

Additional Information
South West Rugby Bus Infrastructure Costs

I. Bus Infrastructure Costs

The infrastructure requirements for bus stops within the SW Rugby site are as follows:

- Provision of a bus stop lay-by;
- Provision of a raised bus boarding/alighting area including an area of hardstanding;
- Provision of a bus stop pole (branded bus flag and timetable case to be attached);
- Provision of a bus shelter (including the provision of lighting);
- Provision of bus stop clearway box markings inside the bus stop lay-by; and □ Provision of a Real Time Information display attached to the interior of the bus shelter.

Table 1 - Unit Cost Estimates of On-Street Bus Stop Infrastructure Provision within the SW Rugby Site			
Element	Projected Cost per Bus Stop		
	Current Price (2023)	2006 (incl. Inflation)	2028 (incl. Inflation)
<u>Conventional Bus Stop Provision Works:</u>			
Design	£800	£944	£1,085.60
Construction of a Bus Stop Lay-By (*Base Cost)	£28,000	£33,040	£37,996
Construction of Raised Bus Boarding / Alighting Area including an Area of Hardstanding to Warwickshire Quality Bus Corridor (QBC) Standard Specification	£8,500	£9,605	£11,045.75
Supply and Installation of a Bus Stop Pole	£400	£472	£542.80
Supply and Installation of a Bus Flag and Timetable Case	£150	£177	£203.55
Provision of a Bus Shelter (including Provision of Lighting, and thus, Electrical Connection Works)	£19,500	£23,010	£26,461.50
*Contingencies, e.g., service diversions to facilitate a bus-lay	£45,000	£53,100	£61,065
Potential Initial Total Cost	£102,350	£120,348	£138,400

Table 2 - Unit Cost Estimates of On-Street Bus Stop Infrastructure Provision within the SW Rugby Site			
Element	Projected Cost per Bus Stop		
	Current Price (2023)	2006 (incl. Inflation)	2028 (incl. Inflation)
<u>Provision of Enhanced Bus Information at a Bus Stop:</u>			
Provision of Real Time Information Display attached to interior of the bus shelter or separate bus flag type display.	£24,000	£28,320	£32,568
<u>Note:</u> Projected cost includes hardware, communications, electrical connections and project management costs of the RTI supplier.			

Table 3 - Unit Cost Estimates of On-Street Bus Stop Infrastructure Provision within the SW Rugby Site			
Element	Projected Cost per Bus Stop		
	Current Price (2023)	2006 (incl. Inflation)	2028 (incl. Inflation)
<u>Maintenance Cost per Bus Stop:</u>			
Cleaning and Maintenance of Bus Shelter over a period of 5 years	£5,000	£5,900	£6,785
Maintenance of Lighting within Bus Shelter over a period of 5 years	£3,500	£4,130	£4,749.50
Cost of Maintaining a Real Time Information Display over a period of 5 years	£4,500	£5,310.00	£6,106.50
Contribution towards Cost of Replacing the RTI Display after Lifespan Expiry of 15 years	£3,000	£3,540.00	£4,071.00
Projected Total Commuted Sum Maintenance Cost per Bus Stop	£16,000	£18,880	£21,712

Note: Future inflation between 2023 - 2026 cost is predicted at 18%
Future inflation between 2026 - 2028 cost is predicted at 15%

Justification:

Provision of high quality on-street bus stop infrastructure with the SW Rugby site will support the provision of new low emission vehicles operating the bus service serving occupiers of the site. This will ensure occupiers will be facilitated with a proficient waiting environment at their nearest bus stop particularly during inclement weather conditions, which will influence, support and encourage their decision regarding use of a high quality and sustainable mode of alternative travel as opposed to the private car. Consequently, this would reduce the number of car trips on the local highway network arising from the new development, which would support Rugby Borough Council in achieving air quality targets linked to the AQMA.

The National Planning Policy Framework (NPPF) steers development towards promoting its connectivity with sustainable transport in order to facilitate sustainable development and contribute towards wider sustainability. The NPPF also promotes the integration of planning and sustainable transport in order to provide attractive alternatives to travelling by car to access employment, education, health facilities, leisure, amenities and health objectives - aimed at providing people with a real choice about how they travel.

