



# **A428 Western Corridor Guided Bus Route Options**

for

**Cambridgeshire County Council**

**Masterplanning Stage Cost Study - Highways**

August 2017



**A428 Western Corridor  
 Guided Bus Route Options  
 Masterplanning Stage Cost Study - Highways  
 Document Status**



Document status					
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**A428 Western Corridor  
 Guided Bus Route Options  
 Masterplanning Stage Cost Study - Highways  
 Main Summary**



	<b>Section 1</b>	<b>Section 2</b>	<b>Section 3</b>	<b>TOTAL</b>
<b>Blue Route</b>	£36,140,000	£38,740,000	£18,380,000	£93,260,000
<b>Red Route</b>	£35,470,000	£37,940,000	£12,100,000	£85,510,000
<b>Green Route</b>	£29,700,000	£29,530,000	£11,090,000	£70,320,000
<b>Pink Route</b>	N/A	£30,410,000	£13,360,000	£43,770,000
<b>Grey Route</b>	N/A	N/A	£15,080,000	£15,080,000
<b>Alternative Blue Route</b>	N/A	N/A	£19,520,000	£19,520,000

*All prices are as at 2010 and exclusive of VAT.*

**A428 Western Corridor  
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Masterplanning Stage Cost Study - Highways  
Assumptions and Exclusions**



**1.00 Exclusions**

- 1.01 Works arising from asbestos surveys or analyses.
- 1.02 Works arising from the identification of hazardous materials.
- 1.03 Abnormal ground conditions over and above risk allowance.
- 1.04 Client direct order works.
- 1.05 Requirements imposed by Planning Authority or Fire Officer.
- 1.06 Landfill tax higher level for active waste.
- 1.07 Agency costs, legal fees and finance charges.
- 1.08 Development taxes, levies or other "planning gain" items.
- 1.09 Section 106 /278 agreements and costs.
- 1.10 VAT.
- 1.11 Statutory fees.
- 1.12 Land acquisition and associated costs (CPO), provided separately.
- 1.13 Noise barriers.
- 1.14 Piled foundations other than as covered by the risk allowance.
- 1.15 Professional fees and surveys - 12% to be added to TUBA spreadsheet.

**2.00 Assumptions**

- 2.01 Ground conditions are generally good with no soft spots.
- 2.02 "Shallow foundations" for the entire length of the guideway i.e. no piling.
- 2.03 Stabilisation of soils not required over and above risk allowance.
- 2.04 No major ecological impacts i.e. badgers, owls, newts, etc. over and above risk allowance.

**A428 Western Corridor  
Guided Bus Route Options  
Masterplanning Stage Cost Study - Highways  
Schedule of Information**



**The Estimate has been prepared by reference to the following information:-**

PDF

A428 Indicative Route Alignment Issued 190717

DWG

A428 Indicative Route Alignment Issued 190717

OTHER INFORMATION

Email from John Wetton dated 31.07.2017

## **Risk**

For the purposes of this Masterplanning Stage Cost Study, Faithful+Gould have considered the risk profile for the construction element of the A428 Western Corridor Study. We have taken into account other comparable schemes such as the extension to the Cambridge Guided Busway at Chesterton and the A13 Diversionary Works at Barking, as well as producing a Quantitative Risk Assessment specifically for this project.

The allowance for risk at Masterplanning Stage is set at 30% and whilst no specific allowance has been included for Government Optimism Bias, we consider this to be a 'standard civil engineering project', that is to say, not requiring any special design considerations.

## **Commentary**

Generally the rates and percentage additions used are derived from historical data from other comparable schemes.

Unmeasured works and design development (10%) includes for items which have not been designed at this early stage in the process or where a design is modified as more detail is added.

Preliminaries (25%) is to cover for items which aren't included in the measured works such as; staff, welfare provisions, site offices, site waste clearance, water, electricity, furniture, ICT and consumables, protection of work, protective clothing, site transport, and so on.

Traffic management (30%) includes for all temporary works associated with maintaining transport routes for the duration of the works and will include: temporary roads and footpaths; diversions; traffic lights and signage.

Overheads & profit (8%) is the percentage that will be added to all the contractor's costs, including subcontract packages,

Contingency (30%) is an allowance for risk, as outlined in the above Risk section, and represents a sum of money that the client should have in reserve to meet the cost of any identified or unforeseen risks which may materialise on a given project.

