

JCS Authorities  
**Infrastructure Delivery Plan**  
2017 Addendum to the IDP

Issue | 1 December 2017

This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number

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**ARUP**

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# 1 Introduction

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## 1.1 Background

Infrastructure planning work in support of the JCS preparation began in 2012 and provided a strategic view on the likely infrastructure requirements based on established benchmark standards and consultation with key service providers.

The IDP was subsequently updated in 2014 to reflect the aims and objectives set out in the draft JCS (October 2013) and based on a revised OAN of 33,200 new homes. The 2014 IDP set a strategic level assessment of infrastructure need in line with Planning Practice Guidance<sup>1</sup> which outlines that IDP's need to take a pragmatic view towards delivery, crucial to this is a focus on delivery in the first five years, as well as critical infrastructure.

Benchmark standards therefore formed the primary method for estimating likely infrastructure need and costs along with the results of engagement between the JCS authorities and infrastructure providers where such benchmarks do not exist (e.g. transport, flood risk and utilities infrastructure). Where projects emerged through consultation, the IDP sought to identify an estimated cost and any associated funding which had been secured. Given the early stage nature of the document it must be stressed that many of the projects were aspirational and had not undergone any detailed design or feasibility work. Costs developed were therefore high level estimates based on benchmark allowances for similar types of project.

Taking these benchmark costs and reviewing projects identified by service providers, the 2014 IDP Executive Summary (Page 16) estimated a total infrastructure cost within the JCS area of £813.6m and an estimated funding gap (i.e. infrastructure where funding was not secured or identified at that time) in excess of £741m.

In order to identify the infrastructure components that are of most importance, the various infrastructure sectors and specific projects within them are defined as either critical, essential or desirable infrastructure. This approach is used to identify infrastructure of most importance to the delivery of the Strategic Allocations, particularly in the early phases of the development (e.g. first five years).

- **Critical Infrastructure:** Sectors and projects that the IDP has identified which must happen to enable the delivery of growth within the JCS area.
- **Essential Infrastructure:** Sectors and projects that are required if growth is to be achieved in a timely and sustainable manner.
- **Desirable Infrastructure:** Sectors and projects that are required for sustainable growth but are unlikely to prevent development in the short to medium term.

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<sup>1</sup> Preparing a Local Plan – Planning Practice Guidance – Paragraph 18. Reference ID 12-018-20140306.

Approximately 90 projects emerged through the 2014 process and these were logged in the JCS IDP Project Tracker. Of those identified critical infrastructure only accounted for approximately £73 million (excluding the ‘missing link’ highway project which had an estimated cost of £350 million and is no longer a considered critical to the delivery of the plan but would help to support the sustainable growth of the JCS area.). The majority of projects and costs were identified within the desirable category and therefore non-critical to the delivery of planned growth. Certain proportions of this essential and desirable infrastructure would fall to developers as sites were brought forward (e.g. education and community facilities) as shown in Section 3.

The assessment made in 2014 should therefore be read as a snap shot of estimated cost at a particular time with optimism bias applied<sup>2</sup>. Projects and associated costs have changed during subsequent reviews and as the priorities of service provider’s change.

In order to give greater clarity around deliverability of planned growth, and better understand the infrastructure requirements of the first five years of the plan, the JCS Councils have carried out consultation with site promoters and developers leading to the preparation of Statements of Common Ground (SoCGs) and Position Statements for each of the 8 proposed Strategic Allocations. More recently (August / September 2016), the JCS have considered a further five proposed Strategic Allocations following recommendations from the Inspector. Position Statements for these additional sites have been produced, and are available as part of the Examination Library.

It should be noted that these statements act as addenda to the 2014 IDP, which should be used solely for setting the context to the infrastructure delivery process and any reporting of cost figures in the 2014 IDP is now outdated.

These statements draw upon a number of resources including planning application supporting material and detailed discussions with the site promoters and service providers. The statements set out the infrastructure requirements of major developments and how gaps in infrastructure provision or funding will be met. In summary, for the first five years of the development plan, infrastructure requirements are likely to be fulfilled through planning obligations and therefore the infrastructure cost is incurred by the developer for each site allocation. A summary of infrastructure needs and how funding is expected to be secured is set out for each site in the table below.

## 1.2 Approach

This addendum has emerged following the receipt of questions from the Inspector, and sets out the evolution of infrastructure delivery planning across the JCS since the 2014 IDP was published.

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<sup>2</sup> There is a tendency for project promoters to be overly optimistic. To redress this tendency appraisers should make explicit, empirically based adjustments to the estimates of a project’s costs, benefits, and duration. Optimism bias standards have been applied to capital cost estimates within the IDP.

The report takes into account changes in the proposed level of development in the Joint Core Strategy and contains information extracted from the IDP and the Position Statements, and evidence-base review of documents such as the Gloucestershire Local Transport Plan, and benchmarks from Sport England, the NHS and Gloucestershire County Council.

The report sets out the updated housing growth and the associated infrastructure requirements, and where possible assigns costs to these requirements and any schemes proposed by service providers. Likely costs identified are directly associated with infrastructure that is considered to be CIL-chargeable. These infrastructure items have been grouped into the following types:

- Transport
- Education
- Flood risk management
- Healthcare
- Community and culture
- Green infrastructure

In response to the assessment of infrastructure requirements and costs, this report sets out a CIL forecast for each of the JCS Authorities and where possible, identifies alternative funding, setting out the gap between the costs associated with identified projects and benchmarks from the previous work, and anticipated sources of funding.

## 2 Updates to Housing Growth

The overall housing requirements for the plan period are set out within Policy SP 1, 'The Need for New Development' set out in the Joint Core Strategy following Main Modifications. As of June 2017, the housing requirement for each local authority will be as follows:

Table 2.1: Housing Requirement

Local Authority	Housing Requirement
Gloucester City	at least 14,359 new homes
Cheltenham Borough	at least 10,917 new homes
Tewkesbury Borough	at least 9,899 new homes

This equates to an annual JCS housing requirement of 1,759 dwellings from 2011 to 2031.

The apportionment of development on Strategic Allocations sites as included within Policies SP 2 and SD 2 are set out below:

Table 2.2: Apportionment of development

Sub Area	Area	Indicative Housing to be delivered up to 2031	Hectares of Employment Land to be delivered up to 2031
Gloucester City supply	<b>Gloucester City Urban Capacity</b>	<b>7,772</b>	
	Winneycroft	620	
	Innsworth & Twigworth	2,295	9.1
	South Churchdown	1,100	17.4
	North Brockworth	1,500	3
Cheltenham Borough supply	<b>Cheltenham District Capacity</b>	<b>5,707</b>	
	North West Cheltenham Urban Extension	4,285	23.4
	West of Cheltenham urban extension	1,100	45
Tewkesbury Borough Supply	<b>Tewkesbury Borough District Capacity</b>	<b>6,945</b>	
	Ashchurch		14.3
	Mitton (within Wychavon District Council)	500	
Total JCS area		31,284	

Table 2.2 above attributes housing need to growth area, rather than location. For example, Innsworth and North Brockworth are all located within Tewkesbury Borough Council's administrative area but are attributed to the housing supply of Gloucester City.

Within Strategic Allocations sites, a minimum of 35% affordable housing will be sought across the three authorities. Outside of the Strategic Allocations, a minimum of 20% affordable housing will be sought on developments within the Gloucester City administrative area and a minimum of 40% will be sought within Cheltenham and Tewkesbury Boroughs.

## 3 Infrastructure Requirements

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### 3.1 Infrastructure Schemes and Cost

The 2014 IDP provides a high level view of infrastructure requirements based on population forecasts between 2011 and 2031 and cost assessments using accepted benchmark standards for education, open space, sport and recreation and community facilities.

This section of the report sets out the relevant infrastructure schemes within each of the JCS Authorities on a topic by topic basis. Schemes have been attributed to the growth area, rather than location; i.e. whilst South Churchdown is situated within Tewkesbury's administrative area, it is apportioned to the housing supply of Gloucester City (as per Table SP2b 'Apportionment of Strategic Allocation Sites and District Capacity' within the Joint Core Strategy). This includes updated assessments using benchmark standards and relevant evidence baseline studies including the results of the JCS transport mitigation scenario 'DS7'.

DS7 modelling has identified a number of aspirational projects to support growth; it should be noted that those within the schedules below represent current thinking of how to support growth, and are subject to change.

As many of the schemes outlined in DS7 are for the moment concepts there are no scheme designs available to inform likely costs. To address this, a series of high level cost bandings have been used and allocated to each of the scheme elements. Where a cost banding is assumed, the midpoint value has been used to cost the scheme. Where an estimated cost of £0 is identified, it is assumed that this would be entirely developer funded or delivered, and embedded within scheme design, such as site enabling transport works or on-site SUDs.



### 3.1.1 JCS-wide

The following projects have been identified to support JCS-wide growth, and largely relate to the M5 motorway, which runs through the JCS Area. These projects would require funding such as Highways England investment through the Road Investment Strategy (RIS) or could be delivered through ad-hoc funding opportunities to central government. The next funding period for the RIS is from 2020/21 to 2025/26. No further projects were identified within the other infrastructure topics. The high level cost estimates from DS7 modelling total approximately £251,000,000.

