010	120759	45
47	2063 Routine	£	97,010	121348	46
48	2064 Routine	£	97,010	121940	47
49	2065 Routine	£	97,010	122534	48
50	2066 Routine	£	97,010	123132	49

51	2067 Routine	£	97,010	123733	50
52	2068 Routine	£	97,010	124336	51
53	2069 Routine	£	97,010	124943	52
54	2070 Routine	£	97,010	125552	53
55	2071 Routine	£	97,010	126165	54
56	2072 Routine	£	97,010	126780	55
57	2073 Routine	£	97,010	127399	56
58	2074 Routine	£	97,010	128020	57
59	2075 Routine	£	97,010	128645	58
60	2076 Routine	£	97,010	129272	59

Buses	Coaches	Light Goods	Ve All HGVs	All Motor Vehicles
697	1977	270	18840	
377	2702	1478	18135	

Buses	Coaches	Light Goods	Ve All HGVs	All Motor Vehicles
249	706	96	6,731	
135	965	528	6,479	

£	178.39	£	12.01	£	14.15
£	20.48	£	15.99	£	15.70
£	198.87	£	28.00	£	29.85

occasion
occasion

				Total
£	16,508	£	6,593	£ 960
£	14,286	£	14,417	£ 8,407
				£ 137,927
				£ 192,833

ic delays for sacrificial surfacing £ 330,760

es 0 to 30 years 1.0350 Green book & Table A1.1.1 Web tag
 31 to 75 years 1.0300 Years from current year
 1.19 Indirect Tax correct Webtag A1.3

years before 2010	years after 2010	Discount factor	Discounted cost to 2010	Market prices
7		0.786	£ 259,975	£ 309,370
8		0.759	£ -	£ -
9		0.734	£ -	£ -
10		0.709	£ 237,930	£ 283,137
11		0.685	£ -	£ -
12		0.662	£ -	£ -

13	0	0.639	£	217,755	£	259,129
14	0	0.618	£	-	£	-
15	0	0.597	£	-	£	-
16	0	0.577	£	199,291	£	237,157
17	0	0.557	£	-	£	-
18	0	0.538	£	-	£	-
19	0	0.520	£	182,393	£	217,047
20	0	0.503	£	-	£	-
21	0	0.486	£	-	£	-
22	0	0.469	£	166,927	£	198,643
23	0	0.453	£	-	£	-
24	0	0.438	£	-	£	-
25	0	0.423	£	152,773	£	181,799
26	0	0.409	£	-	£	-
27	0	0.395	£	-	£	-
28	0	0.382	£	139,818	£	166,384
29	0	0.369	£	-	£	-
30	0	0.356	£	-	£	-
31	0	0.344	£	127,963	£	152,276
32	0	0.333	£	-	£	-
33	0	0.321	£	-	£	-
34	0	0.310	£	117,112	£	139,364
35	0	0.300	£	-	£	-
36	0	0.290	£	-	£	-
37	0	0.280	£	107,182	£	127,546
37	1	0.272	£	-	£	-
37	2	0.264	£	-	£	-
37	3	0.256	£	99,529	£	118,440
37	4	0.249	£	-	£	-
37	5	0.242	£	-	£	-
37	6	0.235	£	92,423	£	109,983
37	7	0.228	£	-	£	-
37	8	0.221	£	-	£	-
37	9	0.215	£	85,824	£	102,130
37	10	0.208	£	-	£	-
37	11	0.202	£	-	£	-
37	12	0.196	£	79,696	£	94,838
37	13	0.191	£	-	£	-
37	14	0.185	£	-	£	-
37	15	0.180	£	74,005	£	88,066
37	16	0.175	£	-	£	-
37	17	0.169	£	-	£	-
37	18	0.164	£	68,721	£	81,778
37	19	0.160	£	-	£	-
37	20	0.155	£	-	£	-
37	21	0.151	£	63,815	£	75,939
37	22	0.146	£	-	£	-
37	23	0.142	£	-	£	-
37	24	0.138	£	59,258	£	70,517
37	25	0.134	£	-	£	-

37	26	0.130	£	-	£	-
37	27	0.126	£	55,027	£	65,482
37	28	0.122	£	-	£	-
37	29	0.119	£	-	£	-

Sacrificial Inlay traffic cost £ 3,079,026

Buses	Coaches	Light Goods Vehicles	All HGVs	All Motor Vehicles
78		1318	148	13494
139		1382	180	12953
189		1019	180	9898
187		1009	178	9800
697		1977	270	18840
377		2702	1478	18135

Buses	Coaches	Light Goods Vehicles	All HGVs	All Motor Vehicles
28		471	53	4821
50		494	64	4628
68		364	64	3536
67		360	64	3501
249		706	96	6731

135	965	528	6479
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Buses	Coaches	Light Goods Vehicles	All HGVs
4.6		78.5	8.8
8.3		82.3	10.7
11.3		60.7	10.7
11.1		60.1	10.6
41.5		117.7	16.1
22.4		160.9	88.0

Buses	Coaches	Light Goods Vehicles	All HGVs
18.6		313.9	35.3
33.1		329.2	42.9
45.0		242.7	42.9
44.6		240.3	42.4
166.0		470.9	64.3
381.6		2735.2	1496.2
178.39		12.01	14.15
20.48		15.99	15.70
198.87		28.00	29.85

£ 198.87 £ 28.00 £ 29.85 per hour

Buses	Coaches	Light Goods Vehicles	All HGVs	cost
£ 185	£ 440	£ 53	£ 9,241	
£ 329	£ 461	£ 64	£ 8,931	
£ 448	£ 340	£ 64	£ 6,947	
£ 443	£ 336	£ 63	£ 6,878	
£ 1,651	£ 659	£ 96	£ 13,793	
£ 3,795	£ 3,829	£ 2,233	£ 51,221	

lic delays during patching £ 97,010

2010	7		
years before 30	years after 30	Discount factor	Discounted cost to 2010 Market prices

7	0	0.786	£	76,249	£	90,736
8	0	0.759	£	74,030	£	88,096
9	0	0.734	£	71,875	£	85,532
10	0	0.709	£	69,784	£	83,042
11	0	0.685	£	67,753	£	80,626
12	0	0.662	£	65,781	£	78,279
13	0	0.639	£	63,866	£	76,001
14	0	0.618	£	62,008	£	73,789
15	0	0.597	£	60,203	£	71,642
16	0	0.577	£	58,451	£	69,557
17	0	0.557	£	56,750	£	67,532
18	0	0.538	£	55,098	£	65,567
19	0	0.520	£	53,495	£	63,659
20	0	0.503	£	51,938	£	61,806
21	0	0.486	£	50,426	£	60,007
22	0	0.469	£	48,959	£	58,261
23	0	0.453	£	47,534	£	56,565
24	0	0.438	£	46,150	£	54,919
25	0	0.423	£	44,807	£	53,321
26	0	0.409	£	43,503	£	51,769
27	0	0.395	£	42,237	£	50,262
28	0	0.382	£	41,008	£	48,799
29	0	0.369	£	39,814	£	47,379
30	0	0.356	£	38,656	£	46,000
31	0	0.344	£	37,531	£	44,662
32	0	0.333	£	36,438	£	43,362
33	0	0.321	£	35,378	£	42,100
34	0	0.310	£	34,348	£	40,875
35	0	0.300	£	33,349	£	39,685
36	0	0.290	£	32,378	£	38,530
37	0	0.280	£	31,436	£	37,409
37	1	0.272	£	30,669	£	36,496
37	2	0.264	£	29,921	£	35,606
37	3	0.256	£	29,191	£	34,738
37	4	0.249	£	28,479	£	33,890
37	5	0.242	£	27,785	£	33,064
37	6	0.235	£	27,107	£	32,257
37	7	0.228	£	26,446	£	31,471
37	8	0.221	£	25,801	£	30,703
37	9	0.215	£	25,172	£	29,954
37	10	0.208	£	24,558	£	29,224
37	11	0.202	£	23,959	£	28,511
37	12	0.196	£	23,374	£	27,815
37	13	0.191	£	22,804	£	27,137
37	14	0.185	£	22,248	£	26,475
37	15	0.180	£	21,705	£	25,829
37	16	0.175	£	21,176	£	25,199
37	17	0.169	£	20,659	£	24,585
37	18	0.164	£	20,156	£	23,985
37	19	0.160	£	19,664	£	23,400

37	20	0.155	£	19,184	£	22,829
37	21	0.151	£	18,716	£	22,273
37	22	0.146	£	18,260	£	21,729
37	23	0.142	£	17,815	£	21,199
37	24	0.138	£	17,380	£	20,682
37	25	0.134	£	16,956	£	20,178
37	26	0.130	£	16,543	£	19,686
37	27	0.126	£	16,139	£	19,206
37	28	0.122	£	15,745	£	18,737
37	29	0.119	£	15,361	£	18,280

Routine Maintenance Traffic delay £ 2,634,906

Continuing Maintenance costs incurred if Challenge Fund Tranche 2A is unsuccessful

Evaluation period 60 years

Surfacing history

Borough Road	PO to The Green	Feb 2008	
Borough Road	PO to The Green	Jan 2014	6 years
inlay required		Sep 2017	4 years

Borough Road	965 sqm
Higher Eanam	822 sqm
	1787 sqm

Inlay rate, 2017 £ 21.45 per sqm

Affordable maintenance costs

Sacrificial inlay to Borough & Higher Eanam

Works cost	£	38,329	
Admin & management	12% £	4,600	
	£	42,929	Every fourth year.

