European Green Capital Award 2015 – Bristol UK Technical Bid

Section 3 Green urban areas incorporating sustainable land use

A. Land use map, municipality boundaries, inner city area, percentage of green and blue areas, soil sealing, city parks, scale and connectivity

A1. Land use map

Map 1: Land use in Bristol
All photos © Bristol City Council unless otherwise stated.
Land use in Bristol displays a concentric pattern. Commercial areas and high-density housing are located in the inner city close to transport links, services and cultural attractions. Large-scale industry is located strategically at Avonmouth with links to motorways and an international trading port. Smaller scale commerce is focused at accessible locations across the urban area. The suburban area is mainly residential with large amounts of green space.

A2. Percentage of green and blue areas and soil sealing

Green and blue areas cover almost a third of the Bristol City Council (BCC) area, including 1,600 hectares of public parks and green spaces.

<table>
<thead>
<tr>
<th>Land use</th>
<th>Land area (hectares*)</th>
<th>% of city</th>
<th>% inner city</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCC registered public parks and green spaces (+ Ashton Court Estate, see Map 2)</td>
<td>1,600 (+300)</td>
<td>14</td>
<td>12</td>
</tr>
<tr>
<td>Other green areas</td>
<td>1,850</td>
<td>17</td>
<td>6.5</td>
</tr>
<tr>
<td>Water areas</td>
<td>350</td>
<td>3</td>
<td>3.5</td>
</tr>
<tr>
<td>Built up areas</td>
<td>7,350</td>
<td>66</td>
<td>78</td>
</tr>
<tr>
<td>Area of Bristol</td>
<td>11,150</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 1: Percentage of green, blue and built up areas in the overall city area and the inner city area (*figures have been rounded)

<table>
<thead>
<tr>
<th>Land use</th>
<th>Inner city %</th>
<th>Suburban %</th>
<th>Bristol %</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCC public parks and green spaces</td>
<td>3</td>
<td>12</td>
<td>15</td>
</tr>
<tr>
<td>Other green areas</td>
<td>1</td>
<td>15</td>
<td>16</td>
</tr>
<tr>
<td>Water areas</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Built up areas</td>
<td>17</td>
<td>49</td>
<td>66</td>
</tr>
<tr>
<td>Total by area</td>
<td>22</td>
<td>78</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 2: Proportion of Bristol land area comprising of green, blue and built up areas and distribution across inner city and suburbs

A3. Green areas

The inner city has a similar proportion of public parks and water areas to the rest of Bristol. The proportion of private green areas is smaller due to compact development.

The amount of green areas in Bristol has remained relatively stable over the last 10 years.
A4. Blue areas

Waterways are a key feature of Bristol’s environment. The rivers Frome and Avon pass through the City Centre, via the Floating Harbour, to the Avon Gorge. Bristol also has 6km of coastline on the Severn Estuary protected by international wildlife designations (SAC, SPA, Ramsar).

Over the past 10 years, major development occurred around the Floating Harbour and BCC improved the environment in partnership with other organisations. New wetland bird habitats were also created to mitigate environmental impacts of new industrial development in Avonmouth.

Figures 1 & 2: Bristol Floating Harbour – (1) new development and (2) trees and reed beds

A5. Soil sealing

26% of the BCC area has impermeable surfaces and is soil sealed. This is 71m² per capita.

Change in the percentage of soil sealing is not currently monitored in the UK. However, BCC promotes Sustainable Urban Drainage Systems through planning policy adopted in 2006 and strengthened in 2011. This includes reducing impermeable surfaces that result in soil sealing.
A6. Additional maps - City parks

BCC manages a diverse range of parks, green spaces and green routes. Key features are illustrated in the map and table below. In 2011 BCC acquired an additional 80ha of public green space at Stoke Park Estate. Six new city centre open spaces have also been created in recent years, and improvements been made to over 30 children’s play areas citywide.