Table 3.1 – Strategic Infrastructure Schemes

Scheme Name	Scheme description	Estimated cost (£)	Funding Secured (£)	Likely delivery	Location / Route Corridor
TRANSPORT					
M5 J9 to M6 J11a	Upgrade motorway to a smart motorway increasing capacity during peak times and controlling vehicle flows	£192,000,000	£0	Highways England Funding	<b>Corridor 1</b> - M5 – between (and including) M5 Junction 9 and Junction 13
M5 J9	Extended junction to accommodate new off-line A46 (Ashchurch). Funded through the A46 Ashchurch Scheme	£0	£0	Highways England Funding	<b>Corridor 1</b> - M5 – between (and including) M5 Junction 9 and Junction 13

Scheme Name	Scheme description	Estimated cost (£)	Funding Secured (£)	Likely delivery	Location / Route Corridor
M5 J10	High capacity upgrade of M5 J10 junction providing an 'All Movements' junction including three lanes on slip roads and circulatory lanes on the roundabout to accommodate the associated Cyber Park access road / A4019 junction (Scheme ref 28). This will be a high capacity signal controlled junction, with a separate left turn slip road from M5J10 northbound off-slip onto Cyber Park link road (southbound). New signals on A4019 westbound entry to upgrade motorway junction	£45,000,000	£0	Ad-hoc funding opportunities	<b>Corridor 1 - M5 –</b> between (and including) M5 Junction 9 and Junction 13
M5 J11	Signalise South Bound off-slip. North Bound off slip extra lane	£1,000,000	£0	Ad-hoc funding opportunities	<b>Corridor 1 - M5 –</b> between (and including) M5 Junction 9 and Junction 13
M5 11a	Optimise junction operation with improved signing and lining and area wide reassignment	£1,000,000	£0	Ad-hoc funding opportunities	<b>Corridor 1 - M5 –</b> between (and including) M5 Junction 9 and Junction 13
M5 J12	Upgrade to junction to include 2 lane wide off and on slips	£12,500,000	£0	Ad-hoc funding opportunities	<b>Corridor 1 - M5 –</b> between (and including) M5 Junction 9 and Junction 13

### 3.1.2 Gloucester City Council

Table 3.2 sets out current thinking in terms of infrastructure to support the growth associated with Gloucester City. As with the JCS-wide projects, these projects are subject to change in both description and cost, or may not be required in the same form as a result of changes in policy or patterns of use such as modal shift. Again the most significant projects within this schedule are those that have arisen from the ‘DS7’ transport modelling. A greater gap between cost and funding has been identified within GCC, however the Local Growth Fund secured through the Growth Deal with the GFirst LEP offers the opportunity to address significant transport and highways problems. A significant number of schemes or benchmarked requirements have been identified in relation to GCC given the number of Site Allocations proposed to meet the authority’s growth. It is estimated that costs total approximately £88,000,000.

Table 3.2 – GCC Infrastructure Schemes

Scheme Name	Scheme description	Estimated cost (£)	Funding Secured (£)	Likely delivery	Location / Route Corridor
<b>TRANSPORT</b>					
A40/A48 Highnam Roundabout	Signalise roundabout – MOVA signals	£3,000,000	£0	Ad-hoc funding opportunities	<b>Corridor 3</b> - A40 – M5 Junction 11 to county boundary (east of Ross on Wye)
A40 Over Roundabout	Add a dedicated left slip from A40 east to the south towards Gloucester	£7,500,000	£0	Ad-hoc funding opportunities	<b>Corridor 3</b> - A40 – M5 Junction 11 to county boundary (east of Ross on Wye)
A40 Longford Roundabout	Existing A40 / A38 Longford junction changed from a roundabout to a signalised crossroads. Junction arrangement designed to complement the introduction of Longford Bypass. Turn from A40 east to A38 north not allowed. Bus priority – traffic signals will be used to facilitate north / south movements.	£3,000,000	£0	Ad-hoc funding opportunities	<b>Corridor 3</b> - A40 – M5 Junction 11 to county boundary (east of Ross on Wye)

Scheme Name	Scheme description	Estimated cost (£)	Funding Secured (£)	Likely delivery	Location / Route Corridor
New junction on A40	New signalised junction on A40 between Longford and Elmbridge Court roundabouts	£3,000,000	£0	Developer contributions	<b>Corridor 3</b> - A40 – M5 Junction 11 to county boundary (east of Ross on Wye)
New junction on A38	New priority junction on A38 giving priority to new highway link accessing to new junction on A40 (scheme 17)	£3,000,000	£0	Developer contributions	<b>Corridor 3</b> - A40 – M5 Junction 11 to county boundary (east of Ross on Wye)
New section of highway	New 50 mph highway link, joining upgraded junctions on A40 and A38 through development site	£7,500,000	£0	Developer contributions	<b>Corridor 3</b> - A40 – M5 Junction 11 to county boundary (east of Ross on Wye)
A38 Tewkesbury Road	A38 Tewkesbury Road to be downgraded between A40/A38 Longford signalised crossroads and new A38/Twigworth junction to 20mph, and encourage as a sustainable travel corridor. Access from A38 north is restricted to one lane entry to crossroads, A40 west to A38 north - right hand turn banned with alternative route via A40 / A38 Link Road.	£1,000,000	£0	Developer contributions	<b>Corridor 3</b> - A40 – M5 Junction 11 to county boundary (east of Ross on Wye)
A38 Tewkesbury Road	Upgrade A38 Tewkesbury Rd / Down Hatherley Lane junction, to include a dedicated right turn from A38 south.	£1,000,000	£0	Developer contributions	<b>Corridor 3</b> - A40 – M5 Junction 11 to county boundary (east of Ross on Wye)

Scheme Name	Scheme description	Estimated cost (£)	Funding Secured (£)	Likely delivery	Location / Route Corridor
A40 Elmbridge Court Roundabout	Remove B4063 Cheltenham Rd East approach arm from the junction and remove Business Park arm. .	£12,500,000	£12,500,000	Local Growth Fund	<b>Corridor 3</b> - A40 – M5 Junction 11 to county boundary (east of Ross on Wye)
A417 / Delta Way 'Zoons' Roundabout	Junction Improvement: Removing the existing left turn slip from Delta Way (Brockworth) to C&G Roundabout, and signalising the A417 approach (from Cirencester) and the opposing roundabout circulatory movement.	£3,000,000	£3,000,000	Local Growth Fund	<b>Corridor 4</b> - A417 – M5 Junction 11a to Nettleton roundabout
A417 Brockworth Bypass	Signalising the westbound and eastbound 'Off-slips'.	£1,000,000	£0	Ad-hoc funding opportunities	<b>Corridor 4</b> - A417 – M5 Junction 11a to Nettleton roundabout
A40 / A417 C&G roundabout	A40 / A417 C&G roundabout –Capacity Improvement on 2014 Pinch Point Scheme, by provision of a 'free left turn lane' from the A40 Barnwood Link approach arm to A417 Barnwood Bypass, and from A417 Corinium Avenue approach arm to A40 Barnwood Link.	£3,000,000	£0	Ad-hoc funding opportunities	<b>Corridor 10</b> - A40 / A417 / A38 – Elmbridge Court Rbt to A430 Cole Avenue junction
A38 / Walls roundabout	Capacity Improvement on 2014 Pinch Point Scheme, by providing 3 lane circulatory on the roundabout between Barnwood Rd / A38 Eastern Avenue approaches.	£3,000,000	£0	Ad-hoc funding opportunities	<b>Corridor 10</b> - A40 / A417 / A38 – Elmbridge Court Rbt to A430 Cole Avenue junction
A38 / A4173 St. Barnabas roundabout	Remove roundabout and signalising junction(with removal of Reservoir Rd approach arm	£7,500,000	£0	Developer contributions	<b>Corridor 10</b> - A40 / A417 / A38 – Elmbridge Court Rbt to A430 Cole Avenue junction

Scheme Name	Scheme description	Estimated cost (£)	Funding Secured (£)	Likely delivery	Location / Route Corridor
A38 / A430 / B4008 Cole Avenue	A38 / A430 / B4008 Cole Avenue Junction - Grade separation to allow straight through movement of north / south traffic on A38 Southern Connector/A430 corridor	£7,500,000	£7,500,000	Local Growth Fund	<b>Corridor 10</b> - A40 / A417 / A38 – Elmbridge Court Rbt to A430 Cole Avenue junction
A40 / A417 Over Roundabout	Upgrade signals to MOVA or SCOOT operation to optimise signal timings	£1,000,000	£0	Ad-hoc funding opportunities	<b>Corridor 11</b> - A40 / A430 / A38 – Over Roundabout to Cross Keys Roundabout
A430/A417 Castlemeads	Upgrade signals to MOVA or SCOOT operation to optimise signal timings	£1,000,000	£0	Ad-hoc funding opportunities	<b>Corridor 11</b> - A40 / A430 / A38 – Over Roundabout to Cross Keys Roundabout
A38 Crosskeys Roundabouts	Upgrade signals to MOVA or SCOOT operation to optimise signal timings	£1,000,000	£0	Ad-hoc funding opportunities	<b>Corridor 11</b> - A40 / A430 / A38 – Over Roundabout to Cross Keys Roundabout
Winneycroft Site Enabling Works	New 3-arm roundabout, New T-Junction, New priority junction on Corncroft Lane, Emergency access only junction east of Winneycroft Farm	£0	£0	Cost to developer	Winneycroft
Winneycroft Sustainable Travel infrastructure	Cycle parking, PROWs, bus stop infrastructure	£0	£0	Developer Contributions	Winneycroft
Twigworth Site Enabling Works	New access point and roundabout on A38 Tewkesbury road.	£0	£0	Cost to developer	Twigworth