Durability (years) 4 £ 10,732 per annum

Cost over evaluation period £ 643,931

Safety Inspection every month. (Principal roads).

On average defects identified every other month, entailing ten days attendance every other month

Reactive maintenance to other roads within this application

Preston New Road, Beardwood	10,608 sqm
Whalley New Road, Wilpshire	10,384 sqm
Whalley New Road, Roe Lee	6,749 sqm
Whalley New Road, Whalley Range	6,323 sqm
Eanam	7,257 sqm
Duckworth Street, A666, Darwen	1,400 sqm
Bury Street, A666, Darwen	1,390 sqm
Green Street, A666, Darwen	2,580 sqm
Bolton Road, A666, Darwen	2,089 sqm
Borough Road	1,448 sqm
	50,228 sqm

Attendance	5 days per month
	12 months per year
	60 day per year

Repair gang labour and plant cost	£	793.65	per day
Material	£	330	per day
Two way lights - Kays - TM	£	200	per day

Cost per day inc admin £ 1,323.65 per day

Annual cost	£	79,419	Annually
Reactive Cost over evaluation period	£	4,765,140	

Construction inflation	1.03	1	Discount R:
General inflation	1.025	2	
		3	
		4	
		5	
Sacrificial inlay Reconciliation		6	2017
		7 Cost 2017	years of
		8 Inflate Cost	project

1	2017 Sacrificial inlay	£ 42,929	£ 42,929	0
2	2018		£ -	1
3	2019		£ -	2
4	2020 Sacrificial inlay	£ 42,929	£ 43,560	3
5	2021		£ -	4
6	2022		£ -	5
7	2023 Sacrificial inlay	£ 42,929	£ 44,201	6
8	2024		£ -	7
9	2025		£ -	8
10	2026 Sacrificial inlay	£ 42,929	£ 44,851	9
11	2027		£ -	10
12	2028		£ -	11
13	2029 Sacrificial inlay	£ 42,929	£ 45,510	12
14	2030		£ -	13
15	2031		£ -	14
16	2032 Sacrificial inlay	£ 42,929	£ 46,179	15
17	2033		£ -	16
18	2034		£ -	17
19	2035 Sacrificial inlay	£ 42,929	£ 46,859	18
20	2036		£ -	19
21	2037		£ -	20
22	2038 Sacrificial inlay	£ 42,929	£ 47,548	21
23	2039		£ -	22
24	2040		£ -	23
25	2041 Sacrificial inlay	£ 42,929	£ 48,247	24
26	2042		£ -	25
27	2043		£ -	26
28	2044 Sacrificial inlay	£ 42,929	£ 48,956	27
29	2045		£ -	28
30	2046		£ -	29
31	2047 Sacrificial inlay	£ 42,929	£ 49,676	30

32	2048		£	-	31
33	2049		£	-	32
34	2050 Sacrificial inlay	£ 42,929	£	50,407	33
35	2051		£	-	34
36	2052		£	-	35
37	2053 Sacrificial inlay	£ 42,929	£	51,148	36
38	2054		£	-	37
39	2055		£	-	38
40	2056 Sacrificial inlay	£ 42,929	£	51,900	39
41	2057		£	-	40
42	2058		£	-	41
43	2059 Sacrificial inlay	£ 42,929	£	52,663	42
44	2060		£	-	43
45	2061		£	-	44
46	2062 Sacrificial inlay	£ 42,929	£	53,438	45
47	2063		£	-	46
48	2064		£	-	47
49	2065 Sacrificial inlay	£ 42,929	£	54,224	48
50	2066		£	-	49
51	2067		£	-	50
52	2068 Sacrificial inlay	£ 42,929	£	55,021	51
53	2069		£	-	52
54	2070		£	-	53
55	2071 Sacrificial inlay	£ 42,929	£	55,830	54
56	2072		£	-	55
57	2073		£	-	56
58	2074 Sacrificial inlay	£ 42,929	£	56,651	57
59	2075		£	-	58
60	2076		£	-	59

Safety Inspection Reconciliation

		Cost 2017	Inflate Cost	2017 years of project
1	2017 Safety Insp	£ 79,419	£ 79,419	0
2	2018 Safety Insp	£ 79,419	£ 79,806	1
3	2019 Safety Insp	£ 79,419	£ 80,196	2
4	2020 Safety Insp	£ 79,419	£ 80,587	3
5	2021 Safety Insp	£ 79,419	£ 80,980	4
6	2022 Safety Insp	£ 79,419	£ 81,375	5
7	2023 Safety Insp	£ 79,419	£ 81,772	6
8	2024 Safety Insp	£ 79,419	£ 82,171	7
9	2025 Safety Insp	£ 79,419	£ 82,572	8
10	2026 Safety Insp	£ 79,419	£ 82,975	9
11	2027 Safety Insp	£ 79,419	£ 83,379	10
12	2028 Safety Insp	£ 79,419	£ 83,786	11

13	2029 Safety Insp	£ 79,419	£	84,195	12
14	2030 Safety Insp	£ 79,419	£	84,605	13
15	2031 Safety Insp	£ 79,419	£	85,018	14
16	2032 Safety Insp	£ 79,419	£	85,433	15
17	2033 Safety Insp	£ 79,419	£	85,850	16
18	2034 Safety Insp	£ 79,419	£	86,268	17
19	2035 Safety Insp	£ 79,419	£	86,689	18
20	2036 Safety Insp	£ 79,419	£	87,112	19
21	2037 Safety Insp	£ 79,419	£	87,537	20
22	2038 Safety Insp	£ 79,419	£	87,964	21
23	2039 Safety Insp	£ 79,419	£	88,393	22
24	2040 Safety Insp	£ 79,419	£	88,824	23
25	2041 Safety Insp	£ 79,419	£	89,258	24
26	2042 Safety Insp	£ 79,419	£	89,693	25
27	2043 Safety Insp	£ 79,419	£	90,130	26
28	2044 Safety Insp	£ 79,419	£	90,570	27
29	2045 Safety Insp	£ 79,419	£	91,012	28
30	2046 Safety Insp	£ 79,419	£	91,456	29
31	2047 Safety Insp	£ 79,419	£	91,902	30
32	2048 Safety Insp	£ 79,419	£	92,350	31
33	2049 Safety Insp	£ 79,419	£	92,801	32
34	2050 Safety Insp	£ 79,419	£	93,254	33
35	2051 Safety Insp	£ 79,419	£	93,708	34
36	2052 Safety Insp	£ 79,419	£	94,166	35
37	2053 Safety Insp	£ 79,419	£	94,625	36
38	2054 Safety Insp	£ 79,419	£	95,086	37
39	2055 Safety Insp	£ 79,419	£	95,550	38
40	2056 Safety Insp	£ 79,419	£	96,016	39
41	2057 Safety Insp	£ 79,419	£	96,485	40
42	2058 Safety Insp	£ 79,419	£	96,955	41
43	2059 Safety Insp	£ 79,419	£	97,428	42
44	2060 Safety Insp	£ 79,419	£	97,904	43
45	2061 Safety Insp	£ 79,419	£	98,381	44
46	2062 Safety Insp	£ 79,419	£	98,861	45
47	2063 Safety Insp	£ 79,419	£	99,343	46
48	2064 Safety Insp	£ 79,419	£	99,828	47
49	2065 Safety Insp	£ 79,419	£	100,315	48
50	2066 Safety Insp	£ 79,419	£	100,804	49
51	2067 Safety Insp	£ 79,419	£	101,296	50
52	2068 Safety Insp	£ 79,419	£	101,790	51
53	2069 Safety Insp	£ 79,419	£	102,287	52
54	2070 Safety Insp	£ 79,419	£	102,786	53
55	2071 Safety Insp	£ 79,419	£	103,287	54
56	2072 Safety Insp	£ 79,419	£	103,791	55
57	2073 Safety Insp	£ 79,419	£	104,297	56
58	2074 Safety Insp	£ 79,419	£	104,806	57
59	2075 Safety Insp	£ 79,419	£	105,317	58
60	2076 Safety Insp	£ 79,419	£	105,831	59