Map 2: City parks and other public green areas
<table>
<thead>
<tr>
<th>Type</th>
<th>Number of sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major parks and heritage estates</td>
<td>7</td>
</tr>
<tr>
<td><a href="http://www.bristol.gov.uk/page/major-parks-and-heritage-estates">www.bristol.gov.uk/page/major-parks-and-heritage-estates</a></td>
<td></td>
</tr>
<tr>
<td>Other park sites</td>
<td>&gt;400</td>
</tr>
<tr>
<td>Nature reserves</td>
<td>8</td>
</tr>
<tr>
<td><a href="http://www.bristol.gov.uk/page/nature-reserves">www.bristol.gov.uk/page/nature-reserves</a></td>
<td></td>
</tr>
<tr>
<td>Allotments for food growing</td>
<td>107</td>
</tr>
<tr>
<td><a href="http://www.bristol.gov.uk/allotments">www.bristol.gov.uk/allotments</a></td>
<td></td>
</tr>
</tbody>
</table>

*Table 3: Number of public parks, nature reserves and allotment sites in Bristol*

*Figure 3: Ashton Court Estate – the UK’s third busiest country park*

*Figure 4: Stoke Park Estate – acquired by BCC in 2011*
A7. Scale of green in the city

BCC set strong land use policies to protect and enhance green areas in the Bristol Local Plan (1997). This protection was strengthened in 2011 when BCC adopted a new land use policy document - the Core Strategy. The type and scale of green areas and associated policies are set out below.

Map 3: Public and private green areas, water areas and built up area
<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Scale (hectares)</th>
<th>Core Strategy policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avonmouth</td>
<td>Agriculture, nature reserves, wetland bird habitats, unused land</td>
<td>550</td>
<td>Policy BCS4 and Policy BCS9</td>
</tr>
<tr>
<td>Green Belt</td>
<td>National designation to prevent urban sprawl</td>
<td>600</td>
<td>Policy BCS6</td>
</tr>
<tr>
<td>Public parks and green spaces</td>
<td>BCC registered public parks, nature reserves and green corridors</td>
<td>1,600 (+300)</td>
<td>Policy BCS9</td>
</tr>
<tr>
<td>Other green areas (outside Avonmouth)</td>
<td>Sports and recreation grounds, allotments, private landscape areas, non-registered parks, nature reserves and green corridors</td>
<td>1,300</td>
<td>Policy BCS9</td>
</tr>
</tbody>
</table>

Table 4: Type and scale of green areas and associated Core Strategy policies

Figure 5: View from Ashton Court Estate across Bristol to the Green Belt (south east)
Connectivity of green in the city

Bristol has a network of multifunctional, inter-connected green spaces and recognises the value of maintaining, enhancing and planning this connectivity for wildlife, recreation, active travel and adaptation to changes in the built and natural environment. A statutory land use planning policy relating to the Strategic Green Infrastructure Network (below) shapes land use decisions and developments.

See photographs and: www.bristol.gov.uk/page/environment/water-and-rivers


See website: www.bristol.gov.uk/parks.


(Word Count: 449)
B. Present situation

Land use in Bristol reflects an urban history of 1,000 years. The city grew rapidly from 1700 to 1950 leading to fragmentation of green areas. Since then BCC has adopted land use policies to guide development and protect green assets.

Bristol’s population grew by 10% from 2001-2011 which is higher than the national average of 7%. This growth put pressure on the city’s land and green areas because of localised historic and geographic factors. Urban expansion is restricted by the Avon Gorge and Severn Estuary which form the municipal boundary to the west and north-west. The boundary is also tightly drawn to the east and south for administrative and topographic reasons. Some growth occurs beyond the boundary but expansion is restricted by a Green Belt around the city. The Green Belt is located mainly in surrounding districts, except for small areas primarily in South Bristol.

Development of new homes and businesses is essential to support the population and assist economic growth. Statutory land use planning policy guides development, which promotes regeneration and restricts development on green areas\textsuperscript{vi}.

Population growth has put increasing pressure on the city’s green areas and the facilities that they provide. Historically, factors such as lack of private finance have also resulted in neglect of green areas such as Arnos Vale Cemetery, which BCC acquired in 2003 in order to restore it. To improve quality and access to public parks BCC has adopted a Parks and Green Spaces Strategy\textsuperscript{vii} 2006-2026. BCC also produces topic based plans such as the Allotments Strategy and is working with local communities to draw up neighbourhood level plans for city parks.