Scheme Name	Scheme description	Estimated cost (£)	Funding Secured (£)	Likely delivery	Location / Route Corridor
Twigworth Strategic Network Improvement Works	Highway improvement schemes for Longford Roundabout, the B4063 Cheltenham Road/Innsworth Lane/Parton Road traffic signals and the A38 Estcourt Road/St Oswalds Road/A430 Kingsholm Roundabout. On line improvements to the A38 need to be considered as well as consideration to strategic public transport links to Gloucester.	£0	£0	Developer contributions	Twigworth
Twigworth Sustainable Travel infrastructure	Diversion of 71 Service and new bus stop and bus turning area.	£0	£0	Developer contributions	Twigworth
South Churchdown Site Enabling Works	New T-junction from the B4063 to serve the Mactaggart & Mickel scheme. New T-junction from Pirton Lane (south of Pirton Court Farm) to serve the DNS scheme. New A40 access / improvements	£0	£0	Cost to developer	South Churchdown
South Churchdown Sustainable Travel infrastructure	New walking and cycling links to key services and facilities	£0	£0	Developer contributions	South Churchdown
North Brockworth Site Enabling Works	New roundabout accesses and modifications to existing access and C&G roundabout	£202,500	£0	Cost to developer / contribution	North Brockworth

Scheme Name	Scheme description	Estimated cost (£)	Funding Secured (£)	Likely delivery	Location / Route Corridor
North Brockworth Sustainable Travel infrastructure	A Sustainable Transport Contribution of £628,000 has been agreed between Gloucestershire County Council and the developer as part of the S106 Agreement for 12/01256/OUT. A new pedestrian and cycling link to Brockworth Business Park and Hucclecote Road will be delivered by the developer.	£628,000	£0	Developer contributions	North Brockworth
<b>EDUCATION</b>					
Winneycroft Early Years & Childcare	Spring 2016 GCC Education benchmarks, it is estimated that the development of 620 dwellings would create demand for 86 early years' places at a cost of £1,057,436.	£1,057,436	£343,745	Developer contributions	Winneycroft
Winneycroft Primary Education	Spring 2016 GCC Education benchmarks, it is estimated that a development of 620 dwellings would create demand for 186 primary school places at a cost of £2,298,774.	£2,298,774	£1,277,660	Developer contributions	Winneycroft
Winneycroft Secondary Education	Based upon Spring 2016 GCC Education benchmarks, it is estimated that a development of 620 dwellings would create demand for 102 secondary school places at a cost of £1,928,150. Post 16 education contributions should total £642,717, providing 34 places.	£2,570,867	£1,123,416	Developer contributions	Winneycroft
Twigworth Early Years & Childcare	New day nursery to be provided onsite	£0	£0	Cost to developer	Twigworth
Twigworth Primary Education	New primary school on 1.54 hectares of the site	£0	£0	Cost to developer	Twigworth



Scheme Name	Scheme description	Estimated cost (£)	Funding Secured (£)	Likely delivery	Location / Route Corridor
Twigworth Secondary Education	The proposed S106 contributions schedule for the application at Twigworth states that a contribution of £2,049,720 would be required to cover the costs of expansion for 109 extra children at Churchdown Academy.	£5,651,761	£2,049,720	Developer contributions	Twigworth
North Brockworth Early Years & Childcare	Early years accommodation will be provide as part of primary school development or contribution. This has been agreed as part of the S106 Agreement.	£0	£0	Developer contributions	Twigworth
North Brockworth Primary Education	New primary school with early year's provision to be provided onsite.	£0	£0	Developer contributions	Twigworth
North Brockworth Secondary Education	A financial contribution of £15,000 per mainstream Secondary School Place, and a contribution of £18,000 per 6th form place of will be made towards improvements to Brockworth Millbrook Academy as proposed in the S106 Agreement	£2,743,200	£2,743,200	Developer contributions	Twigworth
Rest of Gloucester Growth Education	Based upon Spring 2016 GCC Education benchmarks, it is estimated that 332 dwellings would create demand for 46 early years places, 100 primary school places, 55 secondary school places and 18 FE places at a cost of £3,173,854	£3,173,854	£0	Developer contributions	Rest of district

Scheme Name	Scheme description	Estimated cost (£)	Funding Secured (£)	Likely delivery	Location / Route Corridor
<b>FLOOD RISK, WATER &amp; WASTEWATER</b>					
Winneycroft Flood Attenuation and SUDs	Attenuation basins proposed in application 14/01470/OUT would reduce risk of flooding for residents living downstream from the Sud Brook, an area that has previously flooded.	£0	£0	Cost to developer	Winneycroft
Winneycroft Potable Water Supply	The application 14/01063/OUT states that the developer would pay contributions to replace and reinforce the existing 4" main located in Winneycroft Lane to serve the development.	£0	£0	Cost to developer	Winneycroft
Winneycroft new pumping station	The Design and Access statement submitted with 14/01063/OUT states that a new pumping station would be provided by the developer to support new housing.	£0	£0	Cost to developer	Winneycroft
Twigworth Flood Attenuation and SUDs	The utilities statement submitted with application 15/01149/OUT details the use of SUDS on the proposed site, such as permeable paving and attenuation ponds.	£0	£0	Cost to developer	Twigworth
Twigworth Potable Water Supply	Extension of reinforcement main	£0	£0	Cost to developer / service provider	Twigworth
Twigworth Wastewater	Upgrade to existing local wastewater pumping station	£0	£0	Cost to developer / service provider	Twigworth
South Churchdown Attenuation and SUDs	Flood storage betterment forms a part of both residential masterplans and the developers have confirmed that solutions to local flood issues can be delivered on site.	£0	£0	Cost to developer	South Churchdown

Scheme Name	Scheme description	Estimated cost (£)	Funding Secured (£)	Likely delivery	Location / Route Corridor
North Brockworth Attenuation and SUDs	A surface water attenuation pond is proposed by the developer.	£0	£0	Cost to developer	North Brockworth
<b>HEALTHCARE</b>					
Winneycroft Primary Healthcare	The application 14/01063/OUT does not include provision for primary healthcare. The planning statement submitted with the application for 14/01470/OUT states that contributions may include provision for improved healthcare provision.	£348,263	£0	Developer contributions / commercial decision (subject to business case)	Winneycroft
Winneycroft Acute Healthcare	Based upon Gloucestershire CCG benchmarks, it is estimated that a development of 620 dwellings would create demand for 2.4 beds at a cost of £204,497	£204,497	£0	Developer contributions / commercial decision (subject to business case)	Winneycroft
Twigworth Primary Healthcare	The masterplan of the proposed development designates 0.33 hectares to construction of a local centre. The developers suggest that this could include a healthcare facility but all other matters are reserved at outline stage.	£765,615	£0	Developer contributions / commercial decision (subject to business case)	Twigworth
Twigworth Acute Healthcare	Based upon Gloucestershire CCG benchmarks, it is estimated that a development of 995 dwellings would create demand for 3.8 beds at a cost of £328,185	£328,185	£0	Developer contributions / commercial decision (subject to business case)	Twigworth

Scheme Name	Scheme description	Estimated cost (£)	Funding Secured (£)	Likely delivery	Location / Route Corridor
South Churchdown Primary Healthcare	Healthcare provision within community hub. Land / building at cost to developer with private business to run	£0	£0	Cost to developer / commercial decision (subject to business case)	South Churchdown
South Churchdown Acute Healthcare	Based upon Gloucestershire CCG benchmarks, it is estimated that a development of 1100 dwellings would create demand for 4.3 beds at a cost of £362,817	£362,817	£0	Developer contributions / commercial decision (subject to business case)	South Churchdown
North Brockworth Primary Healthcare	The developer proposes a serviced 0.4 hectare site for provision of a healthcare centre. Land / building at cost to developer with private business to run	£0	£0	Cost to developer / commercial decision (subject to business case)	North Brockworth
North Brockworth Acute Healthcare	Based upon Gloucestershire CCG benchmarks, it is estimated that a development of 1500 dwellings would create demand for 5.8 beds at a cost of £494,751	£494,751	£0	Developer contributions / commercial decision (subject to business case)	North Brockworth
Rest of Gloucester Growth Healthcare	Based upon Gloucestershire CCG benchmarks, it is estimated 332 dwellings would create demand for 0.4 GPs, 0.36 dentists and 1.29 beds at a cost of £295,994	£295,994	£0	Developer contributions / commercial decision (subject to business case)	Rest of district

Scheme Name	Scheme description	Estimated cost (£)	Funding Secured (£)	Likely delivery	Location / Route Corridor
<b>COMMUNITY &amp; CULTURE</b>					
Winneycroft Community and Cultural Facilities	Current schedule of S106 contributions for application 14/01063/OUT at Planning Committee lists the developer Barwood as contributing £82,320 to libraries. A development of 620 dwellings would create demand for 41m2 of library space at a cost of £154,082. New community building of up to 200sqm will be provided with a £260,268 contribution	£414,350	£342,588	Developer contributions	Winneycroft
Twigworth Community and Cultural Facilities	The proposed S106 contributions schedule for the application at Twigworth states that a contribution of £142,100 would be made by the developer to increase library capacity in the area. Library demand benchmarks state that demand increase would cost £338,733. The masterplan of the proposed development designates 0.33 hectares to construction of a local centre.	£338,733	£142,100	Developer contributions	Twigworth
South Churchdown Community and Cultural Facilities	Assumed off-site contributions. Based upon GCC benchmarks it is estimated that a development of 1,100 dwellings would create demand for £391,463 of community facilities	£391,463	£0	Developer contributions	South Churchdown
North Brockworth Community and Cultural Facilities	In the S106 Agreement between Tewkesbury Borough Council (TBC) for application 12/01256/OUT states a £294,000 'community project contribution' has been set aside for provision of community facilities, including a new library. Demand benchmarks state that demand increase would cost £533,813.	£533,813	£294,000	Developer contributions	North Brockworth