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2017 prices

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2017 prices

ates	0 to 30 years	1.0350	Green book & Table A1.1.1 Web tag
	31 to 75 years	1.0300	Years from current year
		1.19	Indirect Tax correct Webtag A1.3

2010 years before 30	7 years after 30	Discount factor	Discounted cost to 2010	Market prices
7	0	0.786	£ 33,742	£ 40,152
8	0	0.759	£ -	£ -
9	0	0.734	£ -	£ -
10	0	0.709	£ 30,881	£ 36,748
11	0	0.685	£ -	£ -
12	0	0.662	£ -	£ -
13	0	0.639	£ 28,262	£ 33,632
14	0	0.618	£ -	£ -
15	0	0.597	£ -	£ -
16	0	0.577	£ 25,866	£ 30,780
17	0	0.557	£ -	£ -
18	0	0.538	£ -	£ -
19	0	0.520	£ 23,672	£ 28,170
20	0	0.503	£ -	£ -
21	0	0.486	£ -	£ -
22	0	0.469	£ 21,665	£ 25,781
23	0	0.453	£ -	£ -
24	0	0.438	£ -	£ -
25	0	0.423	£ 19,828	£ 23,595
26	0	0.409	£ -	£ -
27	0	0.395	£ -	£ -
28	0	0.382	£ 18,147	£ 21,595
29	0	0.369	£ -	£ -
30	0	0.356	£ -	£ -
31	0	0.344	£ 16,608	£ 19,764
32	0	0.333	£ -	£ -
33	0	0.321	£ -	£ -
34	0	0.310	£ 15,200	£ 18,088
35	0	0.300	£ -	£ -
36	0	0.290	£ -	£ -
37	0	0.280	£ 13,911	£ 16,554

37	1	0.272	£	-	£	-
37	2	0.264	£	-	£	-
37	3	0.256	£	12,918	£	15,372
37	4	0.249	£	-	£	-
37	5	0.242	£	-	£	-
37	6	0.235	£	11,995	£	14,274
37	7	0.228	£	-	£	-
37	8	0.221	£	-	£	-
37	9	0.215	£	11,139	£	13,255
37	10	0.208	£	-	£	-
37	11	0.202	£	-	£	-
37	12	0.196	£	10,344	£	12,309
37	13	0.191	£	-	£	-
37	14	0.185	£	-	£	-
37	15	0.180	£	9,605	£	11,430
37	16	0.175	£	-	£	-
37	17	0.169	£	-	£	-
37	18	0.164	£	8,919	£	10,614
37	19	0.160	£	-	£	-
37	20	0.155	£	-	£	-
37	21	0.151	£	8,282	£	9,856
37	22	0.146	£	-	£	-
37	23	0.142	£	-	£	-
37	24	0.138	£	7,691	£	9,152
37	25	0.134	£	-	£	-
37	26	0.130	£	-	£	-
37	27	0.126	£	7,142	£	8,499
37	28	0.122	£	-	£	-
37	29	0.119	£	-	£	-
Sacrificial Inlay Cost					£	399,620

2010 years before 30	years after 30	7	Discount factor	Discounted cost to 2010	Market prices
7		0	0.786	£ 62,423	£ 74,283
8		0	0.759	£ 60,606	£ 72,121
9		0	0.734	£ 58,842	£ 70,022
10		0	0.709	£ 57,130	£ 67,984
11		0	0.685	£ 55,467	£ 66,006
12		0	0.662	£ 53,853	£ 64,085
13		0	0.639	£ 52,285	£ 62,220
14		0	0.618	£ 50,764	£ 60,409
15		0	0.597	£ 49,286	£ 58,651
16		0	0.577	£ 47,852	£ 56,944
17		0	0.557	£ 46,459	£ 55,286
18		0	0.538	£ 45,107	£ 53,677

19	0	0.520	£	43,794	£	52,115
20	0	0.503	£	42,520	£	50,599
21	0	0.486	£	41,282	£	49,126
22	0	0.469	£	40,081	£	47,696
23	0	0.453	£	38,914	£	46,308
24	0	0.438	£	37,782	£	44,960
25	0	0.423	£	36,682	£	43,652
26	0	0.409	£	35,615	£	42,381
27	0	0.395	£	34,578	£	41,148
28	0	0.382	£	33,572	£	39,950
29	0	0.369	£	32,595	£	38,788
30	0	0.356	£	31,646	£	37,659
31	0	0.344	£	30,725	£	36,563
32	0	0.333	£	29,831	£	35,499
33	0	0.321	£	28,963	£	34,466
34	0	0.310	£	28,120	£	33,463
35	0	0.300	£	27,301	£	32,489
36	0	0.290	£	26,507	£	31,543
37	0	0.280	£	25,735	£	30,625
37	1	0.272	£	25,108	£	29,878
37	2	0.264	£	24,495	£	29,150
37	3	0.256	£	23,898	£	28,439
37	4	0.249	£	23,315	£	27,745
37	5	0.242	£	22,746	£	27,068
37	6	0.235	£	22,192	£	26,408
37	7	0.228	£	21,650	£	25,764
37	8	0.221	£	21,122	£	25,136
37	9	0.215	£	20,607	£	24,522
37	10	0.208	£	20,105	£	23,924
37	11	0.202	£	19,614	£	23,341
37	12	0.196	£	19,136	£	22,772
37	13	0.191	£	18,669	£	22,216
37	14	0.185	£	18,214	£	21,674
37	15	0.180	£	17,769	£	21,146
37	16	0.175	£	17,336	£	20,630
37	17	0.169	£	16,913	£	20,127
37	18	0.164	£	16,501	£	19,636
37	19	0.160	£	16,098	£	19,157
37	20	0.155	£	15,706	£	18,690
37	21	0.151	£	15,323	£	18,234
37	22	0.146	£	14,949	£	17,789
37	23	0.142	£	14,584	£	17,355
37	24	0.138	£	14,229	£	16,932
37	25	0.134	£	13,881	£	16,519
37	26	0.130	£	13,543	£	16,116
37	27	0.126	£	13,213	£	15,723
37	28	0.122	£	12,890	£	15,339
37	29	0.119	£	12,576	£	14,965

Sacrificial Inlay Cost

£ 2,157,112

Cost of delays to traffic during scheme

From traffic sheet

Location	AADFYear	CP	PedalCycles	Motorcycles
PNR_Beardwood		2015	47472	23
WNR_Wilpshire		2015	73068	38
WNR_Roe Lee		2015	7429	59
WNR_Whalley Range	Estimate			58
Eanam		2015	81191	61
A666_Duckworth		2015	74496	120

Complete closure of Borough Road & Higher Eanam to enable excavation and re

Delay due to local diversion

	delays mins	days on site	PedalCycles	Motorcycles
Higher Eanam	1	8		
A666, Borough Road, Darwen	1	15		
Cost per Hour £			PedalCycles	Motorcycles
Person Cost £ per hour	WebTAG Table A 1.3.2		£ 20.49	£ 22.78
Average Vehicle cost £ per hour	Table A 1.3.5: Market Price Values of Time per Vehicle based on distance travelled			
Item value			£ 20.49	£ 22.78
Cost of delay			PedalCycles	Motorcycles
Higher Eanam			£ 167	£ 276
A666, Borough Road, Darwen			£ 615	£ 547

Temporary traffic management during surfacing works

Working hours 9:30 to 15:30 6

[Percentage of traffic during working hours from table tra0307 TAG sheet](#) 36%

Traffic during working hours

Location	PedalCycles	Motorcycles
PNR_Beardwood	8	16
WNR_Wilpshire	14	8
WNR_Roe Lee	21	23
WNR_Whalley Range	21	22
Eanam	22	33
A666_Duckworth	43	34

Person Cost £ per hour	WebTAG Table A 1.3.2	£	20.49	£	22.78
Off Peak Vehicle cost £ per hour	Table A 1.3.5: Market Price Values of Time per Vehicle based on	£	20.49	£	22.78
Item value		£	20.49	£	22.78

Cost per working day	Delay, mins	Days on site	PedalCycles	Motorcycles
Location				
PNR_Beardwood	3	10	£ 84	£ 183
WNR_Wilpshire	3	10	£ 139	£ 90
WNR_Roe Lee	3	10	£ 216	£ 256
WNR_Whalley Range	3	10	£ 214	£ 254
Eanam	3	10	£ 223	£ 370
A666_Duckworth	3	10	£ 439	£ 391

First application of microasphalt at 15 years

Preston New Road, Beardwood	10,608 sqm	1
Whalley New Road, Wilpshire	10,384 sqm	1
Whalley New Road, Roe Lee	6,749 sqm	0.5
Whalley New Road, Whalley Range	6,323 sqm	0.5
Eanam	7,257 sqm	0.5
Duckworth Street, A666, Darwen	1,400 sqm	
Bury Street, A666, Darwen	1,390 sqm	
Green Street, A666, Darwen	2,580 sqm	1
Bolton Road, A666, Darwen	2,089 sqm	
Borough Road	1,448 sqm	
	50,228	4.5