Figure 6: The Avon Gorge forms Bristol’s western boundary
B1. The percentage of citizens living within 300m of public green urban areas > 5,000m² and public green urban areas of any size

Bristol provides excellent access to public green areas. 88% of residents are within 300m of a green space, including 87% of the inner-city population. Inner-city access to larger green areas is slightly less due to compact development and high land values. However, a bridge over the Avon Gorge (below) means Bristolians can access open countryside and Ashton Court Estate\(^{viii}\) within minutes from the city centre.

<table>
<thead>
<tr>
<th>Land use</th>
<th>Inner city</th>
<th>Overall city</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;5,000 m²</td>
<td>68</td>
<td>76</td>
</tr>
<tr>
<td>All public green space</td>
<td>87</td>
<td>88</td>
</tr>
</tbody>
</table>

*Table 5: Percentage of citizens living within 300m of public green areas*

*Figure 7: The famous suspension bridge, designed by Brunel, provides inner-city access to green space*
Table 6: Scale and percentage of land uses in Bristol (*figures have been rounded except for brownfields)

Land use in Bristol follows a concentric pattern with mixed-use and office-based commerce focused in the city centre, and an element of light industrial and business in inner city neighbourhoods, which have present since growth during the industrial revolution during the late 18th and early 19th century.

Residential uses predominate in the suburban area due to historic periods of housing expansion.

Large scale industry is based primarily at Avonmouth where the historic trading port is located. Avonmouth also contains brownfield areas created by recent industrial closures. These areas are now being regenerated with land use shifting towards distribution of goods, waste management and sustainable energy generation – to utilise the area’s excellent road, rail and international trade links.

Green spaces support wildlife, recreation and environmental balance throughout the urban area.
B3. New developments: proportion of brownfield sites, densification in the inner-city or urban cores, on greenfields

At present there are 157 hectares of brownfield sites in Bristol with 38 hectares in the inner city and 85 hectares in Avonmouth. Historical industrial decline resulted in inner-city brownfields and the Local Plan targeted these areas for regeneration (refer to C1 & C3). The approach to regenerating remaining brownfields it set out in Section D.

Over the last 10 years, 98% of business development and 94% of new homes were on brownfield sites (refer to table 3 below). Much of this occurred through inner city regeneration projects, creating high-density, mixed-use neighbourhoods such as Harbourside and Temple Quay.

<table>
<thead>
<tr>
<th>Type</th>
<th>Development 2002 - 2012</th>
<th>Inner city %</th>
<th>Brownfield %</th>
<th>Greenfield %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential (dwellings)</td>
<td>21,838</td>
<td>56</td>
<td>94</td>
<td>6</td>
</tr>
<tr>
<td>Business (floorspace m²)</td>
<td>224,167</td>
<td>88</td>
<td>98</td>
<td>2</td>
</tr>
<tr>
<td>Industry (land hectares)</td>
<td>91</td>
<td>4</td>
<td>63</td>
<td>37</td>
</tr>
</tbody>
</table>

*Table 7: New developments completed and proportion of brownfield sites 2002-2012*

This development also resulted in densification of the inner city, (illustrated by the map at C2 showing the location of new housing development).

New industrial development has been focused on brownfields (63%) in suburban areas including Avonmouth. Historically, BCC did allow some industrial development on the green areas to help revitalise the industrial area. This policy was cancelled in 2007 and only brownfield land resulting from recent industrial closures is now available for development. Consequently, since 2007, 37 hectares of brownfields have been redeveloped. The approach is continued in strategic land use policy which recognises the role of green areas in Avonmouth for wildlife and flood risk prevention.
B4. Population density in built-up areas in inhabitants per hectare (city area minus green and blue areas)

Population density in the most central areas has increased in recent years. This is a result of urban regeneration projects and conversion of historic buildings to create new high-density apartments (refer to map 7 in section C). However, the highest population densities are located in inner areas around the city centre. These are historic residential areas, mainly of higher density terraced housing from the C18 and early C19 and some apartment blocks. Population density is lower in suburban areas where lower density terraces and detached houses are located.
Efficient use of land is a high priority in Bristol due to a compact city boundary, high land values and limitations on green space. Strategic land use policy sets out the current approach to maintaining or increasing population density for new developments. BCC measures density as the number of dwellings per hectare (dph). This is because dwelling density can be negotiated, monitored and enforced through land use planning and decision-making.