**A428 Western Corridor**  
**Masterplanning Stage Cost Study - Highways**  
**Section 1 - Blue Route**



Description	Quantity	Unit	Rate	Total £	Notes
<b><u>Section 1A : Highfields Caldecote to Hardwick</u></b>					
1 Breaking out existing hard pavings	35,740	m <sup>2</sup>	70	2,501,800	<i>To allow for new guided busway and maintenance track, footway/cycleway and planting.</i>
2 Disposal of excavated materials	10,720	m <sup>3</sup>	45	482,400	
3 Stabilisation of existing ground		item	200,000	200,000	
4 Disposal of surface and ground water		item	75,000	75,000	
5 New guided busway route and maintenance track	2,020	m	1,440	2,908,800	
6 New footpath/cycleway	2,020	m	200	404,000	
7 Kerbing	4,040	m	30	121,200	
8 Signalised junction with bus priority	1	nr	95,000	95,000	
9 Signalised junction at roundabout	2	nr	83,000	166,000	
10 Allowance for going through the existing Hardwick Roundabout		item	50,000	50,000	
11 Road markings	2,020	m	5	10,100	
12 Street lighting	2,020	m	70	141,400	
13 Planting trees and vegetation	2,020	m	250	505,000	
14 Utilities diversions		item	250,000	250,000	
<b>Carried Forward £</b>				<b>7,910,700</b>	

**A428 Western Corridor**  
**Masterplanning Stage Cost Study - Highways**  
**Section 1 - Blue Route**



Description	Quantity	Unit	Rate	Total £	Notes	
Brought forward				7,910,700		
<b><u>Section 1B : Hardwick to Long Road</u></b>						
15 Breaking out existing hard pavings	10,170	m <sup>2</sup>	70	711,900	<i>Breaking out existing footway and verge to allow for new maintenance track, footway/cycleway and planting.</i>	
16 Disposal of excavated materials	3,050	m <sup>3</sup>	45	137,250		
17 Stabilisation of existing ground		item	80,000	80,000		
18 Disposal of surface and ground water		item	30,000	30,000		
19 Widening existing carriageway	2,030	m	500	1,015,000		<i>To allow for new guided busway and maintenance track.</i>
20 New guided busway route and maintenance track	2,030	m	1,440	2,923,200		
21 New footpath/cycleway	2,030	m	200	406,000		
22 Kerbing	4,060	m	30	121,800		
23 Resurface existing road	2,030	m	150	304,500		
24 Road markings	2,030	m	5	10,150		
25 Street lighting	2,030	m	70	142,100		
26 Planting trees and vegetation	2,030	m	250	507,500		
27 Utilities diversions		item	100,000	100,000		
<b>Carried Forward £</b>				<b>14,400,100</b>		



A428 Western Corridor  
 Masterplanning Stage Cost Study - Highways  
 Section 1 - Blue Route



Description	Quantity	Unit	Rate	Total £	Notes
Brought forward				14,400,100	
28 Unmeasured works and design development	10%			1,440,010	
<b>Sub-total:</b>				<b>15,840,110</b>	
29 Preliminaries	25.0%			3,960,000	
30 Traffic management	30.0%			5,940,000	
31 Overheads & profit	8.0%			2,059,000	
32 Contingency	30%			8,340,000	
			<b>To Summary £</b>	<b>36,139,110</b>	

**A428 Western Corridor**  
**Masterplanning Stage Cost Study - Highways**  
**Section 2 - Blue Route**



Description	Quantity	Unit	Rate	Total £	Notes	
<b><u>Section 2 : Long Road to M11 Bridge</u></b>						
1 Breaking out existing hard pavings	61,230	m <sup>2</sup>	70	4,286,100	<i>To allow for new guided busway and maintenance track, footway/cycleway and planting.</i>	
2 Disposal of excavated materials	18,370	m <sup>3</sup>	45	826,650		
3 Stabilisation of existing ground		item	400,000	400,000		
4 Disposal of surface and ground water		item	150,000	150,000		
5 New guided busway route and maintenance track	3,460	m	1,440	4,982,400		
6 New footpath/cycleway	3,460	m	200	692,000		
7 Kerbing	6,920	m	30	207,600		
8 Signalised junction with bus priority	2	nr	95,000	190,000		
9 Alterations to existing bridge over M11		item	2,076,641	2,076,641		<i>As 6 June 2016 - Option 4: widening the bridge to the South.</i>
10 Road markings	3,460	m	5	17,300		
11 Street lighting	3,460	m	70	242,200		
12 Planting trees and vegetation	3,460	m	250	865,000		
13 Utilities diversions		item	500,000	500,000		
<b>Carried Forward £</b>				<b>15,435,891</b>		

A428 Western Corridor  
Masterplanning Stage Cost Study - Highways  
Section 2 - Blue Route