Cost of off peak traffic delays during works

[Percentage of traffic during working hours from table tra0307 TAG sheet](#)

36%

Traffic during working hours

Location	PedalCycles	Motorcycles
PNR_Beardwood	8	16
WNR_Wilpshire	14	8
WNR_Roe Lee	21	23
WNR_Whalley Range	21	22
Eanam	22	33
A666_Duckworth	43	34

Person Cost £ per hour	WebTAG Table A 1.3.2	£	20.49	£	22.78
Off Peak Vehicle cost £ per hour	Table A 1.3.5: Market Price Values of Time per Vehicle based on				
Item value		£	20.49	£	22.78

Cost of traffic delay	Delay mins	Days on site		PedalCycles	Motorcycles
Location					
PNR_Beardwood	2	1.0	£	6	£ 12
WNR_Wilpshire	2	1.0	£	6	£ 12
WNR_Roe Lee	2	0.5	£	3	£ 6
WNR_Whalley Range	2	0.5	£	3	£ 6
Eanam	2	0.5	£	3	£ 6
A666_Duckworth	2	1.0	£	6	£ 12

First application of microasphalt at 15 years, 2032

Second application of microasphalt at 25 years, 2042

Inlay maintenance at 35 years, 2052

Preston New Road, Beardwood	10,608	sqm	8
Whalley New Road, Wilpshire	10,384	sqm	8
Whalley New Road, Roe Lee	6,749	sqm	8
Whalley New Road, Whalley Range	6,323	sqm	8
Eanam	7,257	sqm	8
Duckworth Street, A666, Darwen	1,400	sqm	4
Bury Street, A666, Darwen	1,390	sqm	4
Green Street, A666, Darwen	2,580	sqm	4
Bolton Road, A666, Darwen	2,089	sqm	4
Borough Road	1,448	sqm	4
	50,228		60

Same working arrangements as Microasphalt

Cost of traffic delay	Delay mins	Days on site		PedalCycles		Motorcycles	
Location							
PNR_Beardwood		2	8	£	45	£	98
WNR_Wilpshire		2	8	£	45	£	98
WNR_Roe Lee		2	8	£	45	£	98
WNR_Whalley Range		2	8	£	45	£	98
Eanam & Higher Eanam		2	8	£	45	£	98
A666_Duckworth		2	20	£	112	£	244

Third application of microasphalt, 2067

Fourth application of microasphalt, 2077

Construction inflation	1.03
General inflation	1.025

Cost of traffic delays when carrying Maintenance costs	year	Base Cost	amount
Scheme			2017 costs
	2017		£ 1,131,951
Microasphalt	2032	£ 41,600	£ 44,750
Microasphalt	2042	£ 41,600	£ 46,981
Inlay 45	2052	£ 554,516	£ 657,479
Microasphalt	2067	£ 41,600	£ 53,059
Microasphalt	2077	£ 41,600	£ 55,705

CarsTaxis	BusesCoaches	LightGoodsVeh	AllHGVs	AllMotorVehicles
11905	78	1318	148	13494
11230	139	1382	180	12953
8447	189	1019	180	9898
8363	187	1009	178	9800
15807	697	1977	270	18840
13481	377	2702	1478	18135

reconstruction, local diversions in place

CarsTaxis	BusesCoaches	LightGoodsVeh	AllHGVs
£ 26.68	£ 178.39	£ 12.01	£ 14.15
£ 8.40	£ 23.59	£ 10.01	£ 15.70
£ 35.08	£ 201.97	£ 22.02	£ 29.85

CarsTaxis	BusesCoaches	LightGoodsVeh	AllHGVs	
£ 73,927	£ 18,770	£ 5,805	£ 1,075	£ 100,020
£ 118,217	£ 19,036	£ 14,875	£ 11,030	£ 164,319

hours

CarsTaxis	BusesCoaches	LightGoodsVeh	AllHGVs
4253	28	471	53
4012	50	494	64
3018	68	364	64
2988	67	360	64
5648	249	706	96
4817	135	965	528
£ 26.68	£ 178.39	£ 12.01	£ 14.15
£ 33.59	£ 20.48	£ 15.99	£ 15.70
£ 60.28	£ 198.87	£ 28.00	£ 29.85

CarsTaxis	BusesCoaches	LightGoodsVeh	AllHGVs	
£ 128,191	£ 2,771	£ 6,593	£ 789	£ 138,611
£ 120,922	£ 4,938	£ 6,913	£ 960	£ 133,962
£ 90,956	£ 6,714	£ 5,097	£ 960	£ 104,199
£ 90,055	£ 6,648	£ 5,047	£ 950	£ 103,168
£ 170,207	£ 24,761	£ 9,889	£ 1,440	£ 206,891
£ 145,161	£ 13,393	£ 13,516	£ 7,882	£ 180,781

Cost of delays due to resurfacing

Cost of traffic delays due to scheme

days
days
days
days
days

days

days

CarsTaxis	BusesCoaches	LightGoodsVeh	AllHGVs				
£ 68,368	£ 1,478	£ 3,516	£ 421	£			73,936
£ 68,368	£ 1,478	£ 3,516	£ 421	£			73,936
£ 68,368	£ 1,478	£ 3,516	£ 421	£			73,936
£ 68,368	£ 1,478	£ 3,516	£ 421	£			73,936
£ 68,368	£ 1,478	£ 3,516	£ 421	£			73,936
£ 170,921	£ 3,695	£ 8,790	£ 1,052	£			184,837

Discount Rates		0 to 30 years	1.0350		
		31 to 75 years	1.0300		
			1.19		
years of project	2017 years before 30	2010 years after 30	7	Discount factor	Discounted cost to 2010
	0	7	0	0.786	889,703
	15	22	0	0.469	20,994
	25	32	0	0.333	15,626
	35	37	5	0.242	158,819
	50	37	20	0.155	8,227
	60	37	30	0.115	6,427

Assume & pro rata class 9800

£ 264,339

£ 867,612

£ 1,131,951 [To summary](#)

£ 41,600 [To summary](#)

£ 41,600 [To summary](#)

£ 554,516

£ 41,600

£ 41,600

Green book & Table A1.1.1 Web tag
Years from current year
Indirect Tax correct Webtag A1.3

Market prices 2010

£ 1,058,747

£ 24,983

£ 18,594

£ 188,995

£ 9,790

£ 7,648

£ 1,308,757

Costs of Carrying out the scheme & subsequent maintenance

Assessment period 60 years
 Assess
 Cost of scheme 2017 prices
 Cost of maintenance Optimism bias
 Scheme cost
 Cost of delays during scheme
 Cost of delays during maintenance

Maintenance consists of after years

initial works		2017
1 Microasphalt	15	2032
2 Microasphalt	10	2042
3 Inlay 45	10	2052
4 Microasphalt	15	2067
5 Microasphalt	10	2077

Cycle 60 yrs

Basic prices at 2017 rates

Allow for engineering inflation in excess of general inflation as Webtag table

Deflate to 2010 base for comparison

Basic microasphalt rate 2017	£ 4.99	per sqm	
Inlay rate, 2014	1.03	£ 18.53	per sqm Add optimism bias to
Inlay rate, 2017		£ 21.45	per sqm
Construction inflation	1.03		
General inflation	1.025		

Areas

Preston New Road, Beardwood	10,608	sqm
Whalley New Road, Wilpshire	10,384	sqm
Whalley New Road, Roe Lee	6,749	sqm
Whalley New Road, Whalley Range	6,323	sqm
Eanam	7,257	sqm
Duckworth Street, A666, Darwen	1,400	sqm
Bury Street, A666, Darwen	1,390	sqm
Green Street, A666, Darwen	2,580	sqm
Bolton Road, A666, Darwen	2,089	sqm
Borough Road	1,448	sqm
	50,228	sqm

Discount Rates

2017 2010

Maintenanace costs	year	rate	amount 2017 costs	years of project	years before 30
Scheme cost with optimisim	2017		£ 1,905,254	0	7
Microasphalt	2032	£ 5.37	£ 269,820	15	22
Microasphalt	2042	£ 5.64	£ 283,275	25	32
Inlay 45	2052	£ 25.43	£ 1,277,376	35	37
Microasphalt	2067	£ 6.37	£ 319,920	50	37
Microasphalt	2077	£ 6.69	£ 335,873	60	37
			£ 2,486,264		