Scheme Name	Scheme description	Estimated cost (£)	Funding Secured (£)	Likely delivery	Location / Route Corridor
Rest of Gloucester Growth Community and Culture Facilities	Based upon GCC benchmarks, it is estimated 332 dwellings would create demand for 116.71m2 community centre space 21.7m2 library space and youth support at a cost of £485,552	£485,552	£0	Developer contributions	Rest of district
<b>GREEN INFRASTRUCTURE</b>					
Winneycroft Cheltenham Open Space	7.94 hectares of new open space, including wetland park, community grow park, ribbon park and attenuation pond.	£0	£0	Cost to developer	Winneycroft
Winneycroft Sport & Recreation Facilities	Two sports pitches, a MUGA, two LEAPs, one NEAP	£0	£0	Cost to developer	Winneycroft
Twigworth Open Space	The development would be linked by a strategically planned network of formal and informal green space, including a large 'gateway' green space at the entrance to the development.	£0	£0	Cost to developer	Twigworth
Twigworth Sport & Recreation Facilities	3.2 hectares of formal open space to include sports pitches, changing rooms and 2 LEAPs	£0	£0	Cost to developer	Twigworth
South Churchdown Open Space	The masterplan will provide approximately 38 ha of green infrastructure in the form of formal and informal open space, a new green wedge alongside the existing watercourses incorporating a new network of footpath and cycle ways.	£0	£0	Cost to developer	South Churchdown

Scheme Name	Scheme description	Estimated cost (£)	Funding Secured (£)	Likely delivery	Location / Route Corridor
South Churchdown Sport & Recreation Facilities	Development of 1,100 homes would result in the demand for 1.32 and 0.44 ha of playing pitches and outdoor sport respectively at a cost of £566,940	£566,940	£0	Developer contributions	South Churchdown
North Brockworth Open Space	0.78 ha of allotments onsite and £75,000 contribution paid towards open space	£374,025	£75,000	Developer contributions	North Brockworth
North Brockworth Sport & Recreation Facilities	New Multi Use Games Area (MUGA) onsite, 4 new LEAPs onsite, new NEAP onsite and new changing facilities onsite	£0	£0	Cost to developer	North Brockworth
Rest of Gloucester Growth Green Infrastructure	Based upon FIT and ANGSt benchmarks, it is estimated 332 dwellings would create demand for 0.87ha playing pitches, 0.29ha outdoor sports, 0.4ha informal open space and 0.72ha natural open space at a cost of £553,495	£553,495	£0	Developer contributions	Rest of district

### 3.1.3 Cheltenham Borough Council

Infrastructure projects identified as potential solutions to support the growth of Cheltenham is the second highest of the three districts. This is largely because of the 18 transport and highways schemes identified within the DS7 modelling, which total around £75 million. Including other infrastructure topics, it is estimated that infrastructure costs total approximately £148,000,000.

Table 3.3 CBC Infrastructure Schemes

Scheme Name	Scheme description	Estimated cost (£M)	Funding Secured (£)	Likely delivery	Location / Route Corridor
<b>TRANSPORT</b>					
A38 Coombe Hill	Optimise signals	£1,000,000	£0	Ad-hoc funding opportunities	<b>Corridor 6</b> - A4019 – Coombe Hill to A46 Albion Street / St Johns Avenue
New junction west of M5 J10	New 50 mph dual carriageway two-lane link road, providing free-flow access from A4019 / M5J10 to West of Cheltenham site only.	£22,500,000	£0	Developer Contributions	<b>Corridor 6</b> - A4019 – Coombe Hill to A46 Albion Street / St Johns Avenue
West of M5 J10	Major/Minor Priority Junction on new 50 mph dual carriageway two-lane link road, with Minor junction arm for West of Cheltenham residential site access only.	£3,000,000	£0	Developer Contributions	<b>Corridor 6</b> - A4019 – Coombe Hill to A46 Albion Street / St Johns Avenue
West of M5 J10	Change to highway priorities west of M5J10, with a new Major/Minor Priority Junction, with A4019 (West) as Minor junction arm.	£7,500,000	£0	Developer Contributions	<b>Corridor 6</b> - A4019 – Coombe Hill to A46 Albion Street / St Johns Avenue



Scheme Name	Scheme description	Estimated cost (£M)	Funding Secured (£)	Likely delivery	Location / Route Corridor
A4019 / A4013 Kingsditch	A4019 / A4013 Kingsditch (Centrum Park) Roundabout – replacing existing roundabout with traffic signals,	£3,000,000	£0	Developer Contributions	<b>Corridor 6</b> - A4019 – Coombe Hill to A46 Albion Street / St Johns Avenue
West of B4634 Old Gloucester Road	New A4019 traffic signals site access junction, west of B4634 Old Gloucester Rd	£3,000,000	£0	Developer Contributions	<b>Corridor 6</b> - A4019 – Coombe Hill to A46 Albion Street / St Johns Avenue
A4019 / B4634 Gallagher Retail Park	Revised A4019 traffic signals site access junction at B4634 Old Gloucester Rd / Gallagher Retail Park	£3,000,000	£0	Developer Contributions	<b>Corridor 6</b> - A4019 – Coombe Hill to A46 Albion Street / St Johns Avenue
A4019 Tewkesbury Road	Upgrade signals to SCOOT operation to optimise signal timings with bus priority along A4019 corridor junctions including: B4634 Old Gloucester Rd/A4019 Junction Hayden Road/A4019/Manor Road Junction A4019 / Elm Street Junction B4633 Gloucester Rd / A4019 /Townsend Street	£7,500,000	£0	Ad-hoc funding opportunities	<b>Corridor 6</b> - A4019 – Coombe Hill to A46 Albion Street / St Johns Avenue
Withybridge Lane	Close access onto A4019	£1,000,000	£0	Developer Contributions	<b>Corridor 6</b> - A4019 – Coombe Hill to A46 Albion Street / St Johns Avenue

Scheme Name	Scheme description	Estimated cost (£M)	Funding Secured (£)	Likely delivery	Location / Route Corridor
A435 / Hyde Lane / Southam Lane Signalised Junction	Signalised Junction -Upgraded to provide additional straight ahead lanes on all junction approaches	£1,000,000	£0	Developer Contributions	<b>Corridor 7</b> - A435 – Teddington Hands (A46) to A46 St. Margaret's Road / Fairview Road
A435/ Stoke Road and A435 / Finlay Way Roundabouts	Capacity Improvements by approach arm widening	£1,000,000	£0	Developer Contributions	<b>Corridor 7</b> - A435 – Teddington Hands (A46) to A46 St. Margaret's Road / Fairview Road
A435/GE Aviation Roundabout	Capacity Improvements by increasing the number of circulatory lanes to 2, and the A435 south bound exit to two lanes	£3,000,000	£0	Developer Contributions	<b>Corridor 7</b> - A435 – Teddington Hands (A46) to A46 St. Margaret's Road / Fairview Road
A435 / Racecourse Roundabout	Capacity Improvements by approach arm widening	£1,000,000	£0	Developer Contributions	<b>Corridor 7</b> - A435 – Teddington Hands (A46) to A46 St. Margaret's Road / Fairview Road
Arle Court Park and Ride	Expansion of existing Arle Court P&R parking facilities (100% Increase in Capacity), and new walking and cycling improvements to link P&R site with the new West of Cheltenham Employment site	£7,500,000	£7,500,000	Local Growth Fund	<b>Corridor 8</b> - A40 – M5 Junction 11 to A435 London Road

Scheme Name	Scheme description	Estimated cost (£M)	Funding Secured (£)	Likely delivery	Location / Route Corridor
Arle Court Park and Ride / A40 Arle Court Roundabout	New signalised junction on the A40 to the west of Arle Court roundabout to provide access into Park and Ride site only. With left turn out and right turn in only. This will not allow through traffic into Hatherley Lane.	£3,000,000	£3,000,000	Local Growth Fund	<b>Corridor 8</b> - A40 – M5 Junction 11 to A435 London Road
Leckhampton Lane	Upgrade A46 / Leckhampton Lane priority junction, to include a dedicated right turn from A46 south into Leckhampton Lane.	£3,000,000	£0	Developer Contributions	<b>Corridor 9</b> - A46 – Bath Road (central Cheltenham) to A417 junction
Moorend Park Road	A46 Shurdington Road northbound approach to Moorend Park Road – additional highway space for right turning traffic by providing a longer stacking lane.	£3,000,000	£0	Developer Contributions	<b>Corridor 9</b> - A46 – Bath Road (central Cheltenham) to A417 junction
Badgeworth Lane	A46 / Badgeworth Lane priority Junction – Signalisation of junction to provide improved access to/from Badgeworth.	£1,000,000	£0	Ad-hoc funding opportunities	<b>Corridor 9</b> - A46 – Bath Road (central Cheltenham) to A417 junction
North West Cheltenham Site Enabling Works	New A4019 Tewkesbury Road accesses, new access from Manor Road and Public Transport only access via Quat Goose Lane. The S.278 agreement between the highways authority and the developer sets out a package in region of £17m.	£17,000,000	£17,000,000	Cost to developer	North West Cheltenham
North West Cheltenham Sustainable Travel infrastructure	Public transport hub and walking and cycling links	£0	£0	Developer contributions	North West Cheltenham