II. Bus Priority

A) Transponders:

Element	Projected Total Cost		
	Current Price (2023)	2006 (incl. Inflation)	2028 (incl. Inflation)
No. of Buses (including spares) – 20	£80,000	£94,400.00	£108,560.00
Transponder Cost per Bus including installation, programming and project management fees - £4,000			

B) Bus Priority at Traffic Signals:

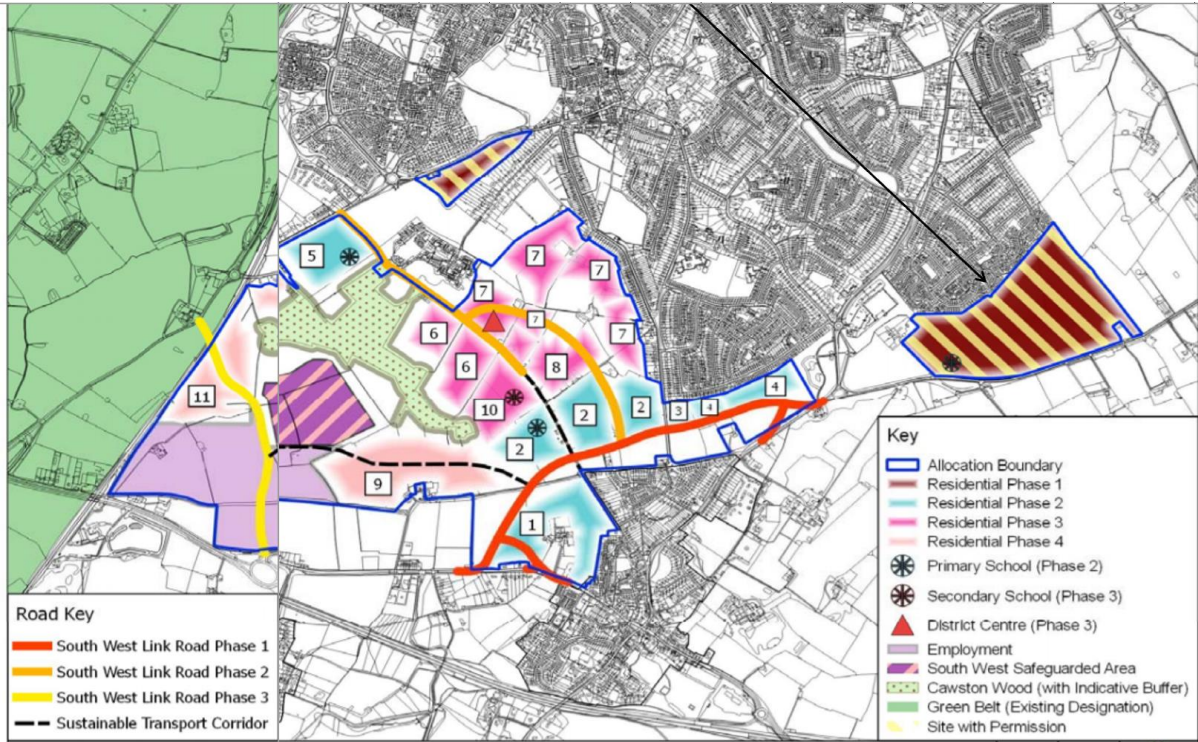
As part of the Warwickshire Enhanced Partnership (EP) Scheme, County Council officers are in the process of delivering a Pilot Bus Priority Scheme featuring at key traffic-signal controlled junctions in Leamington and Bedworth. The pilot scheme is based on taking actual bus location and timetabling data taken via access to digital and intelligent real-time information available from the Bus Open Data (BOD) platform, which will be fed into our Urban Traffic Control Centre to enable extended green light) bus priority to be granted for late-running bus only. If the pilot scheme is successful, then this mechanism could be rolled out to other locations across Warwickshire, funding permitting.

Bus priority could potentially be provided at the signalised junctions listed in the below subject to feasibility, as this is likely to offer direct journey time benefits to residents/employees at SW Rugby:

Table 5 - Proposed Signalised Junctions to be Facilitated with Bus Priority Infrastructure in support of the SW Rugby Site	
Location of Traffic Signalled Controlled Junction	Projected Cost of Implementation
A426 Dunchurch Road/Kingsway (north-east bound and south-west bound approaches)	To be determined after completion of the ongoing Pilot Bus Priority Scheme
A426 Dunchurch Road northbound approach to Rugby Gyratory	
A426 Russelsheim Way westbound	
A426 northbound Gyratory approach to Corporation Street	
A426 Corporation Street southbound approach to Warwick Road	
A426 southbound approach to Russelsheim Way	
B4642 Bilton Road north-eastbound approach to Rugby Gyratory	
B4429 Ashlawn Road/Barby Road eastbound and southbound approaches	
Total Overall Delivery Cost	
Maintenance Costs	
Cost of Maintaining the Bus Priority Infrastructure over a period of 5 years	To be determined after completion of the ongoing Pilot Bus Priority Scheme
Contribution towards Cost of Replacing the Bus Priority Infrastructure after Lifespan Expiry of 15 years	
Total Maintenance Cost	£ TBC