£ 1,849,761
3%
£ 1,905,254

Table 8 TAG unit A1.2

Note

Average SD rate	£	4.75	Ref: Surf dress costs \M
Average micro rate	£	4.99	Ref: £ 4.57
			£ 4.71
			£ 4.85
			£ 4.99

mid life inlay

0 to 30 years 1.0350
31 to 75 years 1.0300
1.19

Green book & Table A1.1.1 Web tag
Years from current year
Indirect Tax correct Webtag A1.3

years after 30	Discount factor	Discounted cost to 2010	Market prices
0	0.786	1,497,512	£ 1,782,039
0	0.469	126,586	£ 150,638
0	0.333	94,214	£ 112,115
5	0.242	308,560	£ 367,187
20	0.155	49,603	£ 59,027
30	0.115	38,749	£ 46,112
cost of scheme & maint			£ 2,517,117

√R\Bus_Case\CF_17\SD Final Figures.xlsx
2013 Ref: Colas Yew Tree
2014
2015
2016

Principal road Resurfacing and Reconstruction

Works Cost, 2014 prices	£	1,379,179	
Inflation on works rates	3 years @	5% pa	
Current works Estimate			£ 1,596,572
Utility Contingency, 2017 prices	£	55,000	£ 55,000
Fee, 2017 prices	£	198,188.65	£ 198,189
Anticipated scheme cost	2017 prices		£ 1,849,761

Works Base price January 2014
 Fee price March 2017
 Utility contingency March 2017

Item	Description	Price
1	Resurfacing Preston New Road from Beardwood to the Borough Boundary	191,002
2	Resurfacing Whalley New Road from Palm Street to 275 Whalley New Road	114,752
3	Resurfacing Whalley New Road from Pearl Street to and including Brownhill Roundabout	211,982
4	Resurfacing Whalley New Road from Brownhill Roundabout to Borough Boundary	161,667
5	Resurfacing Higher Eanam from Barbara Castle Way Roundabout to Copy Nook / Eden Street Junction. Refer to Item 8 below for length of full depth reconstruction . Area omitted from this calculation.	154,485
6	Resurfacing Duckworth Street from Vale Street South to the Post Office	111,803
7	Resurfacing Green Street to 20m South of Cochran Street	63,196
	(A) Resurfacing Sub Total	1,008,887
8	Reconstruction of a 65metre section of the southbound carriageway of Higher Eanam at its junction with Eden Road	146,890
9	Reconstruction of Borough Road North to Green Street	223,402
	(B) Reconstruction Works Sub Total	370,292
	Works cost	1,379,179
	(C) Stats Diversion Sub Total	

DFT Civils Input Scheme Cost (A+B+C)

Statutory Undertakers Diversion Works / Protection / Support (Outline Estimate)		Notes	representative areas	respective cost	average rate
			34,572	621,906	17.99
£	-	45mm HRA surfacing to main carriageways and 100mm through the junction areas.	10,608		
£	-	45mm HRA surfacing to main carriageway.	6,323		
£	-	45mm HRA surfacing to main carriageways and 100mm through Brownhill Junction roundabout.	not representative		
£	-	45mm HRA surfacing to main carriageway.	10,384		
£	-	45mm HRA surfacing to main carriageways and 100mm through the junction areas.	7,257		
£	-	45mm HRA surfacing to main carriageways and 100mm through the junction areas.	not representative		
£	-	45mm HRA surfacing to main carriageways and 100mm through the junction areas.	not representative		
	25,000	Risk / contingency for support / protection of existing Statutory Undertaker Equipment			
	30,000	Risk / contingency for support / protection of existing Statutory Undertaker Equipment			
	55,000				

1,434,179

Preston New Road, Be 10608 sqm

Whalley New Road, W 10384 sqm

Whalley New Road, Rc 6749 sqm

Whalley New Road, W 6323 sqm

Eanam 7257 sqm

Duckworth Street,A66 1400 sqm

Bury Street, A666, Dar 1390 sqm

Green Street, A666, Di 2580 sqm

Bolton Road, A666, Da 2089 sqm

Borough Road 1448 sqm

50228 sqm

Location	AADFYear	CP	Estimation_method	Estimation_method_
PNR_Beardwood	2015	47472	Estimated	Estimated using prev
WNR_Wilpshire	2015	73068	Estimated	Estimated using prev
WNR_Roe Lee	2015	7429	Estimated	Estimated using prev
Eanam	2015	81191	Estimated	Estimated using prev
A666_duckworth	2015	74496	Estimated	Estimated using prev

Summary

Location	AADFYear	CP	PedalCycles	Motorcycles
PNR_Beardwood	2015	47472	23	45
WNR_Wilpshire	2015	73068	38	22
WNR_Roe Lee	2015	7429	59	63
Eanam	2015	81191	61	91
A666_duckworth	2015	74496	120	96

Summary					
Location	AADFYear	CP	PedalCycles	Motorcycles	
PNR_Beardwood	2015	47472	23	45	
WNR_Wilpshire	2015	73068	38	22	
WNR_Roe Lee	2015	7429	59	63	
WNR_Whalley Range			58	62	
Eanam	2015	81191	61	91	
A666_Duckworth	2015	74496	120	96	

	PNR_Beardwood	WNR_Wilpshire	WNR_Roe Lee	WNR_Whalley Range	
Total vehicles	<u>13494</u>	<u>12953</u>	<u>9898</u>	<u>9800</u>	
Cars	11905	11230	8447	8363	
LGV	1318	1382	1019	1009	
HGV	148	180	180	178	
Count point	47472	73068	7429	N/A	

	Length	Killed	Serious	
PNR_Beardwood	778	0	0	
WNR_Wilpshire	811	0	0.4	
WNR_Roe Lee	625	0	0	
WNR_Whalley Range	643	0	1	

Eanam	463	0	0.2
A666_Duckworth	916	0	1.4
	4236	0	3

		Individual year	
2016		Killed	Serious
PNR_Beardwood			
WNR_Wilpshire			
WNR_Roe Lee			
WNR_Whalley Range			1
Eanam			
A666_Duckworth			

2015		Killed	Serious
PNR_Beardwood			
WNR_Wilpshire			
WNR_Roe Lee			
WNR_Whalley Range			2
Eanam			
A666_Duckworth			2

2014		Killed	Serious
PNR_Beardwood			
WNR_Wilpshire			1
WNR_Roe Lee			
WNR_Whalley Range			1
Eanam			
A666_Duckworth			3

2013		Killed	Serious
PNR_Beardwood			
WNR_Wilpshire			
WNR_Roe Lee			
WNR_Whalley Range			
Eanam			
A666_Duckworth			1

2012		Killed	Serious
PNR_Beardwood			
WNR_Wilpshire			1
WNR_Roe Lee			
WNR_Whalley Range			1
Eanam			1
A666_Duckworth			1

0
0

15
3

Region	LocalAuthority	Road	RoadCategory	Easting	Northing	StartJunction
North West	Blackburn with Dar	A677	PR	366000	429400	A6119
North West	Blackburn with Dar	A666	PU	368600	431360	A6119
North West	Blackburn with Dar	A666	PU	368860	430000	A677
North West	Blackburn with Dar	A6078	PU	368880	428220	Quarry Street
North West	Blackburn with Dar	A666	PU	369000	422570	Watery Lane

CarsTaxis	BusesCoaches	LightGoodsVehicles	V2AxleRigidHGV	V3AxleRigidHGV	V4or5AxleRigidHGV	V3or4AxleArticHGV	
11905		78	1318	78	29	14	4
11230		139	1382	128	23	16	2
8447		189	1019	150	16	1	2
15807		697	1977	172	31	11	11
13481		377	2702	916	129	284	15

CarsTaxis	BusesCoaches	LightGoodsVehicles	AllHGVs	AllMotorVehicles		
11905		78	1318	148	13494	
11230		139	1382	180	12953	
8447		189	1019	180	9898	
8363		187	1009	178	9800 Assume & prc	9800
15807		697	1977	270	18840	
13481		377	2702	1478	18135	

Eanam	A666_Duckworth
<u>18840</u>	<u>18135</u>
15807	13481
1977	2702
270	1478
81191	74496

Slight	Total Accidents	Total vehicle	Accident rate
0.6	0.6	13494	0.16
2.8	3.2	12953	0.83
1.6	1.6	9898	0.71
3.2	4.2	9800	1.83

2.6	2.8	18840	0.88
4	5.4	18135	0.89
14.8	17.8	13853.3333	0.83

	Running total		Average
Slight	0	0	0
	0	0	0
1	0	0	0
4	0	1	0
2	0	0	0
4	0	0	0
			0

Slight	0	0	1	0
1	0	0	3	0
3	0	0	3	0
2	0	3	6	0
2	0	0	3	0
1	0	2	8	0
4				0

Slight	0	0	1	0.00
1	0	1	4	0.00
1	0	0	4	0.00
4	0	4	10	0.00
5	0	0	8	0.00
7	0	5	15	0.00
				0.00