Scheme Name	Scheme description	Estimated cost (£M)	Funding Secured (£)	Likely delivery	Location / Route Corridor
West Cheltenham Site Enabling Works	New highway connection between the A40 and B4634 and new access points at Fiddler's Green Lane and the B4634	£0	£0	Cost to developer	West Cheltenham
West Cheltenham Sustainable Travel infrastructure	Bus only access points and walking and cycling links	£0	£0	Developer contributions	West Cheltenham
<b>EDUCATION</b>					
North West Cheltenham Early Years & Childcare	On-site provision as part of the 'all-through' school	£0	£0	Developer contributions	North West Cheltenham
North West Cheltenham Primary Education	One 'all-through' school incorporating up to 3 forms of entry of primary provision will be delivered (phase 2), and one stand-alone primary school with up to 3 forms of entry (phase 3).	£0	£0	Developer contributions	North West Cheltenham
North West Cheltenham Secondary Education	On-site provision as part of the 'all-through' school	£0	£0	Developer contributions	North West Cheltenham
West Cheltenham Early Years & Childcare	It is estimated that the development of 1,100 dwellings would create demand for 152 early years' places at a cost of £1,876,096.	£1,876,096	£0	Developer Contributions	West Cheltenham

Scheme Name	Scheme description	Estimated cost (£M)	Funding Secured (£)	Likely delivery	Location / Route Corridor
West Cheltenham Primary Education	Based upon Spring 2016 GCC Education benchmarks, it is estimated that the development of 1,100 dwellings would create demand for 330 primary school places at a cost of £4,078,470.	£4,078,470	£0	Developer Contributions	West Cheltenham
West Cheltenham Secondary Education	Based upon Spring 2016 GCC Education benchmarks, it is estimated that the development of 1,100 dwellings would create demand for 182 secondary school places at a cost of £3,420,912.	£3,420,912	£0	Developer Contributions	West Cheltenham
Rest of Cheltenham Growth Education	Based upon Spring 2016 GCC Education benchmarks, it is estimated that 2257 dwellings would create demand for 311 early years places, 677 primary school places, 372 secondary school places and 124 FE places at a cost of £21,576,473	£21,576,473	£0	Developer contributions	Rest of district
<b>FLOOD RISK, WATER &amp; WASTEWATER</b>					
North West Cheltenham Attenuation and SUDs	Surface Water Management Strategy specifying the proposed onsite surface water management has been produced by the developer, which includes £13.5m of SUDs.	£13,500,000	£13,500,000	Cost to developer	North West Cheltenham
West Cheltenham Attenuation and SUDs	The masterplan states that the development would include provision of drainage via attenuation sites to control discharge into existing watercourses.	£0	£0	Cost to developer	West Cheltenham

Scheme Name	Scheme description	Estimated cost (£M)	Funding Secured (£)	Likely delivery	Location / Route Corridor
<b>HEALTHCARE</b>					
North West Cheltenham Primary Healthcare	New GP Surgery and new Dental Surgery to be provided onsite. Private business to run.	£0	£0	Developer contributions / commercial decision (subject to business case)	North West Cheltenham
North West Cheltenham Acute Healthcare	Based upon Gloucestershire CCG benchmarks, it is estimated that a development of 4285 dwellings would create demand for 16.6 beds at a cost of £1,413,339	£1,413,339	£0	Developer contributions / commercial decision (subject to business case)	North West Cheltenham
West Cheltenham Primary Healthcare	Based upon Gloucestershire CCG benchmarks, it is estimated that a development of 1,100 dwellings would create demand for 1.33 GPs at a cost of £399,667 and demand for 1.2 dentists at a cost of £218,218.	£617,885	£0	Developer contributions / commercial decision (subject to business case)	West Cheltenham
West Cheltenham Acute Healthcare	Based upon Gloucestershire CCG benchmarks, it is estimated that a development of 1,100 dwellings would create demand for 4.3 beds at a cost of £362,817	£362,817	£0	Developer contributions / commercial decision (subject to business case)	West Cheltenham
Rest of Cheltenham Growth Healthcare	Based upon Gloucestershire CCG benchmarks, it is estimated 2257 dwellings would create demand for 2.73 GPs, 2.46 dentists and 8.76 beds at a cost of £2,012,222	£2,012,222	£0	Developer contributions / commercial decision (subject to business case)	Rest of district

Scheme Name	Scheme description	Estimated cost (£M)	Funding Secured (£)	Likely delivery	Location / Route Corridor
<b>COMMUNITY &amp; CULTURE</b>					
North West Cheltenham Community and Cultural Facilities	Two community centres are proposed within the neighbourhood centres. A contribution is proposed to increase offsite library provision. Based upon benchmark standards, it is estimated that a development of 500 dwellings would create demand for 127m2 of library space at a cost of £488,490.	£488,490	£0	Developer contributions	North West Cheltenham
West Cheltenham Community and Cultural Facilities	Based upon GCC benchmarks, it is estimated that a development of 1,100 dwellings would create demand for 72m2 of library space at a cost of £273,372. Based upon GCC benchmarks, it is estimated that a development of 1,100 dwellings would create demand for 387m2 of community centre space at a cost of £580,016.	£853,388	£0	Developer contributions	West Cheltenham
Rest of Cheltenham Growth Community and Culture Facilities	Based upon GCC benchmarks, it is estimated 2257 dwellings would create demand for 793m2 community centre space, 148m2 library space and youth support at a cost of £3,300,879	£3,300,879	£0	Developer contributions	Rest of district
<b>GREEN INFRASTRUCTURE</b>					
North West Cheltenham Open Space	The masterplan includes new woodland and hedgerow planting, local informal and formal parks and natural green space.	£0	£0	Cost to developer	North West Cheltenham

Scheme Name	Scheme description	Estimated cost (£M)	Funding Secured (£)	Likely delivery	Location / Route Corridor
North West Cheltenham Sport & Recreation Facilities	Promoter proposes the provision playspace, in the form of LEAPs and/or NEAPs. Sports pitches will be located at the all-through school and delivered concurrently with the school in Phase 1.	£0	£0	Cost to developer	North West Cheltenham
West Cheltenham Open Space	The development would provide green corridors and a landscape buffer between the development and existing sewer works.	£0	£0	Cost to developer	West Cheltenham
West Cheltenham Sport & Recreation Facilities	It is estimated that development of 1,100 dwellings would create demand for 2.88ha of playing pitches and 0.96ha of outdoor sports facilities at a cost of £280,566 and £955,363 respectively.	£1,235,929	£0	Developer Contributions	West Cheltenham
Rest of Cheltenham Growth Green Infrastructure	Based upon FIT and ANGSt benchmarks, it is estimated 2257 dwellings would create demand for 5.9ha playing pitches, 1.97ha outdoor sports, 2.71ha informal open space and 4.92ha natural open space at a cost of £3,762,769	£3,762,769	£0	Developer contributions	Rest of district



### 3.1.4 Tewkesbury Borough Council

Given the levels of housing growth attributed to Tewkesbury District, it is unsurprising that the fewest number of projects are identified as being associated with the Borough. The DS7 modelling sets out significant investment in transport and highways to support growth, however around £70,000,000 of funding has been identified within the RIS from Highways England for a bypass linking the A46 Ashchurch to M5. Total known infrastructure costs are estimated at £176,000,000.

Table 3.4 TBC Infrastructure Schemes

Scheme Name	Scheme description	Estimated cost (£)	Funding Secured (£)	Likely delivery	Location / Route Corridor
<b>TRANSPORT</b>					
A46 Ashchurch	New dual carriageway bypass linking Teddington Hands roundabout with M5 Junction 9 and associated changes to junctions. Based on the Department for Transport's 1993 alignment.	£70,000,000	£70,000,000	Highways England Funding	<b>Corridor 2</b> - A46 – M5 Junction 9 to county boundary (east of Teddington Hands)
Grange Road / Hardwicke Bank Road	Close Railway Level Crossing, and replace with new bridge linking Grange Road with Hardwicke Bank Road	£7,500,000	£7,500,000	Local Growth Fund	<b>Corridor 2</b> - A46 – M5 Junction 9 to county boundary (east of Teddington Hands)
Alexandra Way / A46	Upgrade signals to MOVA or SCOOT operation to optimise signal timings	£1,000,000	£0	Ad-hoc funding opportunities	<b>Corridor 2</b> - A46 – M5 Junction 9 to county boundary (east of Teddington Hands)