Description	Quantity	Unit	Rate	Total £	Notes
Brought forward				15,435,891	
14 Unmeasured works and design development	10%			1,543,589	
<b>Sub-total:</b>				<b>16,979,480</b>	
15 Preliminaries	25.0%			4,245,000	
16 Traffic management	30.0%			6,367,000	
17 Overheads & profit	8.0%			2,207,000	
18 Contingency	30%			8,940,000	
			<b>To Summary £</b>	<b>38,738,480</b>	

**A428 Western Corridor**  
**Masterplanning Stage Cost Study - Highways**  
**Section 3 - Blue Route**



Description	Quantity	Unit	Rate	Total £	Notes
<b><u>Section 3A : M11 Bridge to Rugby Club Access</u></b>					
1 Breaking out existing hard pavings	28,460	m <sup>2</sup>	70	1,992,200	<i>To allow for new guided busway and maintenance track, footway/cycleway and planting.</i>
2 Disposal of excavated materials	8,540	m <sup>3</sup>	45	384,300	
3 Stabilisation of existing ground		item	160,000	160,000	
4 Disposal of surface and ground water		item	60,000	60,000	
5 New guided busway route and maintenance track	1,610	m	1,440	2,318,400	
6 New footpath/cycleway	1,610	m	200	322,000	
7 Kerbing	3,220	m	30	96,600	
8 Road markings	1,610	m	5	8,050	
9 Street lighting	1,610	m	70	112,700	
10 Planting trees and vegetation	1,610	m	250	402,500	
11 Utilities diversions		item	200,000	200,000	
<b>Carried Forward £</b>				<b>6,056,750</b>	

**A428 Western Corridor**  
**Masterplanning Stage Cost Study - Highways**  
**Section 3 - Blue Route**



Description	Quantity	Unit	Rate	Total £	Notes
Brought forward				6,056,750	
<b><u>Section 3B : Rugby Club Access to Grange Road</u></b>					
12 Breaking out existing hard pavings	4,640	m <sup>2</sup>	70	324,800	<i>To allow for new guided busway route and maintenance track and footway/cycleway.</i>
13 Disposal of excavated materials	1,390	m <sup>3</sup>	45	62,550	
14 Stabilisation of existing ground		item	40,000	40,000	
15 Disposal of surface and ground water		item	15,000	15,000	
16 New guided busway route and maintenance track	390	m	1,440	561,600	
17 New footpath/cycleway	390	m	200	78,000	
18 Kerbing	780	m	30	23,400	
19 Signalised T-junction	1	nr	83,000	83,000	
20 Road markings	390	m	5	1,950	
21 Street lighting	390	m	70	27,300	
22 Utilities diversions		item	50,000	50,000	
<b>Carried Forward £</b>				<b>7,324,350</b>	

August 2017

A428 Western Corridor  
Masterplanning Stage Cost Study - Highways  
Section 3 - Blue Route



Description	Quantity	Unit	Rate	Total £	Notes
Brought forward				7,324,350	
23 Unmeasured works and design development	10%			732,435	
<b>Sub-total:</b>				<b>8,056,785</b>	
24 Preliminaries	25.0%			2,014,000	
25 Traffic management	30.0%			3,021,000	
26 Overheads & profit	8.0%			1,047,000	
27 Contingency	30%			4,242,000	
<b>To Summary £</b>				<b>18,380,785</b>	

August 2017

**A428 Western Corridor**  
**Masterplanning Stage Cost Study - Highways**  
**Section 1 - Red Route**



Description	Quantity	Unit	Rate	Total £	Notes
<b><u>Section 1A : Highfields Caldecote to Hardwick</u></b>					
1 Breaking out existing hard pavings	30,600	m <sup>2</sup>	70	2,142,000	<i>To allow for new guided busway, footway/cycleway and planting.</i>
2 Disposal of excavated materials	9,180	m <sup>3</sup>	45	413,100	
3 Stabilisation of existing ground		item	200,000	200,000	
4 Disposal of surface and ground water		item	75,000	75,000	
5 New guided busway route	2,100	m	1,440	3,024,000	
6 New footpath/cycleway	2,100	m	200	420,000	
7 Kerbing	4,200	m	30	126,000	
8 Signalised junction with bus priority	1	nr	95,000	95,000	
9 Signalised junction at roundabout	2	nr	83,000	166,000	
10 Allowance for going through the existing Bourn Roundabout		item	50,000	50,000	
11 Road markings	2,100	m	5	10,500	
12 Street lighting	2,100	m	70	147,000	
13 Planting trees and vegetation	2,100	m	250	525,000	
14 Utilities diversions		item	250,000	250,000	
<b>Carried Forward £</b>				<b>7,643,600</b>	