Slight	0	0	1	0
6	0	1	10	0
	0	0	4	0
3	0	4	13	0
1	0	0	9	0
2	0	6	17	0
				0

Slight	0	0	3	five year aver
2	0	2	14	0
4	0	0	8	0
4	0	5	16	0
3	0	1	13	0
4	0	7	20	0
3				0

74
14.8

EndJunction	LinkLength_ki	LinkLength_r	PedalCycles	Motorcycles	CarsTaxis	BusesCoac	LightGood:
Beardwood	0.7	0.43	23	45	11905	78	1318
LA Boundary	0.8	0.5	38	22	11230	139	1382
A6119	3.4	2.11	59	63	8447	189	1019
A678	0.5	0.31	61	91	15807	697	1977
M65 slip	4.1	2.55	120	96	13481	377	2702

V5AxleArtic	V6orMoreAx	AllMotorVeh	
HGV	leArticHGV	AllHGVs	icles
3	20	148	13494
2	9	180	12953
1	10	180	9898
16	28	270	18840
39	94	1478	18135

0	0
0	0
0	1
1	4
0	2
0	4
1	11

0	0.5
0	1.5
0	1.5
1.5	3
0	1.5
1	4
2.5	12

0.00	0.33
0.33	1.33
0.00	1.33
1.33	3.33
0.00	2.67
1.67	5.00
3.33	14.00

0	0.25
0.25	2.5
0	1
1	3.25
0	2.25
1.5	4.25
2.75	13.5

age

0	0.6
0.4	2.8
0	1.6
1	3.2
0.2	2.6
1.4	4
3	14.8

V2AxleRigi	V3AxleRigi	V4or5AxleI	V3or4Axle/	V5AxleArti	V6orMore/	AllHGVs	AllMotorVehicles
78	29	14	4	3	20	148	13494
128	23	16	2	2	9	180	12953
150	16	1	2	1	10	180	9898
172	31	11	11	16	28	270	18840
916	129	284	15	39	94	1478	18135

Traffic Volume

	row	row
Basic data rows	34	173
AADF, four count points	34	45
Distribution of traffic through the c	47	81
Cost of vehicles	84	90
Car ownership	117	146
Numbers of new houses	149	155
Additional journeys over and above	160	172
Vehicle Occupancy	176	206
Work vs Leisure	209	234

Calculation data

Method
 For each count point
 For each vehicle type
 For each hour of the

AADFYear	CP	Estimation	Estimation_method	Region
2015	77773	Estimated	Estimated using pre	North West
2015	27832	Estimated	Estimated using pre	North West
2015	77774	Estimated	Estimated using pre	North West
2015	57830	Counted	Manual count	North West

Traffic Distribution through the day

<https://www.gov.uk>

Table TRA0307

Traffic distribution by time of day on all roads in Great Britain, 2015

Time of day	Monday	Tuesday	Wednesday	Thursday
00:00-01:00	15.8	15.2	16.1	16.6
01:00-02:00	10.2	11.1	11.5	12.1
02:00-03:00	8.7	10.1	10.3	10.8
03:00-04:00	11.0	12.0	12.1	12.4
04:00-05:00	21.3	20.0	19.7	19.8
05:00-06:00	53.4	49.0	47.7	46.8
06:00-07:00	116.8	118.0	115.9	112.4
07:00-08:00	176.1	187.4	186.3	180.4
08:00-09:00	176.0	188.5	188.0	182.0
09:00-10:00	148.4	153.6	153.9	150.4
10:00-11:00	146.3	140.4	141.9	141.3
11:00-12:00	150.7	140.4	142.9	144.3
12:00-13:00	150.3	141.8	145.0	147.6
13:00-14:00	150.6	144.8	148.7	152.0
14:00-15:00	155.5	153.3	157.7	161.5
15:00-16:00	167.6	171.0	176.0	178.0
16:00-17:00	190.3	198.9	202.4	201.3
17:00-18:00	192.8	201.6	203.5	200.9
18:00-19:00	147.8	156.8	160.8	162.2
19:00-20:00	97.7	102.4	107.8	113.6
20:00-21:00	68.6	70.5	74.7	81.1
21:00-22:00	51.2	53.2	55.8	60.1
22:00-23:00	37.0	40.6	41.9	44.0
23:00-00:00	23.4	25.5	26.4	28.2
	2467.5	2506.1	2547.0	2559.8
	16796.7	16800		

WebTAG Table A 1.3.2

<https://www.gov.uk/government/publ>

Forecast values of time per person

Year	Car driver	Car passenger
2016	26.68	20.23

working cost = Resource cost

non working cost = Market Cost

Table A 1.3.5: Market Price Values of Time per Vehicle based on distance travelled (£ per hour, 2017 prices and 2017 values)

Vehicle Type	Journey Purpose	Weekday	
		7am – 10am	10am – 4pm
Car	Work	34.37	33.59
	Commuting	8.52	8.45
	Other	10.80	11.23
	Average Car	14.02	15.36
LGV	Work (freight)	15.99	15.99
	Commuting & Other	10.01	10.01
	Average LGV	15.27	15.27
OGV1	Working	15.70	15.70
OGV2	Working	15.70	15.70
PSV (Occupants)	Work	24.70	20.48
	Commuting	27.27	10.09
	Other	53.33	70.12
	Total	105.30	100.69

Car Ownership UK 2016

<https://www.gov.uk/government/uploads>

Table NTS9902

Household car ownership by region and Rural-Urban Classification: England

	No car / van		One ca
	2002/03	2014/15	2002/03
Region of residence:			
North East	37	29	44
North West	27	24	44
Yorkshire and The Humber	30	25	45
East Midlands	20	22	45
West Midlands	26	24	40
East of England	20	17	42
London	41	41	40
South East	18	18	43
South West	19	18	47
England excluding London	24	22	44
England	26	25	43
Rural-Urban Classification² of residence:			
Urban Conurbation	35	33	41
Urban City and Town	24	23	46
Rural Town and Fringe	17	14	42
Rural Village, Hamlet and Isolate	7	6	39
All areas	26	25	43

1 Two survey years combined, e.g. 2014 and 2015. A survey year runs from mid-January to mid-January.

2 For more information on Rural-Urban Classifications see:

<https://www.gov.uk/government/collections/rural-urban-definition>

Number of new homes planned

16/1 – Parsonage – 85 houses	85	2016/2018
16/2 – North Blackburn – 450 houses	450	2018/2026
16/3 – Roe Lee – 220 houses	220	2018/2024
4/1 – Brownhill – 800 houses	800	2018/2026
4/2 – Preston New Road – 500 houses	500	2020/2024
	2055	new homes

each home has an average of 1.39 cars

Assume the first car makes two journeys (out and return) every day and the remaining 0.39 cars r

Delivery of new houses

	Parsonage	N Blackburn	Roe Lee	Brownhill
2016	28			
2017	28			
2018	28	50		31
2019		50		31
2020		50		31
2021		50		31
2022		50		31
2023		50		31
2024		50		31
2025		50		
2026		50		
	85	450		220

Vehicle Occupancy

Table A 1.3.3:		
Journey Purpose	7am – 10am	10am – 4pm
	Work	1.23
Commuting	1.16	1.15
Other	1.71	1.78
Average Car	1.37	1.59
Work	1.26	1.19
Commuting	1.16	1.14
Other	1.72	1.70
Average Car	1.46	1.59

Vehicle Type	Journey Purpose	Annual Percentage	
LGV	Work (freight)		
	Non Work		
	Average LGV		
OGV1	Work only		
OGV2	Work only		
PSV	Driver		
	Passenger		
Journey Purpose		7am – 10am	10am – 4pm
Work		-0.48	-0.4
Non – Work (commuting and other)		-0.67	-0.65

Work vs Leisure

Table A 1.3.4:

Mode / Vehicle Type & Journey Purpose		7am – 10am	10am – 4pm
Car	Work	18.1	19.9
	Commuting	46.0	11.4
	Other	35.9	68.7
LGV	Work (freight)	88.0	88.0
	Non – Work	12.0	12.0
	Work		
OGV1	Work	100.0	100.0
OGV2	Work	100.0	100.0
Car	Work	15.4	13.8
	Commuting	38.3	8.1
	Other	46.4	78.1
PSV	Work	3.9	2.0
	Commuting	30.0	11.1
	Other	66.1	86.9
Heavy Rail	Work	14.1	22.4
	Commuting	51.9	10.2
	Other	34.1	67.4
Light Rail	Work	1.9	0.2
	Commuting	82.4	8.5
	Other	15.7	91.3