Scheme Name	Scheme description	Estimated cost (£)	Funding Secured (£)	Likely delivery	Location / Route Corridor
Fiddington Lane / A46	Upgrade signals to MOVA or SCOOT operation to optimise signal timings	£1,000,000	£0	Ad-hoc funding opportunities	<b>Corridor 2</b> - A46 – M5 Junction 9 to county boundary (east of Teddington Hands)
Northway Lane / A46	Upgrade signals to MOVA or SCOOT operation to optimise signal timings	£1,000,000	£0	Ad-hoc funding opportunities	<b>Corridor 2</b> - A46 – M5 Junction 9 to county boundary (east of Teddington Hands)
Shannon Way	Improvement to the A438/Shannon Way traffic signal junction to provide an additional eastbound exit lane from the junction to M5J9; separate left turn lane from A438 (west) to Shannon Way, with two straight ahead lanes eastbound. Upgrade signals to MOVA or SCOOT operation to optimise signal timings	£3,000,000	£3,000,000	Local Growth Fund	Corridor 5 - A438 / A38 – M5 Junction 9 to A38 Coombe Hill
A438/A38 Tewkesbury Bypass	Upgrade signals to MOVA to optimise signal timings	£1,000,000	£0	Ad-hoc funding opportunities	Corridor 5 - A438 / A38 – M5 Junction 9 to A38 Coombe Hill
Mitton Site Enabling Works	Two new access points on Bredon Road and one new access from Hardwick Bank Road	£0	£0	Cost to developer	Mitton
Mitton Sustainable Travel infrastructure	Diversion of existing bus service and new pedestrian and cycle access on Derwent Drive	£0	£0	Cost to developer	Mitton

Scheme Name	Scheme description	Estimated cost (£)	Funding Secured (£)	Likely delivery	Location / Route Corridor
<b>EDUCATION</b>					
Mitton Early Years & Childcare	Based upon Spring 2016 Gloucestershire County Council (GCC) Education benchmarks, it is estimated that the development of 500 dwellings would create demand for 69 early years' places at a cost of £82,771	£82,771	£0	Developer contributions	Mitton
Mitton Primary Education	Provision of a primary school on 1.5 hectares of the site.	£0	£0	Developer contributions	Mitton
Mitton Secondary Education	Based upon discussions with Wychavon District Council in August 2016, it is estimated that a development of 500 dwellings would create demand for both primary and secondary school places at a cost of between £3,000,000 and £3,500,000.	£3,500,000	£0	Developer contributions	Mitton
Rest of Tewkesbury Growth Education	Based upon Spring 2016 GCC Education benchmarks, it is estimated that 6445 dwellings would create demand for 889 early years places, 1934 primary school places, 1063 secondary school places and 354 FE places at a cost of £3,173,854	£61,612,924	£0	Developer contributions	Rest of district
<b>FLOOD RISK, WATER &amp; WASTEWATER</b>					
Mitton Attenuation and SUDs	On-site SUDs and attenuation ponds, as well as flood risk improvements to the wider area.	£0	£0	Cost to developer	Mitton

Scheme Name	Scheme description	Estimated cost (£)	Funding Secured (£)	Likely delivery	Location / Route Corridor
<b>HEALTHCARE</b>					
Mitton Primary Healthcare	The development could include a healthcare facility or a care home. Based upon benchmark standards it is estimated that a development of 500 dwellings would create demand for 0.6 GPs and 0.55 dentists at a cost of £280,857.	£280,857	£0	Developer contributions / commercial decision (subject to business case)	Mitton
Mitton Acute Healthcare	Based upon Gloucestershire CCG benchmarks, it is estimated that a development of 500 dwellings would create demand for 1.9 beds at a cost of £164,917.	£164,917	£0	Developer contributions / commercial decision (subject to business case)	Mitton
Rest of Tewkesbury Growth Healthcare	Based upon Gloucestershire CCG benchmarks, it is estimated 6445 dwellings would create demand for 7.81 GPs, 7.03 dentists and 25.01 beds at a cost of £5,746,023.	£5,746,023	£0	Developer contributions / commercial decision (subject to business case)	Rest of district
<b>COMMUNITY &amp; CULTURE</b>					
Mitton Community and Cultural Facilities	Based upon benchmark standards (Arts Council), it is estimated that a development of 500 dwellings would create demand for 33m2 of library space at a cost of £124,260. Based upon benchmark standards, it is estimated that a development of 500 dwellings would create demand for 176m2 of community centre space at a cost of £263,644.	£387,904	£0	Developer contributions	Mitton

Scheme Name	Scheme description	Estimated cost (£)	Funding Secured (£)	Likely delivery	Location / Route Corridor
Rest of Tewkesbury Growth Community and Culture Facilities	Based upon GCC benchmarks, it is estimated 6445 dwellings would create demand for 2266m2 community centre space, 421m2 library space and youth support at a cost of £9,425,861	£9,425,861	£0	Developer contributions	Rest of district
<b>GREEN INFRASTRUCTURE</b>					
Mitton Open Space	31.41 hectares of open space provided within the masterplan. 3.34 hectares of this is listed as formal recreation space, while the rest would act as informal recreation space	£0	£0	Cost to developer	Mitton
Mitton Sport & Recreation Facilities	Sports pitches, one NEAP and three LEAPS	£0	£0	Cost to developer	Mitton
Rest of Tewkesbury Growth Green Infrastructure	Based upon FIT and ANGSt benchmarks, it is estimated 6445 dwellings would create demand for 16.8ha playing pitches, 5.6ha outdoor sports, 7.7ha informal open space and 14.1ha natural open space at a cost of £10,744,814	£10,744,814	£0	Developer contributions	Rest of district

## 3.2 Total Infrastructure Cost Estimate

The proposed infrastructure costs associated with the mitigation derived from DS7 modelling, infrastructure provider discussions and benchmark-based assessments would be in excess of £670,000,000. It should be noted that this figure has not been rationalised through the definition of critical, essential or desirable infrastructure, but is solely associated with infrastructure that is considered to be CIL-chargeable.

Table 3.5 Total Infrastructure Cost Estimates

	Estimated Infrastructure Cost	Known Infrastructure Funding
Strategic Infrastructure	£251,500,000	£0
GCC	£94,284,885	£31,391,429
CBC	£148,487,447	£41,000,000
TBC	£176,446,071	£80,500,000
	£670,718,403	£152,891,429

## 4 CIL Forecast

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To inform the assessment of the funding shortfall it is necessary to understand the anticipated value of the CIL receipts within the Local Plan period, subsequent to the adoption and implementation of CIL for each of the JCS Authorities.

The following sections contain projections of CIL income from 2017/18 to 2030/31 for Gloucester, Cheltenham and Tewkesbury, informed by the anticipated housing growth extracted from the Councils' most up to date housing trajectory. The projections assume the immediate adoption of CIL.

There are a number of assumptions applied across the JCS Authorities within the calculation of anticipated CIL receipts which are set out below:

- Based upon viability testing of sites, the calculation of total CIL forecast is based upon an assumed average dwelling size of 90m<sup>2</sup>.
- Policy SD12 (JCS Adoption Version<sup>3</sup>) sets out that within the Strategic Allocation sites a minimum of 35% affordable housing will be sought.
- Under Regulation 59A of the Community Infrastructure Levy (Amendment) Regulations 2013, Parish and Town Councils will receive 15% of CIL charging authority receipts. Local councils with an adopted neighbourhood development plan will receive 25% of relevant CIL receipts. Given the number of local councils with an adopted neighbourhood development plan, it is assumed that an average 20% of CIL receipts will be passed on to local councils. This is referred to as 'community top slice'.
- As per Regulation 61 of the Community Infrastructure Levy Regulations 2010, 5% of CIL receipts can be retained by the JCS Authorities for administrative purposes.
- A CIL charge rate of £35 per sqm has been applied to dwellings on Strategic Site Allocations.
- CIL receipts associated with the Mitton Strategic Allocation have not been included within the totals as the proposed allocation is within Wychavon District Council's administrative area.

CIL rates have not been applied to extant permissions, those dwellings completed or under construction.

CIL receipts from growth on Strategic Allocations have been apportioned to the host charging authority. For example, CIL receipts from growth on the Innsworth Allocation would be collected by Tewkesbury Borough Council, despite being attributed to the housing growth of Gloucester City Council. This highlights the importance of continuing cooperation between the JCS Authorities to ensure that CIL money is spent addressing direct and reasonable infrastructure requirements associated with growth.

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<sup>3</sup> Gloucester, Cheltenham and Tewkesbury Joint Core Strategy: Adoption Version (November 2017)

It should be noted that at present it is not possible to accurately apportion growth between Charging Authorities for those Strategic Allocations which sit across more than one administrative area, such as North West Cheltenham. In order to undertake this forecast, an estimation of the growth apportioned to each district has been used based upon the most up-to-date JCS housing trajectory.

## 4.1 Gloucester City Council

The following assumptions were applied to the forecast of CIL within Gloucester City:

- Policy SD12 (JCS Adoption Version<sup>4</sup>) sets out that outside of the Strategic Allocation sites, on sites of 11 dwellings or more, or sites with a maximum combined gross floor space of greater than 1000sqm; a minimum of 20% affordable housing will be sought on developments within the Gloucester City administrative area. 0% affordable housing will be sought on sites with 10 dwellings or less.
- A CIL charge rate of £0 per sqm has been applied and 0% affordable housing assumed for development on the Winneycroft Strategic Allocation.
- A CIL charge rate of £45 per sqm has been applied to development outside of Strategic Allocations, as per Table 1.2 of the Gloucester City Draft Charging Schedule.

The anticipated CIL receipts Gloucester City Council, as charging authority, may expect to receive totals **£4,706,910**. This takes account of the relevant reductions for affordable housing, which is not liable for CIL, and the proportion of receipts allocated for 'community top slice' and for administration.

Table 4.1 (overleaf) sets out the calculation of anticipated CIL receipts for Gloucester based on the most up to date housing trajectory from the JCS Authorities.