August 2017

**A428 Western Corridor**  
**Masterplanning Stage Cost Study - Highways**  
**Section 1 - Red Route**



Description	Quantity	Unit	Rate	Total £	Notes	
Brought forward				7,643,600		
<b><u>Section 1B : Hardwick to Long Road</u></b>						
15 Breaking out existing hard pavings	10,170	m <sup>2</sup>	70	711,900	<i>Break out existing footway and verge to allow for new footway/cycleway and planting.</i>	
16 Disposal of excavated materials	3,050	m <sup>3</sup>	45	137,250		
17 Stabilisation of existing ground		item	80,000	80,000		
18 Disposal of surface and ground water		item	30,000	30,000		
19 Widening existing carriageway	2,030	m	500	1,015,000		<i>To allow for new guided busway.</i>
19 New guided busway route	2,030	m	1,440	2,923,200		
20 New footpath/cycleway	2,030	m	200	406,000		
21 Kerbing	4,060	m	30	121,800		
22 Resurface existing road	2,030	m	150	304,500		
23 Road markings	2,030	m	5	10,150		
24 Street lighting	2,030	m	70	142,100		
25 Planting trees and vegetation	2,030	m	250	507,500		
26 Utilities diversions		item	100,000	100,000		
<b>Carried Forward £</b>				<b>14,133,000</b>		



A428 Western Corridor  
Masterplanning Stage Cost Study - Highways  
Section 1 - Red Route



Description	Quantity	Unit	Rate	Total £	Notes
Brought forward				14,133,000	
27 Unmeasured works and design development	10%			1,413,300	
<b>Sub-total:</b>				<b>15,546,300</b>	
28 Preliminaries	25.0%			3,887,000	
29 Traffic management	30.0%			5,830,000	
30 Overheads & profit	8.0%			2,021,000	
31 Contingency	30%			8,185,000	
			<b>To Summary £</b>	<b>35,469,300</b>	

**A428 Western Corridor**  
**Masterplanning Stage Cost Study - Highways**  
**Section 2 - Red Route**



Description	Quantity	Unit	Rate	Total £	Notes	
<b><u>Section 2 : Long Road to M11 Bridge</u></b>						
1 Breaking out existing hard pavings	53,560	m <sup>2</sup>	70	3,749,200	<i>To allow for new guided busway, footway/cycleway and planting.</i>	
2 Disposal of excavated materials	16,070	m <sup>3</sup>	45	723,150		
3 Stabilisation of existing ground		item	360,000	360,000		
4 Disposal of surface and ground water		item	135,000	135,000		
5 New guided busway route	3,670	m	1,440	5,284,800		
6 New footpath/cycleway	3,670	m	200	734,000		
7 Kerbing	7,340	m	30	220,200		
8 Signalised junction with bus priority	2	nr	95,000	190,000		
9 Alterations to existing bridge over M11		item	2,076,641	2,076,641		<i>As 6 June 2016 - Option 4: widening the bridge to the South.</i>
10 Road markings	3,670	m	5	18,350		
11 Street lighting	3,670	m	70	256,900		
12 Planting trees and vegetation	3,670	m	250	917,500		
13 Utilities diversions		item	450,000	450,000		
<b>Carried Forward £</b>				<b>15,115,741</b>		

A428 Western Corridor  
 Masterplanning Stage Cost Study - Highways  
 Section 2 - Red Route



Description	Quantity	Unit	Rate	Total £	Notes
Brought forward				15,115,741	
14 Unmeasured works and design development	10%			1,511,574	
<b>Sub-total:</b>				<b>16,627,315</b>	
15 Preliminaries	25.0%			4,157,000	
16 Traffic management	30.0%			6,235,000	
17 Overheads & profit	8.0%			2,162,000	
18 Contingency	30%			8,754,000	
			<b>To Summary £</b>	<b>37,935,315</b>	

**A428 Western Corridor**  
**Masterplanning Stage Cost Study - Highways**  
**Section 3 - Red Route**



Description	Quantity	Unit	Rate	Total £	Notes
<b><u>Section 3A : M11 Bridge to Herschel Road</u></b>					
1 Breaking out existing hard pavings	19,560	m <sup>2</sup>	70	1,369,200	<i>To allow for new guided busway, footway/cycleway and planting.</i>
2 Disposal of excavated materials	5,870	m <sup>3</sup>	45	264,150	
3 Stabilisation of existing ground		item	120,000	120,000	
4 Disposal of surface and ground water		item	45,000	45,000	
5 New guided busway route	1,340	m	1,440	1,929,600	
6 New footpath/cycleway	1,340	m	200	268,000	
7 Kerbing	2,680	m	30	80,400	
8 Road markings	1,340	m	5	6,700	
9 Street lighting	1,340	m	70	93,800	
10 Planting trees and vegetation	1,340	m	250	335,000	
11 Utilities diversions		item	150,000	150,000	
<b>Carried Forward £</b>				<b>4,661,850</b>	