Traffic volume by type of vehicle during

	PedalCycles	Motorcycles
Count point 77773	14	145
Time of day		
00:00-01:00	0	1
01:00-02:00	0	1
02:00-03:00	0	1
03:00-04:00	0	1
04:00-05:00	0	1
05:00-06:00	0	3
06:00-07:00	1	6
07:00-08:00	1	10
08:00-09:00	1	10
09:00-10:00	1	9
10:00-11:00	1	8
11:00-12:00	1	8
12:00-13:00	1	9
13:00-14:00	1	9
14:00-15:00	1	9
15:00-16:00	1	10
16:00-17:00	1	11
17:00-18:00	1	11
18:00-19:00	1	9
19:00-20:00	1	6
20:00-21:00	0	4
21:00-22:00	0	3
22:00-23:00	0	2
23:00-00:00	0	2
Count Point 27823	14	145
Time of Day		
00:00-01:00	0	1
01:00-02:00	0	1
02:00-03:00	0	1
03:00-04:00	0	1

04:00-05:00	0	1
05:00-06:00	0	3
06:00-07:00	1	6
07:00-08:00	1	10
08:00-09:00	1	10
09:00-10:00	1	9
10:00-11:00	1	8
11:00-12:00	1	8
12:00-13:00	1	9
13:00-14:00	1	9
14:00-15:00	1	9
15:00-16:00	1	10
16:00-17:00	1	11
17:00-18:00	1	11
18:00-19:00	1	9
19:00-20:00	1	6
20:00-21:00	0	4
21:00-22:00	0	3
22:00-23:00	0	2
23:00-00:00	0	2

Count Point 77774 24 49

Time of Day

00:00-01:00	0	0
01:00-02:00	0	0
02:00-03:00	0	0
03:00-04:00	0	0
04:00-05:00	0	0
05:00-06:00	0	1
06:00-07:00	1	2
07:00-08:00	2	3
08:00-09:00	2	3
09:00-10:00	1	3
10:00-11:00	1	3
11:00-12:00	1	3
12:00-13:00	1	3
13:00-14:00	1	3
14:00-15:00	2	3
15:00-16:00	2	3
16:00-17:00	2	4
17:00-18:00	2	4
18:00-19:00	1	3
19:00-20:00	1	2
20:00-21:00	1	1
21:00-22:00	1	1
22:00-23:00	0	1
23:00-00:00	0	1

Count Point 57830	20	65
Time of Day		
00:00-01:00	0	0
01:00-02:00	0	0
02:00-03:00	0	0
03:00-04:00	0	0
04:00-05:00	0	1
05:00-06:00	0	1
06:00-07:00	1	3
07:00-08:00	1	5
08:00-09:00	1	5
09:00-10:00	1	4
10:00-11:00	1	4
11:00-12:00	1	4
12:00-13:00	1	4
13:00-14:00	1	4
14:00-15:00	1	4
15:00-16:00	1	5
16:00-17:00	2	5
17:00-18:00	2	5
18:00-19:00	1	4
19:00-20:00	1	3
20:00-21:00	1	2
21:00-22:00	0	1
22:00-23:00	0	1
23:00-00:00	0	1

it
ne
e day

www.blackburn.gov.uk/traffic-counts/cp.php?la=Blackburn+with+Darwen#77773

LocalAuthority	Road	RoadCategory	Easting	Northing
Blackburn with Dar	A6119	PU	369150	430500

www.blackburn.gov.uk/traffic-counts/cp.php?la=Blackburn+with+Darwen#27832

Blackburn with Dar	A6119	PR	370000	429770
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www.blackburn.gov.uk/traffic-counts/cp.php?la=Blackburn+with+Darwen#77774

Blackburn with Dar	A6119	PU	367500	430320
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www.blackburn.gov.uk/traffic-counts/cp.php?la=Blackburn+with+Darwen#57830

Blackburn with Dar	A6119	PR	366400	430000
--------------------	-------	----	--------	--------

www.blackburn.gov.uk/government/statistical-data-sets/tra03-motor-vehicle-flow

Index: Average hour in week = 100

	Friday	Saturday	Sunday
	18.0	23.3	24.5
	12.9	15.6	15.6
	11.3	12.2	10.5
	12.9	12.2	9.4
	19.9	15.1	10.2
	44.7	25.2	15.1
	103.7	43.0	24.8
	167.7	66.9	38.0
	169.1	97.9	56.1
	145.1	129.8	91.9
	152.0	158.1	130.4
	164.0	171.6	154.4
	172.0	169.5	160.4
	177.6	160.6	154.9
	185.1	149.7	152.0
	195.9	143.7	154.4
	204.5	142.1	158.3
	196.4	138.4	147.5
	163.1	117.8	129.4
	124.5	89.8	108.5
	90.2	65.5	85.7
	65.3	49.9	62.2
	49.2	42.6	41.1
	35.0	34.6	25.8
	2680.1	2075.1	1961.1

Percentage of AADF

[ications/webtag-tag-data-book-july-2016#history](#)

Resource cost values, £ per hour (2016)				
LGV	OGV	PSV	Working	
occupant	occupant	driver	PSV	Taxi
			passenger	driver
12.01	14.15	14.46	16.39	12.77

4pm – 7pm	7pm – 7am	Average	Weekend	All Week
33.04	33.32	33.78	35.40	33.77
8.34	8.35	8.40	8.41	8.40
11.57	11.31	11.28	12.48	11.72
13.04	12.95	14.06	12.87	13.77
15.99	15.99	15.99	16.79	15.99
10.01	10.01	10.01	13.92	10.90
15.27	15.27	15.27	16.45	15.38
15.70	15.70	15.70	15.70	15.70
15.70	15.70	15.70	15.70	15.70
24.70	28.69	23.59	19.37	22.48
33.27	34.64	23.18	5.82	18.64
48.01	45.34	57.37	74.23	61.80
105.98	108.67	104.14	99.42	102.92

ads/system/uploads/attachment_data/file/550726/nts9902.xls

1, 2002/03 and 2014/15¹

<i>Percentage</i>			
<i>car / van</i>	<i>Two or more cars / vans</i>		
	<i>2014/15</i>	<i>2002/03</i>	<i>2014/15</i>
42	20	29	
43	28	32	
42	25	33	
42	34	36	
41	34	35	
46	38	37	
42	19	17	
42	39	40	
42	34	39	
43	33	36	
43	31	33	
42	24	25	
44	31	33	
44	41	42	
35	53	59	
43	31	33	

makes two journeys 3 times a week

PNR	Cumulative number of new houses		Cumulative Additional daily journeys over and above AADF
		28	70
		57	140
		255	630
		426	1,049
	100	696	1,716
	100	966	2,382
	100	1237	3,049
	100	1507	3,715
	100	1777	4,382
		1916	4,724
		2055	5,067
	500		

Car Occupancies (2000)					
Weekday			Weekend Average	All Week Average	
4pm – 7pm	7pm – 7am	Average Weekday			
Occupancy per Vehicle Kilometre travelled					
1.17	1.18	1.20	1.28	1.20	
1.13	1.13	1.14	1.14	1.14	
1.82	1.77	1.78	1.97	1.85	
1.45	1.47	1.48	1.88	1.58	
Occupancy per Trip					
1.20	1.21	1.21	1.30	1.22	
1.14	1.13	1.15	1.13	1.14	
1.76	1.71	1.72	1.96	1.79	
1.53	1.54	1.54	1.88	1.63	
Vehicle Occupancies (2000)					
Weekday			Weekend	All Week	

Average			Average	Average
Occupancy per Vehicle Kilometre travelled				
	1.20		1.26	1.20
	1.46		2.03	1.59
	1.23		1.35	1.25
	1.00		1.00	1.00
	1.00		1.00	1.00
	1.00		1.00	1.00
	12.20		12.20	12.20
Percentage Change in Car Passenger Occupancy (% pa) up to 2036				
Weekday			Weekend	All Week
4pm – 7pm	7pm – 7am	Average		
-0.62	-0.5	-0.44	-0.48	-0.45
-0.53	-0.47	-0.59	-0.52	-0.56

Proportion of travel in work and non-work time				
Weekday			Weekend	All Week
4pm – 7pm	7pm – 7am	Average		
			Average	Average
Percentage of Distance Travelled by Vehicles				
13.0	12.3	16.4	3.2	13.1
40.8	36.2	31.0	8.5	25.3
46.2	51.5	52.5	88.3	61.6
88.0	88.0	88.0	88.0	88.0
12.0	12.0	12.0	12.0	12.0
100.0	100.0	100.0	100.0	100.0
100.0	100.0	100.0	100.0	100.0
Percentage of Distance Travelled by Occupants				
10.2	9.9	12.6	2.0	9.2
32.2	29.1	23.9	5.1	18.0
57.6	61.0	63.5	92.9	72.7
3.9	5.7	3.4	1.5	2.9
36.6	38.1	25.5	6.4	20.5
59.5	56.2	71.1	92.0	76.6
16.4	23.2	18.3	6.3	16.5
55.9	53.1	43.7	4.3	37.8
27.7	23.7	38.1	89.5	45.7
1.8	2.3	1.3	0.4	1.2
75.7	28.9	50.1	23.3	45.8
22.5	68.9	48.6	76.3	53.1