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<sup>4</sup> Gloucester, Cheltenham and Tewkesbury Joint Core Strategy: Adoption Version (November 2017)



Table 4.1 – GCC CIL Forecast

	Total	Market Housing	Dwelling Size (sqm)	Total Floorspace liable for CIL (sqm)	CIL Charge per sqm (£)	CIL Receipts (£)	Community Top Slice (£) (assumed 20%)	Admin Costs (£) (5%)	CIL Income (£)
<b>Total Supply GCC</b>									
Small Site Completed and Under Construction	208	208	90	0	£0.00	£0	£0	£0	£0
Small Site Extant Permissions	91	91	90	0	£0.00	£0	£0	£0	£0
Small Site Windfall Allowance	832	832	90	74880	£0.00	£0	£0	£0	£0
Large Site Completed and Under Construction	2721	2177	90	0	£45.00	£0	£0	£0	£0
Large Site Extant Permissions	1596	1277	90	0	£45.00	£0	£0	£0	£0
City Plan Completed and Under Construction Large Sites	0	0	90	0	£45.00	£0	£0	£0	£0
City Plan Consented Delivery Large Sites	147	118	90	0	£45.00	£0	£0	£0	£0
City Plan Potential	1937	1550	90	139464	£45.00	£6,275,880	£1,255,176	£313,794	£4,706,910
Gloucester Strategic Allocations (Winneycroft)	620	620	90	55800	£0.00	£0	£0	£0	£0
<b>Total</b>	<b>8152</b>	<b>6872</b>	<b>90</b>	<b>618462</b>	<b>N/A</b>	<b>£6,275,880</b>	<b>£1,255,176</b>	<b>£313,794</b>	<b>£4,706,910</b>

## 4.2 Cheltenham Borough Council

The following assumptions were applied to the forecast of CIL within Cheltenham Borough:

- Policy SD12 (JCS Adoption Version<sup>5</sup>) sets out that outside of the Strategic Allocation sites, on sites of 11 dwellings or more, or sites with a maximum combined gross floor space of greater than 1000sqm; a minimum of 40% affordable housing will be sought on developments within the Cheltenham Borough administrative area. Affordable housing will not be sought on sites with 10 dwellings or less.
- As per Table 1.2 of Cheltenham Borough Council's Draft Charging Schedule, a CIL charge rate of £148 per sqm has been applied to 'small sites' of 10 or less dwellings. A CIL charge rate of £200 to large sites of 11 dwellings or more in line with the Draft Charging Schedule.

The anticipated CIL receipts Cheltenham Borough Council, as charging authority, may expect to receive totals **£21,499,003**. This takes account of the relevant reductions for affordable housing, which is not liable for CIL, and the proportion of receipts allocated for 'community top slice' and for administration.

Table 4.2 (overleaf) sets out the anticipated CIL receipts associated with the growth apportioned to Cheltenham in the JCS.

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<sup>5</sup> Gloucester, Cheltenham and Tewkesbury Joint Core Strategy: Adoption Version (November 2017)

Table 4.2 CBC CIL Forecast

	<b>Total</b>	<b>Market Housing</b>	<b>Dwelling Size (sqm)</b>	<b>Total Floorspace liable for CIL (sqm)</b>	<b>CIL Charge per sqm (£)</b>	<b>CIL Receipts (£)</b>	<b>Community Top Slice (£) (assumed 20%)</b>	<b>Admin Costs (£) (5%)</b>	<b>CIL Income (£)</b>
<b>Total Supply CBC</b>									
Small Site Completed and Under Construction	387	387	90	0	£148.00	£0	£0	£0	£0
Small Site Extant Permissions	97	97	90	0	£148.00	£0	£0	£0	£0
Small Site Windfall Allowance	865	865	90	77850	£148.00	£11,521,800	£2,304,360	£576,090	£8,641,350
Large Site Completed and Under Construction	2128	1277	90	0	£200.00	£0	£0	£0	£0
Large Site Extant Permissions	1078	647	90	0	£200.00	£0	£0	£0	£0
Existing Allocations	10	6	90	0	£200.00	£0	£0	£0	£0
Cheltenham Plan Potential	957	574	90	51678	£200.00	£10,335,600	£2,067,120	£516,780	£7,751,700
Cheltenham Plan Consented	89	53	90	0	£200.00	£0	£0	£0	£0
Cheltenham Strategic Allocations (West Cheltenham / part of NW Cheltenham)	3325	2161	90	194513	£35.00	£6,807,938	£1,361,588	£340,397	£5,105,953
<b>Total</b>	<b>8936</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>£28,665,338</b>	<b>£5,733,068</b>	<b>£1,433,267</b>	<b>£21,499,003</b>

### 4.3 Tewkesbury Borough Council

The following assumptions were applied to the forecast of CIL within Tewkesbury Borough:

- Policy SD12 (JCS Adoption Version<sup>6</sup>) sets out that outside of the Strategic Allocation sites, on sites of 11 dwellings or more, or sites with a maximum combined gross floor space of greater than 1000sqm; a minimum of 40% affordable housing will be sought on developments within the Tewkesbury Borough administrative area. Affordable housing will not be sought on sites with 10 dwellings or less.
- As per Table 1.2 of Tewkesbury Borough Council's Draft Charging Schedule, a CIL charge rate of £104 per sqm has been applied to 'small sites' of 10 or less dwellings. A CIL charge rate of £200 to large sites of 11 dwellings or more in line with the Draft Charging Schedule.

The anticipated CIL receipts Tewkesbury Borough Council, as charging authority, may expect to receive totals **£14,266,344**. This takes account of the relevant reductions for affordable housing, which is not liable for CIL, and the proportion of receipts allocated for 'community top slice' and for administration.

Table 4.3 (overleaf) sets out the calculation of anticipated CIL receipts for Tewkesbury based on the most up to date housing trajectory from the JCS Authorities.

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<sup>6</sup> Gloucester, Cheltenham and Tewkesbury Joint Core Strategy: Adoption Version (November 2017)

Table 4.3 TBC CIL Forecast

	Total	Market Housing	Dwelling Size (sqm)	Total Floorspace liable for CIL (sqm)	CIL Charge per sqm (£)	CIL Receipts (£)	Community Top Slice (£) (assumed 20%)	Admin Costs (£) (5%)	CIL Income (£)
<b>Total Supply TBC</b>									
Small Site Completed and Under Construction	139	139	90	0	£104.00	£0	£0	£0	£0
Small Site Extant Permissions	61	61	90	0	£104.00	£0	£0	£0	£0
Rural Area Completed and Under Construction Small Sites	85	85	90	0	£104.00	£0	£0	£0	£0
Rural Area Consented Delivery Small Sites	45	45	90	0	£104.00	£0	£0	£0	£0
Tewkesbury Town Completed and Under Construction Small Sites	44	44	90	0	£104.00	£0	£0	£0	£0
Tewkesbury Town Consented Delivery Small Sites	16	16	90	0	£104.00	£0	£0	£0	£0
Small Site Windfall Allowance	598	598	90	53820	£104.00	£5,597,280	£1,119,456	£279,864	£4,197,960
Large Site Completed and Under Construction	2093	1256	90	0	£200.00	£0	£0	£0	£0
Rural Area Completed and Under Construction Large Sites	1646	988	90	0	£200.00	£0	£0	£0	£0
Tewkesbury Town Completed and Under Construction Large Sites	52	31	90	0	£200.00	£0	£0	£0	£0
Large Site Extant Permissions	446	268	90	0	£200.00	£0	£0	£0	£0
Rural Area Consented Delivery Large Sites	949	569	90	0	£200.00	£0	£0	£0	£0
Tewkesbury Town Consented Delivery Large Sites	68	41	90	0	£200.00	£0	£0	£0	£0
Existing Allocations	0	0	90	0	£200.00	£0	£0	£0	£0

	<b>Total</b>	<b>Market Housing</b>	<b>Dwelling Size (sqm)</b>	<b>Total Floorspace liable for CIL (sqm)</b>	<b>CIL Charge per sqm (£)</b>	<b>CIL Receipts (£)</b>	<b>Community Top Slice (£) (assumed 20%)</b>	<b>Admin Costs (£) (5%)</b>	<b>CIL Income (£)</b>
<b>Total Supply TBC</b>									
Tewkesbury Borough Plan Potential	315	189	90	17010	£200.00	£3,402,000	£680,400	£170,100	£2,551,500
Tewkesbury Strategic Allocations (Innsworth, Twigworth, S. Churchdown, part of NW. Cheltenham and N. Brockworth)	4895	3182	90	286358	£35.00	£10,022,513	£2,004,503	£501,126	£7,516,884
<b>Total</b>	<b>11452</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>£19,021,793</b>	<b>£3,804,359</b>	<b>£951,090</b>	<b>£14,266,344</b>

## 5 Alternative Funding

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As eluded to with Section 3 of this report, there is a variety of ways in which infrastructure can be funded and delivered. This section of the report estimates costs of infrastructure by topic based on the DS7 modelling, benchmarks and position statements, and sets out the likely ways in which this can be funded.

### 5.1 Transport

The DS7 modelling and the Strategic Site Allocation Position Statements set out within the Project Schedule which accompanies this report identifies almost £500,000,000 of transport schemes to support the growth set out within the JCS. It is anticipated that a range of funding sources will be required to deliver the priorities set out within the Gloucestershire LTP (2015-2031), the DS7 Modelling, the IDP and Position Statements.