III. Highway Connectivity

A) Designated Sustainable Transport Link running between Sites 1 and 11:



WCC officers have agreed that the width of the carriageway on the section of the designated sustainable transport link running through the residential area can have a reduced width of approximately 6.1 metres, in acknowledgement that on-street parking will be prohibited.

A pair of bus stops will be provided on this particular section of the designated sustainable transport link to serve the adjacent residential area. A bus shelter would only be provided at the town centre bound bus stop, in acknowledgement the bus stop on the opposite side of the road would exist solely as an alighting point as no through journey is available in this direction.

The length of this particular section of the designated sustainable transport link where the pair of bus stops would be in place is approximately 400 - 500 metres. Bus stop clearway marking boxes, enhanced bus boarding / alighting features and a shared pedestrian / cycleway situated off-carriageway will also be put in place.

IV. Other Infrastructure (Provision of a Southbound Bus Stop on A426 Leicester Road):

Table 6 - Projected Cost of Providing a Southbound Bus Stop on A426 Leicester Road opposite Elliott's Field Retail Park			
Element	Projected Cost		
	2023	2026	2028
<u>Design and Construction Components Comprising:</u> Design (WCC Design Services Costs) Service Diversion and Utility Protection Works:	£587,727	£618,000	£681,000

<ul style="list-style-type: none"> • Openreach/BT diversion • CEMEX Pipes protection • Street Lighting cables diversion; and • Western Power Distribution cables protection. <p>Construction Costs Site Supervision Planning and Environmental Works Post Completion Works plus, Inflation</p> <p><u>See Appendices A and B for a breakdown of these costs</u></p>			
<p>Land Costs including</p> <ul style="list-style-type: none"> • Valuation Office Agency (VAO) charges; • WCC Property Services charges; and • Land acquisition including legal costs associated with Compulsory Purchase Order arrangements. 	£200,000	£220,000	£253,000
Total Overall Delivery Cost	£787,727	£838,000	£934,000
<i>minus</i> Section 106 Developer Contributions already secured to deliver the southbound bus stop	£79,000	£79,000	£79,000
Outstanding Funding Requirement	£708,727	£759,000	£855,000

Note: Projected inflation increase for land acquisition costs between 2023 and 2026 is 10%. Projected inflation increase for land acquisition costs between 2026 and 2026 and 2028 set at 15%.

Supporting Notes:

- This bus stop will provide direct benefits to residents of South-West Rugby for return journeys from retail facilities on A426 Leicester Road;
- WCC officers remain in voluntary negotiations with the landowner to try and secure the land without the need for Compulsory Purchase Order arrangements, which would substantially reduce scheme delivery cost; and
- The service diversion and protection costs are indicative and could vary following submission of C5 detailed cost estimates by the relevant statutory undertakers.

Attachment:

Drawing No. 9.2-A426--059-002 is provided with this document displaying the completed detailed design of the proposed southbound bus stop.

Nigel Whyte (WCC Transport Planning, 4 December 2023)

Appendix A

Rugby A426 Leicester Road Super Stop Breakdown of Design and Construction Costs (Excludes Land Acquisition Costs) in 2026