; day excluding new houses

CarsTaxis	BusesCoaches	LightGoodsVehicles	HGV	Total Motor vehicle	
19881	80	3734	662	24502	
127	1	24	4	157	
90	0	17	3	111	
80	0	15	3	98	
94	0	18	3	116	
157	1	29	5	193	
376	2	71	13	464	
883	4	166	29	1,088	
1,399	6	263	47	1,724	
1,408	6	264	47	1,735	
1,171	5	220	39	1,443	
1,125	5	211	37	1,386	
1,157	5	217	39	1,425	
1,179	5	221	39	1,453	
1,205	5	226	40	1,486	
1,267	5	238	42	1,561	
1,384	6	260	46	1,706	
1,554	6	292	52	1,915	
1,551	6	291	52	1,911	
1,232	5	231	41	1,518	
851	3	160	28	1,048	
600	2	113	20	739	
445	2	84	15	548	
331	1	62	11	408	
216	1	41	7	266	
19881	80	3734	662	24502	
127	1	24	4	157	
90	0	17	3	111	
80	0	15	3	98	
94	0	18	3	116	

157	1	29	5	193
376	2	71	13	464
883	4	166	29	1,088
1,399	6	263	47	1,724
1,408	6	264	47	1,735
1,171	5	220	39	1,443
1,125	5	211	37	1,386
1,157	5	217	39	1,425
1,179	5	221	39	1,453
1,205	5	226	40	1,486
1,267	5	238	42	1,561
1,384	6	260	46	1,706
1,554	6	292	52	1,915
1,551	6	291	52	1,911
1,232	5	231	41	1,518
851	3	160	28	1,048
600	2	113	20	739
445	2	84	15	548
331	1	62	11	408
216	1	41	7	266

11647	99	1416	288	13499
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75	1	9	2	86
53	0	6	1	61
47	0	6	1	54
55	0	7	1	64
92	1	11	2	107
221	2	27	5	256
517	4	63	13	600
820	7	100	20	950
825	7	100	20	956
686	6	83	17	795
659	6	80	16	764
678	6	82	17	785
691	6	84	17	800
706	6	86	17	818
742	6	90	18	860
811	7	99	20	940
910	8	111	23	1,055
908	8	110	22	1,053
722	6	88	18	836
498	4	61	12	578
351	3	43	9	407
261	2	32	6	302
194	2	24	5	225
126	1	15	3	147

8785	27	911	288	10076
56	0	6	2	65
40	0	4	1	46
35	0	4	1	40
42	0	4	1	48
69	0	7	2	80
166	1	17	5	191
390	1	40	13	448
618	2	64	20	709
622	2	65	20	714
517	2	54	17	593
497	2	52	16	570
511	2	53	17	586
521	2	54	17	598
533	2	55	17	611
560	2	58	18	642
612	2	63	20	702
687	2	71	23	788
685	2	71	22	786
544	2	56	18	624
376	1	39	12	431
265	1	27	9	304
197	1	20	6	226
146	0	15	5	168
95	0	10	3	109

StartJuncti	EndJunctio	LinkLength	LinkLength_m	PedalCycle	Motorcycle	CarsTaxis	BusesCoac	LightGood
A666	Philips Rd	2	1.24	14	145	19881	80	3734
Philips Rd	LA Bounda	0.5	0.31	14	145	19881	80	3734
Whinney L	A666	1.8	1.12	24	49	11647	99	1416
A677	Whinney L	1.4	0.87	20	65	8785	27	911

Average Mon - Fri	Percentage of Total	Peak hours	Restricted hours	Other hours
16.3	1%			1
11.6	0%			1
10.2	0%			1
12.1	0%			1
20.1	1%			1
48.3	2%			1
113.4	4%			1
179.6	7%	1		
180.7	7%	1		
150.3	6%		1	
144.4	6%		1	
148.5	6%		1	
151.3	6%		1	
154.7	6%		1	
162.6	6%		1	
177.7	7%	1		
199.5	8%	1		
199.0	8%	1		
158.1	6%			1
109.2	4%			1
77.0	3%			1
57.1	2%			1
42.5	2%			1
27.7	1%			1
2552.1	100%			24
=	100%	37%	36%	28%

prices)							Non-Working	
Taxi passenger	Rail passenger	Underground passenger	Walker	Cyclist	Motorcycle driver	Average	Commuting	Other
25.76	31.51	25.91	20.58	20.49	22.78	26.69	6.71	5.96

Cars / vans per household		Unweighted sample size (households)	
2002/03	2014/15	2002/03	2014/15
0.86	1.06	847	825
1.05	1.15	2,164	2,035
0.99	1.13	1,605	1,505
1.20	1.21	1,321	1,271
1.15	1.22	1,593	1,519
1.26	1.31	1,637	1,643
0.82	0.80	2,228	2,210
1.30	1.34	2,332	2,480
1.24	1.31	1,661	1,511
1.16	1.23	13,160	12,789
1.10	1.17	15,388	14,999
0.93	0.98	5,882	5,615
1.13	1.18	6,842	6,607
1.32	1.39	1,440	1,450
1.63	1.77	1,224	1,327
1.10	1.17	15,388	14,999

2026

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139

			1.26
1.26	1	0.0048	1.253952
	2	0.0048	1.247933
0.00480	3	0.0048	1.241943
	4	0.0048	1.235982
16	5	0.0048	1.230049
	6	0.0048	1.224145

1.166639	7	0.0048	1.218269
	8	0.0048	1.212421
	9	0.0048	1.206601
	10	0.0048	1.20081
	11	0.0048	1.195046
	12	0.0048	1.18931
	13	0.0048	1.183601
	14	0.0048	1.17792
	15	0.0048	1.172266
	16	0.0048	1.166639

Proportion of trips made in work and non-work time						
Weekday					Weekend	All Week
7am – 10am	10am – 4pm	4pm – 7pm	7pm – 7am	Average	Average	Average
Percentage of Vehicle Trips						
6.8	8.3	5.5	3.6	6.5	1.7	5.0
40.6	11.6	32.3	26.4	25.4	9.1	20.3
52.7	80.1	62.2	70.0	68.1	89.3	74.7
88.0	88.0	88.0	88.0	88.0	88.0	88.0
12.0	12.0	12.0	12.0	12.0	12.0	12.0
100.0	100.0	100.0	100.0	100.0	100.0	100.0
100.0	100.0	100.0	100.0	100.0	100.0	100.0
Percentage of Person Trips						
5.2	2.2	4.1	1.2	4.7	1.1	3.4
33.3	15.6	25.8	10.9	20.0	6.4	15.2
61.5	82.2	70.1	87.9	75.3	92.5	81.4
1.5	1.2	1.8	2.6	1.5	1.0	1.4
41.7	10.6	43.0	47.4	26.9	12.4	24.3
56.8	88.2	55.2	50.0	71.5	86.6	74.3
6.7	13.6	6.7	8.8	8.3	2.8	7.6
71.7	14.9	68.0	60.4	58.2	11.1	52.2
21.6	71.5	25.4	30.8	33.5	86.1	40.3
2.8	0.7	3.3	5.3	2.4	1.2	2.2
83.0	10.8	70.7	23.7	48.2	21.7	43.8
14.2	88.5	26.0	71.1	49.4	77.1	54.0



Traffic costs by type of vehicle during the day excluding new houses

s	PedalCycle	Motorcycles	CarsTaxis	BusesCoach	LightGoods	HGV	Total Moto
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V2AxleRigi	V3AxleRigi	V4or5Axlel	V3or4Axle/	V5AxleArti	V6orMore/	AllHGVs	AllMotorVehicles
287	91	91	17	101	76	662	24503
287	91	91	17	101	76	662	24503
152	40	46	4	8	38	288	13500
110	11	28	4	19	34	206	9993

Perceived cost values, £ per hour

Working

Car driver	Car passenger	LGV occupant	OGV occupant	PSV driver	PSV passenger	Taxi driver	Taxi passenger	Rail passenger
26.68	20.23	12.01	14.15	14.46	16.39	12.77	25.76	31.51

or vehicles

(2010 prices)								
Underground passenger	Walker	Cyclist	Motorcycle driver	Average	Non-Working		Car driver	Car passenger
					Commuting	Other		
25.91	20.58	20.49	22.78	26.69	7.99	7.09	31.75	24.08

Market price values, £ per hour (2010 prices)

Working								
LGV occupant	OGV occupant	PSV driver	PSV passenger	Taxi driver	Taxi passenger	Rail passenger	Underground passenger	Walker
14.29	16.84	17.20	19.51	15.20	30.66	37.50	30.83	24.49

Cyclist	Motorcycle driver	Average	Non-Working	
			Commuting	Other
24.38	27.11	31.76	7.99	7.09