Through the land use planning process higher densities of new residential development is achieved, particularly in the inner city. The average density of inner-city development since 2002 is 129 dph. Higher densities are achieved in the most central areas with an average of 303 dph in the city centre. In suburban areas where more land is available average densities of 56 dph are achieved.
vi The main land use plan from 1997-2011 was the Bristol Local Plan. Refer to:

Parts of the Local Plan are still effective but BCC recently adopted a Core Strategy (June 2011) for strategic land use planning and decision making from 2006-2026. Refer to:

vii Refer to: http://www.bristol.gov.uk/page/bristol-parks-and-green-space-strategy
Ashton Court estate Ashton Court Estate has over 1.6 million visitors annually, it's the UK’s third busiest country park. Refer to: http://www.bristol.gov.uk/page/ashton-court-estate

Calculated using the National Land Use Database, which Bristol City Council updates annually. Refer to: http://www.homesandcommunities.co.uk/nlud-pdl-results-and-analysis

Bristol Business Development Survey, An annual survey conducted by Bristol City Council. For the latest version refer to: http://www.bristol.gov.uk/page/land-use-development-and-planning-policy-research


Harbourside: www.harbourside.co.uk, Temple Quay: www.templequay- bristol.com


Density figures contain National Statistics data © Crown Copyright and database rights 2012.


(Word Count 894)
C. Measures implemented over the last five to ten years.

BCC has implemented a series of plans to bringing about sustainable change in Bristol (Table 8).

<table>
<thead>
<tr>
<th>Year of adoption / publication</th>
<th>Plan name</th>
<th>Detail</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>1997 Bristol Local Plan</td>
<td>Statutory land use planning policies</td>
<td>Adopted (part replaced in 2011)</td>
</tr>
<tr>
<td>1998 and 2005 Updates: 1999, 2000, 2001</td>
<td>City Centre Strategy</td>
<td>Action plan 2 fully revised and 3 updates</td>
<td>Published</td>
</tr>
<tr>
<td>2001</td>
<td>Contaminated Land Strategy</td>
<td>Action plan</td>
<td>Adopted</td>
</tr>
<tr>
<td>2008</td>
<td>Parks and Green Spaces Strategy</td>
<td>Action plan</td>
<td>Adopted</td>
</tr>
<tr>
<td>2011</td>
<td>Core Strategy</td>
<td>Statutory land use planning policies</td>
<td>Adopted</td>
</tr>
</tbody>
</table>

*Table 8: Published land use plans for Bristol*
C1. Minimising derelict and contaminated land

Statutory land use policy, Contaminated Land Strategy and regeneration initiatives resulted in 73% of derelict land being redeveloped since 1997.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>City Centre</td>
<td>43</td>
<td>33</td>
</tr>
<tr>
<td>South Bristol</td>
<td>23</td>
<td>15</td>
</tr>
<tr>
<td>Total</td>
<td>66</td>
<td>48</td>
</tr>
</tbody>
</table>

*Table 9: Amount of derelict land (hectares) in regeneration areas in 1997 and 2012*

Regeneration of the Temple Quarter area in the city centre was particularly successful – former brownfield land is now a hub for national company headquarters and government agencies with excellent transport links.

*Figure 8: former industrial land, adjacent the floating harbour at Temple Quarter.*

*Figure 9: New mixed-use city centre neighbourhood at Temple Quarter.*

*Offices and residential tower completed in 2010-12*

In the industrial Avonmouth area, 37 hectares of derelict brownfield sites have been redeveloped since 2007.

An extensive survey of historic and current land use to identify all potential contaminated sites is maintained as a digital map resource, assisting planners to target sites for regeneration allowing the Contaminated Land team to provide fast and accurate advice to developers.
C2. Increasing or sustaining population density in built-up areas while protecting green areas and providing a high quality of life

Densification has focused on the inner city where regeneration created opportunities for waterside living, and the highest concentration of services, facilities and public transport are focused.