A428 Western Corridor  
 Masterplanning Stage Cost Study - Highways  
 Section 3 - Red Route



Description	Quantity	Unit	Rate	Total £	Notes
Brought forward				4,661,850	
<b><u>Section 3B : Herschel Road to Grange Road</u></b>					
12 Reconfigure existing road to new layout	510	m	150	76,500	
13 Signalised T-junction	1	nr	83,000	83,000	
<b>Carried Forward £</b>				<b>4,821,350</b>	

A428 Western Corridor  
Masterplanning Stage Cost Study - Highways  
Section 3 - Red Route



Description	Quantity	Unit	Rate	Total £	Notes
Brought forward				4,821,350	
14 Unmeasured works and design development	10%			482,135	
<b>Sub-total:</b>				<b>5,303,485</b>	
15 Preliminaries	25.0%			1,326,000	
16 Traffic management	30.0%			1,989,000	
17 Overheads & profit	8.0%			689,000	
18 Contingency	30%			2,792,000	
			<b>To Summary £</b>	<b>12,099,485</b>	

August 2017

**A428 Western Corridor**  
**Masterplanning Stage Cost Study - Highways**  
**Section 1 - Green Route**



Description	Quantity	Unit	Rate	Total £	Notes	
<b><u>Section 1A : Highfields Caldecote to Hardwick</u></b>						
1 Breaking out existing hard pavings	18,080	m <sup>2</sup>	70	1,265,600	<i>To allow for new guided busway and footway/cycleway.</i>	
2 Disposal of excavated materials	5,420	m <sup>3</sup>	45	243,900		
3 Stabilisation of existing ground		item	120,000	120,000		
4 Disposal of surface and ground water		item	45,000	45,000		
5 Widening existing carriageway	420	m	500	210,000		<i>To allow for new guided busway.</i>
6 New guided busway route	2,060	m	1,440	2,966,400		
7 New footpath/cycleway	2,060	m	200	412,000		
8 Kerbing	4,110	m	30	123,300		
9 Signalised junction with bus priority	3	nr	95,000	285,000		
10 Resurface existing road	420	m	150	63,000		
11 Road markings	2,060	m	5	10,300		
12 Street lighting	2,060	m	70	144,200		
13 Utilities diversions		item	150,000	150,000		
<b>Carried Forward £</b>				<b>6,038,700</b>		

**A428 Western Corridor**  
**Masterplanning Stage Cost Study - Highways**  
**Section 1 - Green Route**



Description	Quantity	Unit	Rate	Total £	Notes	
Brought forward				6,038,700		
<b><u>Section 1B : Hardwick to Long Road</u></b>						
14 Breaking out existing hard pavings	10,180	m <sup>2</sup>	70	712,600	<i>Break out existing footway and verge to allow for new footway/cycleway.</i>	
15 Disposal of excavated materials	3,050	m <sup>3</sup>	45	137,250		
16 Stabilisation of existing ground		item	80,000	80,000		
17 Disposal of surface and ground water		item	30,000	30,000		
18 Widening existing carriageway	2,040	m	500	1,020,000		<i>To allow for new guided busway.</i>
19 New guided busway route	2,040	m	1,440	2,937,600		
20 New footpath/cycleway	2,040	m	200	408,000		
21 Kerbing	4,080	m	30	122,400		
22 Signalised junction with bus priority	1	nr	95,000	95,000		
23 Road markings	2,040	m	5	10,200		
24 Street lighting	2,040	m	70	142,800		
25 Utilities diversions		item	100,000	100,000		
<b>Carried Forward £</b>				<b>11,834,550</b>		



A428 Western Corridor  
 Masterplanning Stage Cost Study - Highways  
 Section 1 - Green Route



Description	Quantity	Unit	Rate	Total £	Notes
Brought forward				11,834,550	
25 Unmeasured works and design development	10%			1,183,455	
<b>Sub-total:</b>				<b>13,018,005</b>	
26 Preliminaries	25.0%			3,255,000	
27 Traffic management	30.0%			4,882,000	
28 Overheads & profit	8.0%			1,692,000	
29 Contingency	30%			6,854,000	
<b>To Summary £</b>				<b>29,701,005</b>	