Communities
PO Box 43
Warwick CV34 4SX



Assumed Delivery 2026 (2023 + 3 Years)
A426 Leicester Road-Super Stops for Bus

MAJOR SCHEME ENGINEERING PROJECT ESTIMATE

COST CATEGORY	PROJECT PHASE					
	CONCEPT/FUNDING BID (40% contingency)		ENGINEERING FEASIBILITY (40% contingency)		PRE-CONSTRUCTION (20% contingency)	
PROJECT ESTIMATE ISSUE NO.	[insert no. or ' - ']		[insert no. or ' - ']		1	
DESIGN, PROJECT MANAGEMENT, PROJECT PROMOTION AND CONTRACT PROCUREMENT	A1	£0.00	B1	£0.00	C1	£19,000.00
DESIGN PHASE ENABLING WORKS AND SERVICES	A2	£0.00	B2	£0.00	C2	£4,000.00
PLANNING AND ENVIRONMENT WORKS AND SERVICES	A3	£0.00	B3	£0.00	C3	£4,000.00
LAND ACQUISITION	A4	£0.00	B4	£0.00	C4	£0.00
STATUTORY UNDERTAKER DIVERSIONS AND PROTECTION WORKS	A5	£0.00	B5	£0.00	C5	£344,000.00
HIGHWAY WORKS	A6	£0.00	B6	£0.00	C6	£155,000.00
TRAFFIC SIGNALS AND CONTROLLED CROSSINGS	A7	£0.00	B7	£0.00	C7	£0.00
BRIDGEWORKS AND SIGNIFICANT STRUCTURAL WORKS	A8	£0.00	B8	£0.00	C8	£0.00
CONSTRUCTION SUPERVISION	A9	£0.00	B9	£0.00	C9	£19,000.00
POST-COMPLETION WORKS AND SERVICES	A10	£0.00	B10	£0.00	C10	£6,000.00
INFLATION ON DESIGN, CONSTRUCTION, LAND AND UNDERTAKER WORKS	A11	£0.00	B11	£0.00	C11	£67,000.00
WORKS TOTAL (including contingency)	A12	£0.00	B12	£0.00	C12	£155,000.00
PROJECT TOTAL (including contingency)	A13	£0.00	B13	£0.00	C13	£618,000.00

Key = Do not enter in grey cells

Estimate Prepared By: AA

Date: 16/05/2023

Estimate Reviewed and Approved by: CM

Date: 16/05/2023

Note: This (QF 155) form is only suitable for estimating the cost of major schemes expected to be under £10M in value, designed in-house and delivered via the Construction Framework Contract. Cost estimates for other major schemes (designed and delivered under a different model) shall be determined by other means. Consideration should be given to specialist Quantity Surveyor support where major schemes are expected to be over £10M in value. Inflation has been applied at the UK rate current on the date of issue.

Appendix A

Rugby A426 Leicester Road Super Stop Breakdown of Design and Construction Costs (Excludes Land Acquisition Costs) in 2028

Communities
PO Box 43
Warwick CV34 4SX



Assumed Delivery 2028 (2023 + 5 Years)
A426 Leicester Road-Super Stops for Bus

MAJOR SCHEME ENGINEERING PROJECT ESTIMATE

COST CATEGORY	PROJECT PHASE					
	CONCEPT/FUNDING BID (40% contingency)		ENGINEERING FEASIBILITY (40% contingency)		PRE-CONSTRUCTION (20% contingency)	
PROJECT ESTIMATE ISSUE NO.	[insert no. or '- ']		[insert no. or '- ']		1	
DESIGN, PROJECT MANAGEMENT, PROJECT PROMOTION AND CONTRACT PROCUREMENT	A1	£0.00	B1	£0.00	C1	£19,000.00
DESIGN PHASE ENABLING WORKS AND SERVICES	A2	£0.00	B2	£0.00	C2	£4,000.00
PLANNING AND ENVIRONMENT WORKS AND SERVICES	A3	£0.00	B3	£0.00	C3	£4,000.00
LAND ACQUISITION	A4	£0.00	B4	£0.00	C4	£0.00
STATUTORY UNDERTAKER DIVERSIONS AND PROTECTION WORKS	A5	£0.00	B5	£0.00	C5	£344,000.00
HIGHWAY WORKS	A6	£0.00	B6	£0.00	C6	£155,000.00
TRAFFIC SIGNALS AND CONTROLLED CROSSINGS	A7	£0.00	B7	£0.00	C7	£0.00
BRIDGEWORKS AND SIGNIFICANT STRUCTURAL WORKS	A8	£0.00	B8	£0.00	C8	£0.00
CONSTRUCTION SUPERVISION	A9	£0.00	B9	£0.00	C9	£19,000.00
POST-COMPLETION WORKS AND SERVICES	A10	£0.00	B10	£0.00	C10	£6,000.00
INFLATION ON DESIGN, CONSTRUCTION, LAND AND UNDERTAKER WORKS	A11	£0.00	B11	£0.00	C11	£130,000.00
WORKS TOTAL (including contingency)	A12	£0.00	B12	£0.00	C12	£155,000.00
PROJECT TOTAL (including contingency)	A13	£0.00	B13	£0.00	C13	£681,000.00
Key = Do not enter in grey cells						

Estimate Prepared By: AA

Estimate Reviewed and Approved by: CM

Date: 16/05/2023

Date: 17/05/2023

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