<table>
<thead>
<tr>
<th>Year</th>
<th>Population estimate</th>
<th>Population density</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001 Census</td>
<td>390,000</td>
<td>53</td>
</tr>
<tr>
<td>2011 Census</td>
<td>428,200</td>
<td>58</td>
</tr>
<tr>
<td>Change</td>
<td>+38,200 (10%)</td>
<td>+5</td>
</tr>
</tbody>
</table>

*Table 10: Change in population density in built up areas (inhabitants per hectare)* Source: Population Estimates Unit and 2011 Census, ONS: Crown Copyright 2012
Increasing and maintaining higher densities whilst protecting green spaces through land use policies\textsuperscript{xvi} has ensured a high quality of life for citizens. Strategic land use policy\textsuperscript{xvii} introduced a statutory minimum of 50 dwellings per hectare across the city, and a requirement for “high quality well designed environments”.

Minimum provision standards for the quality of, quantity of and access to green spaces\textsuperscript{xviii}, has directed decisions around protection and enhancement to open spaces. The latest policy also protects the connectivity between green spaces and the overall strategic green infrastructure network (see map in section A7).

New housing development has used just 29 hectares (0.8%) of the city’s green areas\textsuperscript{xix}. A further 33 hectares\textsuperscript{x} (0.8%) was used to help revitalise the industrial area of Avonmouth. In the last 5 years, 6 hectares (0.2%) was developed in South Bristol to provide a new hospital and leisure centre. This was supported by improvements to the public green space at Hengrove Park\textsuperscript{xii}.

11 parks have achieved excellent ‘Green Flag status’\textsuperscript{xxi} and Bristol won the prestigious gold award in the \textit{Entente Florale} 2012\textsuperscript{xxiii}.

In recent years 6 new city centre open spaces have been created, including diverting dual carriageway roads in the heart of the city, to reintroduce the historic Queen Square\textsuperscript{xxiv} as an area of quiet, public green space hosting major events.
Bristol has established TreeBristol\textsuperscript{xxv} to achieve its target to plant 10,000 trees by 2015. Tree planting by BCC has increased from 74 trees in 2005, to 1200 in 2012.
C3. Renovating urban land, renewing urban design

Bristol has successfully renovated urban land, improving whole neighbourhoods, contributing to an accessible and vibrant city, including:

- The Harbourside Project regenerated 26 hectares of contaminated city centre land. Strategic land use policy\textsuperscript{xxvi} maintained traditional boat yards and recreational uses, while new high density apartments, shops, offices, bars, leisure facilities and an enhanced city museum are built around new green open spaces.
- A strategic land use policy in place since 1997\textsuperscript{xxvii} for continuous access around Harbourside was delivered through regeneration, creating attractive cycling and walking routes.

\textit{Figure 11: High density regeneration, and completed waterfront pedestrian and cycle access.}

- A multifunctional public realm has become an asset on the doorstep for Harbourside residents and the entire city, hosting a range of events\textsuperscript{xxviii}
High quality public realm delivered as part of Harbourside:

Figure 12: Millennium Square fountains regeneration project
Figure 13: Amphitheatre space, Bristol Harbour Festival

In the inner city Barton Hill area, community participation created a £50m, 10-year programme to re-build a community of 6,000 residents. Selective demolition, re-building historic street patterns and improved community and school facilities has created homes which are more valued, and a community that is more settled. Set in a high quality public realm, Barton Hill is now an area of choice for inner-city social housing tenants.

Quality of the public realm, for walking and cycling has been improved through carefully designed street maps, signs and public art as part of the Legible Cityxxix project.
C4. Limiting urban sprawl by cooperating with neighbouring municipalities

The ‘West of England Partnership’ ensured strategic housing, transport and green infrastructure were coordinated with adjoining authorities. Consequently growth focuses on existing centres and brownfield land and protected ‘established Green Belt’ land, limiting urban sprawl.

Cooperating led to a Strategic Green Infrastructure Framework, to protect and enhance green corridors and green areas, where rivers, wildlife corridors and parks cross authority boundaries.

Map 8: Strategic Green Infrastructure Diagram (extract) for Bristol and neighbouring municipalities
C5. Integrating changes such as economic growth, demographic or climate change through sustainable land use planning

Mapped evidence on risk from coastal, river, surface water flooding and potential increased flooding through climate change in the next 100 years has influenced spatial planning, placing residential and sensitive uses outside areas of highest flood risk.