**A428 Western Corridor**  
**Masterplanning Stage Cost Study - Highways**  
**Section 2 - Green Route**



Description	Quantity	Unit	Rate	Total £	Notes	
<b><u>Section 2 : Long Road to M11 Bridge</u></b>						
1 Breaking out existing hard pavings	34,360	m <sup>2</sup>	70	2,405,200	<i>To allow for new guided busway and footway/cycleway.</i>	
2 Disposal of excavated materials	10,310	m <sup>3</sup>	45	463,950		
3 Stabilisation of existing ground		item	200,000	200,000		
4 Disposal of surface and ground water		item	75,000	75,000		
5 New guided busway route	3,440	m	1,440	4,953,600		
6 New footpath/cycleway	3,440	m	200	688,000		
7 Kerbing	6,880	m	30	206,400		
8 Signalised junction with bus priority	2	nr	95,000	190,000		
9 Alterations to existing bridge over M11		item	2,076,641	2,076,641		<i>As 6 June 2016 - Option 4: widening the bridge to the South.</i>
10 Road markings	3,440	m	5	17,200		
11 Street lighting	3,440	m	70	240,800		
12 Utilities diversions		item	250,000	250,000		
<b>Carried Forward £</b>				<b>11,766,791</b>		

**A428 Western Corridor**  
**Masterplanning Stage Cost Study - Highways**  
**Section 2 - Green Route**



Description	Quantity	Unit	Rate	Total £	Notes
Brought forward				11,766,791	
26 Unmeasured works and design development	10%			1,176,679	
<b>Sub-total:</b>				<b>12,943,470</b>	
27 Preliminaries	25.0%			3,236,000	
28 Traffic management	30.0%			4,854,000	
29 Overheads & profit	8.0%			1,683,000	
30 Contingency	30%			6,815,000	
			<b>To Summary £</b>	<b>29,531,470</b>	

**A428 Western Corridor**  
**Masterplanning Stage Cost Study - Highways**  
**Section 3 - Green Route**



Description	Quantity	Unit	Rate	Total £	Notes
<b><u>Section 3A : M11 Bridge to Adams Road</u></b>					
1 Breaking out existing hard pavings	14,680	m <sup>2</sup>	70	1,027,600	<i>To allow for new guided busway and footway/cycleway.</i>
2 Disposal of excavated materials	4,400	m <sup>3</sup>	45	198,000	
3 Stabilisation of existing ground		item	100,000	100,000	
4 Disposal of surface and ground water		item	37,500	37,500	
5 New guided busway route	1,470	m	1,440	2,116,800	
6 New footpath/cycleway	1,470	m	200	294,000	
7 Kerbing	2,940	m	30	88,200	
8 Road markings	1,470	m	5	7,350	
9 Street lighting	1,470	m	70	102,900	
10 Utilities diversions		item	125,000	125,000	
<b>Carried Forward £</b>				<b>4,097,350</b>	

**A428 Western Corridor**  
**Masterplanning Stage Cost Study - Highways**  
**Section 3 - Green Route**



Description	Quantity	Unit	Rate	Total £	Notes
Brought forward				4,097,350	
<b><u>Section 3B : Adams Road to Grange Road</u></b>					
12 Stabilisation of existing ground		item	24,000	24,000	
13 Disposal of surface and ground water		item	9,000	9,000	
14 Widening existing carriageway for guided busway route	290	m	600	174,000	
15 Kerbing to new guided busway route	290	m	30	8,700	
16 Reconfigure existing road to new layout	490	m	150	73,500	
17 Utilities diversions		item	30,000	30,000	
<b>Carried Forward £</b>				<b>4,416,550</b>	

A428 Western Corridor  
Masterplanning Stage Cost Study - Highways  
Section 3 - Green Route



Description	Quantity	Unit	Rate	Total £	Notes
Brought forward				4,416,550	
17 Unmeasured works and design development	10%			441,655	
<b>Sub-total:</b>				<b>4,858,205</b>	
18 Preliminaries	25.0%			1,215,000	
19 Traffic management	30.0%			1,822,000	
20 Overheads & profit	8.0%			632,000	
21 Contingency	30%			2,558,000	
			<b>To Summary £</b>	<b>11,085,205</b>	