A proportion of the burden of funding will be placed upon planning obligations, specifically CIL, however a number of alternative funding options remain.

A number of projects to make improvements to the strategic road network are identified within Section 3 of this report. These projects would require a funding mechanism such as Highways England investment through the Road Investment Strategy (RIS), or could be delivered through ad-hoc funding opportunities to central government.

In addition to CIL and Highways England funding, the main capital fund available for transport schemes in Gloucestershire is the Local Growth Fund. G-First Local Enterprise Partnership (LEP) has the devolved authority to administer this Local Growth Fund. A Gloucestershire Economic Growth Joint Committee (GEGJC) has been set up which includes all District Councils, the County Council and the LEP. All large highways and transport schemes are considered by the GEGJC prior to recommendation to the LEP Board. The GEGJC oversees the Gloucestershire Infrastructure Investment Pipeline (GIIP), which is a register of proposed future infrastructure across the County. Any new scheme, proposed for consideration by the LEP Board, must first be included on the GIIP.

At present, seven projects identified through the DS7 modelling are included on the GIIP. These include; improvements to the 'Zoons' Roundabout on Delta Way, expansion of the Arle Court Park and Ride, and replacement of the Grange Road / Hardwicke Bank Road railway level crossing with a new bridge.

Ad hoc bidding opportunities include the Access Fund (a continuation of the Local Sustainable Transport Fund) and Highways England bids for capital funding to improve the Strategic Road Network as part of the Road Investment Strategy (RIS) process.

### 5.2 Education

Funding for education infrastructure improvements is limited to planning obligations and the Basic Need capital allocation. The latter is targeted to provide

additional places where required linked to growth, but is also required for essential maintenance, i.e. boilers, roofs and windows. As this funding is limited in its ability to deliver new school places, it can be assumed that CIL will still act as the main source of funding when delivering new school places.

The Project Schedule identifies an infrastructure cost of approximately £110,000,000 for education based upon the benchmarks provided by Gloucestershire County Council Education. This is less than the cost of approximately £134,000,000 calculated within the IDP and has been reduced as a result of Gloucestershire County Council Education working with site promoters throughout the infrastructure delivery planning process to deliver onsite provision of education facilities. Onsite provision is expected at Twigworth (primary school and nursery), North Brockworth (primary school and nursery), North West Cheltenham (all-through school) and Mitton (primary school).

The Education & Skills Funding Agency now pays for a large proportion of schools and school places using a model for delivery of providing funding direct to academies and free schools. Whilst this does not impact upon the demand for and cost of providing school places for the purposes of an IDP, it should be considered as an option for meeting infrastructure needs on sites where there is a need to provide a primary or secondary school, or both.

### 5.3 Flood risk, water & wastewater

Those flood risk, water and wastewater schemes within the Project Schedule have arisen from discussions with site promoters and developers of the Strategic Site Allocations. At present none of the projects, with the exception of the North West Cheltenham surface water management, have been costed. It is anticipated that these projects would be funded by developers and embedded within masterplans and scheme design.

If other flood risk schemes were to arise, it is likely that these would have to be funded through ad-hoc funding opportunities to the Environment Agency if not directly related to a development.

Finance for water and wastewater services is provided at the rate payer's expense, and agreed in budgets through the AMP process between water companies and the regulatory body Ofwat. As such, there is limited scope for planning obligations to deliver any schemes of this nature.

### 5.4 Healthcare

It is anticipated that circa £13,400,000 is required to support improvements to healthcare infrastructure to cope with changes in demand associated with housing growth. This has been revised down to take consideration of the primary healthcare facilities proposed on the South Churchdown, North Brockworth and North West Cheltenham Strategic Site Allocations.

Gloucestershire Clinical Commissioning Group's (CCG) 'Primary Care Infrastructure Plan 2016-2021' sets out a need to provide a new surgery within Cheltenham associated with the West Cheltenham and North West Cheltenham,



and consolidate existing practices onto one or two new surgery sites. Within Gloucester, up to two new surgeries are required to cover population growth over the next 15 years. Completion of a new Tewkesbury Primary Care Centre and the closure of the current Tewkesbury Town Centre surgery buildings is identified within the plan.

Alternative funding streams include the submission of proposals by the CCG to NHS England's Primary Care Transformation Fund and completion of business cases for obtaining CCG support by commercial ventures.

Creation of a new practice is usually a commercial decision carried out by a private business, and therefore there is limited scope for support from planning obligations.

## 5.5 Community and culture

The provision and maintenance of community and cultural facilities, such as community and village halls, will rely upon a mix of public voluntary and community sector investment, with local authorities providing a leadership and coordination role.

It is anticipated that community and cultural facilities would largely be funded by developer contributions, either through the gift of land or facilities or contributions towards the expanding the provision or capacity at existing centres/facilities.

Total estimated infrastructure cost associated with growth is anticipated to be around £16,600,000.

## 5.6 Green infrastructure

Estimated infrastructure costs associated with growth is estimated to be circa £17,200,000. This has been revised from the benchmark calculation of approximately £19,000,000 following discussions with developers about the provision of on-site green infrastructure and open space during the Position Statement process.

It is anticipated that these projects would be funded by developers and embedded within masterplans and scheme design.

## 6 Funding Gap Analysis

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Tables 6.1, 6.2 and 6.3 demonstrate the known and anticipated sources of funding, the total estimated capital costs across the period 2016-2031, and the subsequent funding shortfall that exists to deliver the education, healthcare, transport and flood risk management infrastructure required to support the growth within the Gloucester, Cheltenham and Tewkesbury Joint Core Strategy.

Table 6.1 indicates that the anticipated funding falls short of the assessed infrastructure costs associated with the growth of Gloucester set out in the JCS by circa **£62,893,456**. This does not include the contribution towards infrastructure funding made through forecasted CIL.

Table 6.2 that the anticipated funding falls short of the assessed infrastructure costs associated with the growth of Cheltenham set out in the JCS by circa - **£109,499,669**. This does not include the contribution towards infrastructure funding made through forecasted CIL.

Table 6.3 that the anticipated funding falls short of the assessed infrastructure costs associated with the growth of Tewkesbury set out in the JCS by circa - **£92,324,103**. This does not include the contribution towards infrastructure funding made through forecasted CIL.

There is also a funding gap for investment in strategic, JCS-wide infrastructure, totalling **£251,500,000**.

Table 6.1 Gloucester City Council

	Amount (£)
Known Infrastructure Funding for Transport	£23,000,000
Known Infrastructure Funding for Education	£7,537,741
Known Infrastructure Funding for Flood Risk	£0
Known Infrastructure Funding for Healthcare	£0
Known Infrastructure Funding for Community and Culture	£778,688
Known Infrastructure Funding for Green Infrastructure	£75,000
<b>Total Infrastructure Funding</b>	<b>£31,391,429</b>
Estimated Infrastructure Cost for Transport	£70,330,500
Estimated Infrastructure Cost for Education	£17,495,892
Estimated Infrastructure Cost for Flood Risk	£0
Estimated Infrastructure Cost for Healthcare	£2,800,122
Estimated Infrastructure Cost for Community and Culture	£2,163,911
Estimated Infrastructure Cost for Green Infrastructure	£1,494,460
<b>Total Infrastructure Cost</b>	<b>£94,284,885</b>
<b>Estimated Funding Shortfall</b>	<b>-£62,893,456</b>

Table 6.2 Cheltenham Borough Council

	Amount (£)
Known Infrastructure Funding for Transport	£27,500,000
Known Infrastructure Funding for Education	£0
Known Infrastructure Funding for Flood Risk	£13,500,000
Known Infrastructure Funding for Healthcare	£0
Known Infrastructure Funding for Community and Culture	£0
Known Infrastructure Funding for Green Infrastructure	£0
<b>Total Infrastructure Funding</b>	<b>£41,000,000</b>
Estimated Infrastructure Cost for Transport	£92,000,000
Estimated Infrastructure Cost for Education	£30,951,951
Estimated Infrastructure Cost for Flood Risk	£13,500,000
Estimated Infrastructure Cost for Healthcare	£4,406,263
Estimated Infrastructure Cost for Community and Culture	£4,642,757
Estimated Infrastructure Cost for Green Infrastructure	£4,998,698
<b>Total Infrastructure Cost</b>	<b>£150,499,669</b>
<b>Estimated Funding Shortfall</b>	<b>-£109,499,669</b>

Table 6.3 Tewkesbury Borough Council

	Amount (£)
Known Infrastructure Funding for Transport	£80,500,000
Known Infrastructure Funding for Education	£0
Known Infrastructure Funding for Flood Risk	£0
Known Infrastructure Funding for Healthcare	£0
Known Infrastructure Funding for Community and Culture	£0
Known Infrastructure Funding for Green Infrastructure	£0
<b>Total Infrastructure Funding</b>	<b>£80,500,000</b>
Estimated Infrastructure Cost for Transport	£84,500,000
Estimated Infrastructure Cost for Education	£65,195,695
Estimated Infrastructure Cost for Flood Risk	£0
Estimated Infrastructure Cost for Healthcare	£6,191,797
Estimated Infrastructure Cost for Community and Culture	£6,191,797
Estimated Infrastructure Cost for Green Infrastructure	£10,744,814
<b>Total Infrastructure Cost</b>	<b>£172,824,103</b>
<b>Estimated Funding Shortfall</b>	<b>-£92,324,103</b>