Statutory land use policy protects brownfield land for employment in the most appropriate areas.

Adopted strategic land use policy, BCS18 requires new residential development to include a range of unit sizes and tenures. BCS15 requires adaptable units; facilitating communities that are mixed and balance therefore more resilient and adaptable. To ensure developments will respond to changing energy and climate pressures, policies BCS13, BCS14 and BCS15 require the layout and design of development to promote urban cooling, integrate green infrastructure, encourage walking and cycling and require high standards of energy efficiency and reduce emissions.

Figure 14: Nine, two bedroom, live-work units, the first private residential development in the UK to reach Code Level 5. As near to zero-carbon development as possible, for heating, lighting and ventilation.
Core Strategy Policy BCS9 ‘Green Infrastructure’. For both refer to:

Core Strategy Policy BSC20 ‘The effective and efficient use of land’
and
Core Strategy Policy BSC3 ‘Bristol City Centre’

Refer to: http://www.bristol.gov.uk/page/bristol-parks-and-green-space-strategy

Bristol Residential Development Survey, An annual survey conducted by Bristol City Council. For the latest version refer to:

Bristol Business Development Survey, An annual survey conducted by Bristol City Council. For the latest version refer to:
http://www.bristol.gov.uk/page/land-use-development-and-planning-policy-research

Refer to http://www.hengrovepark.com/
Refer to http://greenflag.keepbritaintidy.org/about-us/
Refer to: http://www.bristol.gov.uk/page/entente-florale-europe
Refer to: http://www.bristol.gov.uk/page/queen-square
Refer to: http://www.bristol.gov.uk/page/treebristol

Bristol 1997 Local Plan CC1. Refer to:

And; Core Strategy BCS2 ‘Bristol City Centre’ & BCS8 ‘Delivering a thriving economy’. Refer to:

Bristol 1997 Local Plan CC1

Refer to http://www.bristol.gov.uk/page/city-spaces-amphitheatre-and-waterfront

Refer to: www.bristollegiblecity.info

Refer to:

Core Strategy Policy BCS16’, and Bristol Central Area Action Policy draft policy HE1 ‘Housing in Major Developments” and draft policy ‘HE6 Flood Risk’. Refer to:

http://www.bristol.gov.uk/sites/default/files/documents/planning_and_building_regulati
Core Strategy Policy BCS4 'Avonmouth and Port & BCS8 Employment Land

- Core Strategy Policy BCS18 ‘Housing Type’
- Core Strategy Policy BCS15 ‘Sustainable Design and Construction’

For all please refer to:

(Word Count: 797)
D. Objectives for the future and proposed approach to achieve these

Bristol's statutory land use plan provides a framework for the short and long term objectives for sustainable land use until at least 2026. Strategic policies target:

• regeneration in more deprived communities xxxvi,
• ‘the effective and efficient use of land’xxxvii
• densification of the inner cityxxxviii
• densification at smaller accessible centres, whilst balancing the need to protect and provide for green infrastructurexxxix.

Detailed planning policyxl scheduled for adoption in 2014 will add support.

D1. Quality of life and recreation

BCC will support communities’ decision making about local parks and green spaces. To achieve BCC’s targets for access and quality of green space investment plans have been agreed with communities. £4.2 million of funding (2012-2014) is committed to 47 projects, mainly improving access to green spaces and additional children’s play spaces.

Emerging detailed polices includexli requirements for new development to provide and enhance green open spaces for recreation in the city and require green infrastructure such as space for growing food, connections to the green infrastructure networkxlii and increased access along waterwaysxliii.

In recognition of the role of wildlife in the city for quality of life, education and opportunities to interact with nature, the ‘Bristol Wildlife Network’ is protected by the City planxliv. This requires new development to maintain and enhance the Network through provision of habitats and wildlife corridors within new development.
BCC has provided online mapping of sites within the Network which ensures future development integrates measures to protect wildlife corridor connectivity and allows the public to find their nearest area of recognised wildlife value.
D2. Additional ecosystem functions and services

The city plan also recognises that green infrastructure can make the urban landscape more attractive whilst also providing opportunities for sports and recreation, active travel, wildlife, food growing, climate change adaptation such as urban cooling, flood storage capacity and pollution amelioration.