**A428 Western Corridor**  
**Masterplanning Stage Cost Study - Highways**  
**Section 2 - Pink Route**



Description	Quantity	Unit	Rate	Total £	Notes	
<b><u>Section 2 : Long Road to M11 Bridge</u></b>						
1 Breaking out existing hard pavings	31,860	m <sup>2</sup>	70	2,230,200	<i>To allow for new guided busway and footway/cycleway (as per Green Route).</i>	
2 Disposal of excavated materials	9,560	m <sup>3</sup>	45	430,200		
3 Stabilisation of existing ground		item	200,000	200,000		
4 Disposal of surface and ground water		item	75,000	75,000		
5 New guided busway route	3,190	m	1,440	4,593,600		
7 New footpath/cycleway	3,190	m	200	638,000		
8 Kerbing	6,380	m	30	191,400		
9 Signalised junction with bus priority	1	nr	95,000	95,000		
10 Signalised junction at roundabout	3	nr	83,000	249,000		
11 Allowance for going through the existing Madingley Mulch Roundabout		item	50,000	50,000		
12 Alterations to existing bridge over M11		item	2,076,641	2,076,641		<i>As 6 June 2016 - Option 4: widening the bridge to the South.</i>
13 Road markings	3,190	m	5	15,950		
14 Street lighting	3,190	m	70	223,300		
15 Planting trees and vegetation	3,190	m	250	797,500		
16 Utilities diversions		item	250,000	250,000		
<b>Carried Forward £</b>				<b>12,115,791</b>		

**A428 Western Corridor**  
**Masterplanning Stage Cost Study - Highways**  
**Section 2 - Pink Route**



Description	Quantity	Unit	Rate	Total £	Notes
Brought forward				12,115,791	
26 Unmeasured works and design development	10%			1,211,579	
<b>Sub-total:</b>				<b>13,327,370</b>	
27 Preliminaries	25.0%			3,332,000	
28 Traffic management	30.0%			4,998,000	
29 Overheads & profit	8.0%			1,733,000	
30 Contingency	30%			7,017,000	
<b>To Summary £</b>				<b>30,407,370</b>	



**A428 Western Corridor**  
**Masterplanning Stage Cost Study - Highways**  
**Section 3 - Pink Route**



Description	Quantity	Unit	Rate	Total £	Notes
<b><u>Section 3A : M11 Bridge to Adams Road</u></b>					
1 Breaking out existing hard pavings	16,400	m <sup>2</sup>	70	1,148,000	<i>To allow for new guided busway and footway/cycleway (as per Green Route).</i>
2 Disposal of excavated materials	4,920	m <sup>3</sup>	45	221,400	
3 Stabilisation of existing ground		item	120,000	120,000	
4 Disposal of surface and ground water		item	45,000	45,000	
5 New guided busway route	1,640	m	1,440	2,361,600	
6 New footpath/cycleway	1,640	m	200	328,000	
7 Kerbing	3,280	m	30	98,400	
8 Road markings	1,640	m	5	8,200	
9 Street lighting	1,640	m	70	114,800	
10 Planting trees and vegetation	1,640	m	250	410,000	
11 Utilities diversions		item	150,000	150,000	
<b>Carried Forward £</b>				<b>5,005,400</b>	

**A428 Western Corridor**  
**Masterplanning Stage Cost Study - Highways**  
**Section 3 - Pink Route**



Description	Quantity	Unit	Rate	Total £	Notes
Brought forward				5,005,400	
<b><u>Section 3B : Adams Road to Grange Road</u></b>					
12 Stabilisation of existing ground		item	24,000	24,000	
13 Disposal of surface and ground water		item	9,000	9,000	
14 Widening existing carriageway for guided busway route	290	m	600	174,000	
15 Kerbing to new guided busway route	290	m	30	8,700	
16 Reconfigure existing road to new layout	490	m	150	73,500	
17 Utilities diversions		item	30,000	30,000	
<b>Carried Forward £</b>				<b>5,324,600</b>	

A428 Western Corridor  
 Masterplanning Stage Cost Study - Highways  
 Section 3 - Pink Route



Description	Quantity	Unit	Rate	Total £	Notes
Brought forward				5,324,600	
18 Unmeasured works and design development	10%			532,460	
<b>Sub-total:</b>				<b>5,857,060</b>	
19 Preliminaries	25.0%			1,464,000	
20 Traffic management	30.0%			2,196,000	
21 Overheads & profit	8.0%			761,000	
22 Contingency	30%			3,083,000	
<b>To Summary £</b>				<b>13,361,060</b>	

**A428 Western Corridor**  
**Masterplanning Stage Cost Study - Highways**  
**Section 3 - Grey Route**



Description	Quantity	Unit	Rate	Total £	Notes
<b><u>Section 3A : M11 Bridge to Cranmer Road</u></b>					
1 Breaking out existing hard pavings	22,810	m <sup>2</sup>	70	1,596,700	<i>To allow for new guided busway, footway/cycleway and planting (as per Red Route).</i>
2 Disposal of excavated materials	6,840	m <sup>3</sup>	45	307,800	
3 Stabilisation of existing ground		item	160,000	160,000	
4 Disposal of surface and ground water		item	60,000	60,000	
5 New guided busway route	1,560	m	1,440	2,246,400	
6 New footpath/cycleway	1,560	m	200	312,000	
7 Kerbing	3,120	m	30	93,600	
8 Road markings	1,560	m	5	7,800	
9 Street lighting	1,560	m	70	109,200	
10 Planting trees and vegetation	1,560	m	250	390,000	
11 Utilities diversions		item	200,000	200,000	
<b>Carried Forward £</b>				<b>5,483,500</b>	

**A428 Western Corridor**  
**Masterplanning Stage Cost Study - Highways**  
**Section 3 - Grey Route**



Description	Quantity	Unit	Rate	Total £	Notes
Brought forward				5,483,500	
<b><u>Section 3B : Cranmer Road to Grange Road</u></b>					
12 Stabilisation of existing ground		item	40,000	40,000	
13 Disposal of surface and ground water		item	15,000	15,000	
14 Widening existing carriageway for guided busway route	380	m	600	228,000	
15 Kerbing to new guided busway route	760	m	30	22,800	
16 Reconfigure existing road to new layout	380	m	150	57,000	
17 Signalised T-junction	1	nr	83,000	83,000	
18 Road markings	380	m	5	1,900	
19 Street lighting	380	m	70	26,600	
20 Utilities diversions		item	50,000	50,000	
<b>Carried Forward £</b>				<b>6,007,800</b>	

A428 Western Corridor  
Masterplanning Stage Cost Study - Highways  
Section 3 - Grey Route



Description	Quantity	Unit	Rate	Total £	Notes
Brought forward				6,007,800	
21 Unmeasured works and design development	10%			600,780	
<b>Sub-total:</b>				<b>6,608,580</b>	
22 Preliminaries	25.0%			1,652,000	
23 Traffic management	30.0%			2,478,000	
24 Overheads & profit	8.0%			859,000	
25 Contingency	30%			3,479,000	
			<b>To Summary £</b>	<b>15,076,580</b>	

**A428 Western Corridor**  
**Masterplanning Stage Cost Study - Highways**  
**Section 3 - Alternative Blue Route**



Description	Quantity	Unit	Rate	Total £	Notes
<b><u>Section 3A : M11 Bridge to Rugby Club Access</u></b>					
1 Breaking out existing hard pavings	30,230	m <sup>2</sup>	70	2,116,100	<i>To allow for new guided busway and maintenance track, footway/cycleway and planting (as per Blue Route).</i>
2 Disposal of excavated materials	9,070	m <sup>3</sup>	45	408,150	
3 Stabilisation of existing ground		item	200,000	200,000	
4 Disposal of surface and ground water		item	75,000	75,000	
5 New guided busway route and maintenance track	1,710	m	1,440	2,462,400	
6 New footpath/cycleway	1,710	m	200	342,000	
7 Kerbing	3,420	m	30	102,600	
8 Road markings	1,710	m	5	8,550	
9 Street lighting	1,710	m	70	119,700	
10 Planting trees and vegetation	1,710	m	250	427,500	
11 Utilities diversions		item	250,000	250,000	
<b>Carried Forward £</b>				<b>6,512,000</b>	

**A428 Western Corridor**  
**Masterplanning Stage Cost Study - Highways**  
**Section 3 - Alternative Blue Route**



Description	Quantity	Unit	Rate	Total £	Notes	
Brought forward				6,512,000		
<b><u>Section 3B : Rugby Club Access to Grange Road</u></b>						
13 Breaking out existing hard pavings	4,640	m <sup>2</sup>	70	324,800	<i>To allow for new guided busway route and maintenance track and footway/cycleway.</i>	
14 Disposal of excavated materials	1,390	m <sup>3</sup>	45	62,550		
15 Stabilisation of existing ground		item	40,000	40,000		
16 Disposal of surface and ground water		item	15,000	15,000		
17 New guided busway route and maintenance track	390	m	1,440	561,600		
18 New footpath/cycleway	390	m	200	78,000		
19 Kerbing	780	m	30	23,400		
20 Signalised T-junction	1	nr	83,000	83,000		
21 Road markings	390	m	5	1,950		
22 Street lighting	390	m	70	27,300		
23 Utilities diversions		item	50,000	50,000		
<b>Carried Forward £</b>				<b>7,779,600</b>		

August 2017



A428 Western Corridor  
 Masterplanning Stage Cost Study - Highways  
 Section 3 - Alternative Blue Route



Description	Quantity	Unit	Rate	Total £	Notes
Brought forward				7,779,600	
24 Unmeasured works and design development	10%			777,960	
<b>Sub-total:</b>				<b>8,557,560</b>	
25 Preliminaries	25.0%			2,139,000	
26 Traffic management	30.0%			3,209,000	
27 Overheads & profit	8.0%			1,112,000	
28 Contingency	30%			4,505,000	
<b>To Summary £</b>				<b>19,522,560</b>	