Trees offer potential to provide green infrastructure in a densely developed urban area, whilst also making multiple contributions towards ecosystem services. Bristol has committed to increasing the city’s tree canopy cover from 14% to 30% over the longer term.

An ambitious street tree planting project in 2012 will increase the number of street trees across the city by 20% in 3 years. This project focuses on areas of lower tree canopy cover and areas of highest social depravation. [c.f. Nature & Biodiversity section].

BCC is pursuing one of the most ambitious and progressive approaches to tree protection and provision in the UK land use planning system. Emerging policy requires new development to contribute to the city’s green infrastructure based on an ecosystem services model (e.g. trees can be required where they would assist in forming wildlife corridors, mitigating air pollution, assisting in flood risk reduction or contribute towards urban cooling). A separate policy requires up to 8 replacements to compensate for any valuable trees lost or damaged due to development within the city.

Land use policy will also assist in regulating water balance, by protecting green spaces from development and ensuring that new development incorporates Sustainable Urban Drainage, conserves water resources and reduces flooding vulnerability. An emerging policy has a requirement that development contributes towards waterways achieving ‘Good Ecological Status’.
D3. Rehabilitation of brown field sites, derelict and/or contaminated land.

In the UK, most remediation of contaminated land is carried out by private developers. National government and Bristol assist by providing a framework of plans (see section C) and funding key infrastructure. An emerging detailed land use policy will promote and require remediation of remaining contaminated land in the city as development comes forward.

Avonmouth

The long-term objective for Avonmouth is to create economic growth by redeveloping brownfield sites whilst protecting the environment. BCC and the neighbouring municipality will implement a strategy to address future development, infrastructure and flood risk (Table 11).

<table>
<thead>
<tr>
<th>Project</th>
<th>Action</th>
<th>Timescale</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flood defences</td>
<td>Prepare model of future development</td>
<td>2012</td>
<td>Complete</td>
</tr>
<tr>
<td></td>
<td>Strategic flood risk solution – work with government agencies (Defra and EA) on phase 2 detailed design</td>
<td>2012-2013</td>
<td>£45,000 committed</td>
</tr>
<tr>
<td></td>
<td>Technical assessment of requirements and cost</td>
<td>2013</td>
<td>Preparing consultant’s brief</td>
</tr>
<tr>
<td>New motorway link</td>
<td>Initial assessment of options and cost</td>
<td>2012</td>
<td>Complete – cost estimate £22 million</td>
</tr>
<tr>
<td></td>
<td>Bid to government for funding for delivery of new link</td>
<td>2012</td>
<td>Decisions pending</td>
</tr>
<tr>
<td>Wildlife</td>
<td>Assess impacts and prepare development strategy</td>
<td>2012</td>
<td>Complete – cost estimate £5 million</td>
</tr>
<tr>
<td></td>
<td>Identify locations and delivery budgets for enhanced habitats</td>
<td>2012-2013</td>
<td>Outstanding</td>
</tr>
<tr>
<td>Marketing</td>
<td>Avonmouth to be marketed as an 'Enterprise Area' – similar to Enterprise Zone (see below)</td>
<td>2012-2030</td>
<td>Ongoing</td>
</tr>
</tbody>
</table>

*Table 11 Avonmouth Strategy*
D4. Inner-city

Bristol is regenerating an 80ha area of former industrial land in the inner city, close to the city’s main railway station. Using tax incentives and capital investment in sustainable transport and energy infrastructure, Bristol will create a world class centre for digital and low carbon businesses. Some of the key actions are included in Table 12.

<table>
<thead>
<tr>
<th>Project</th>
<th>Action</th>
<th>Timescale</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enterprise Zone</td>
<td>Designate area as Enterprise Zone to access tax benefits</td>
<td>2011</td>
<td>Complete</td>
</tr>
<tr>
<td></td>
<td>Appoint Project Manager to manage delivery and monitor progress</td>
<td>2011</td>
<td>Complete</td>
</tr>
<tr>
<td></td>
<td>Market area to developers: <a href="#">www.bristoltemplequarter.com/</a></td>
<td>2011+</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Spatial Framework</td>
<td>Commission studies (heritage, transport, contamination, urban design etc.)</td>
<td>2012</td>
<td>Ongoing, £250,000 committed</td>
</tr>
<tr>
<td></td>
<td>Produce Spatial Framework to guide sustainable development</td>
<td>2012-2013</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>Initial assessment of options and cost</td>
<td>2012</td>
<td>Complete</td>
</tr>
<tr>
<td></td>
<td>Deliver bridge to enable development of 3.7 hectare site (photograph below)</td>
<td>2013+</td>
<td>£10 million allocated</td>
</tr>
</tbody>
</table>
Table 12: Enterprise Zone Action Plan

```
<table>
<thead>
<tr>
<th>Action</th>
<th>2013-2018</th>
<th>£20.85 million allocated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deliver other essential infrastructure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temporary use of vacant brownfield sites</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adopt Local Development Orders to enable temporary use: <a href="http://www.bristol.gov.uk/ezplanning">www.bristol.gov.uk/ezplanning</a></td>
<td>2012</td>
<td>Complete</td>
</tr>
<tr>
<td>Deliver temporary uses on 2 sites:</td>
<td>2012-2017</td>
<td>£250,000 allocated, delivery ongoing</td>
</tr>
<tr>
<td>‘Creative Common’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>‘Diesel Depot farm’ (below)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
```

Figure 14: A 3.7 hectare inner-city contaminated site to be used for temporary urban agriculture from 2012.

Community Engagement

BCC has actively engaged with communities in land use planning and green areas. Since 2008, BCC has devolved significant decision-making powers to Neighbourhood Partnerships.

BCC works with the Neighbourhood Planning Network of over 25 local residents planning groups.

In line with recent UK government legislation (the Localism Act 2011) Bristol is at the forefront of Neighbourhood Planning in the UK with two designated Neighbourhood Planning Forums (plans due 2013) and at least two more groups making applications.
Bristol Green Capital Partnership (BGCP) Land Use Planning Group

In 2010 BGCP set up a sub-group to develop a Land Use & Planning toolkit which will be made available to help developers ensure major projects are designed to the highest standards.

(Word Count: 775)
E. References

The list below relates to information, documents and strategies set out as end notes in the main body chapter 3.

xxxvi  Core Strategy Policy BCS1 ‘South Bristol’ and BCS3 ‘Northern Arc and Inner East Bristol - Regeneration Area’
xxxvii Core Strategy Policy BCS20
xxxviii Core Strategy Policy BCS2 ‘Bristol city Centre’
xxxix Core Strategy Policy BCS9 ‘Green Infrastructure’
x For all please refer to: http://www.bristol.gov.uk/sites/default/files/documents/planning_and_building_regulations/planning_policy/local_development_framework/Adopted%20Bristol%20Core%20Strategy.pdf


xii Site Allocations and Development Management Document draft policy DM14 ‘Open Space for Recreation’
xiii Site Allocations and Development Management Document draft policy DM13 ‘Green Infrastructure Provision’.
xiv Site Allocations and Development Management Document draft policy DM20 ‘Development Adjacent to Waterways’.
xv Site Allocations and Development Management Document draft policy DM17 ‘Development and Nature Conservation’

xvi Refer to http://www.bristol.gov.uk/explore-bristol - selected Wildlife Corridors and Sites of Nature Conservation Interest

xvii Site Allocations and Development Management Document draft policy DM13 ‘Green Infrastructure Provision’.
xviii Site Allocations and Development Management Document draft policy: DM15 ‘Development Involving Existing Green Infrastructure’
xix Core Strategy Policy BCS15 Sustainable Design and Construction.

x Site Allocations and Development Management Document draft policy: DM31 ‘Pollution Control, Air Quality and Water Quality’.

xi Site Allocations and Development Management Document draft policy: DM32 Contaminated Land

Refer to:
www.bristol.gov.uk/sites/default/files/documents/planning_and_building_regulations/planning_
Refer to www.bristoltemplequarter.com/

http://www.bristolnpn.net/