

## Green Grid Action Plan

Team London Bridge  
Business Improvement  
District (BID)



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# Summary

**Our vision:** The aim of the Green Grid Action Plan is to deliver the Green Grid vision of the London Bridge Plan, that:

*“London Bridge will become one of the greenest, most beautiful, environmentally sensitive and civic-minded Business Districts in the world”*

**Achieving the vision:** The overall vision has been broken down into five component green infrastructure (GI) themes of air, water, energy, beauty and wildlife. Targets have been set to increase the various types of green infrastructure through both retrofitting and new development. They aim to be realistic by being based on achievements to date. New green infrastructure projects will need to weave together multiple functions in order to ensure resources deliver maximum benefits for people and wildlife. Team London Bridge has a key role in rallying partners around the vision and supporting projects through funding that are innovative, support wider area aims, and can be maintained.

**Through partnership:** The largest landowners of the Business Improvement District (BID) have worked with TLB over the last year to identify opportunities for greening within their properties. Partners include King’s College, the Shard, Guy’s Hospital, Network Rail, London Bridge City, Fair Community Housing Management Services, Potters Field Management Trust and Southwark Council. The map on page 9 shows the location of the proposed green infrastructure projects, and the following images of Example Projects on pages 10 and 11 show a range of the type of project envisaged.

**Your role:** TLB needs all stakeholders to play a role to bring the vision to life and ensure it creates value and impact: landowners, developers, Council officers, consultants, businesses, employees and residents. Get in touch with Jack Skillen, Placemaking Director at Team London Bridge if you would like to find out more.

**Success so far:** Since twelve potential GI pilot projects were proposed to TLB in 2012, half of them have been delivered, either through the planning process or through partnership working to retrofit buildings: with significant high-profile greening projects proving a bid success in the area. There have also been some missed opportunities from which the BID and partners can learn.

**Strategic delivery:** Delivering the Green Grid supports and strengthens the programme of services delivered for the area by Team London Bridge. The Green Grid is part of the London Bridge Plan and is a key element of realising the sustainable placeshaping ambitions of the local business community.



# Our vision - *London Bridge will become one of the greenest, most beautiful, environmentally sensitive and civic-minded Business Districts in the world*

## WHAT WE WANT TO ACHIEVE

As set out in the London Bridge Plan: “Integrating, improving and increasing parks and green spaces throughout London Bridge and into the physical environment is a clear stakeholder priority. The London Bridge Green Grid will provide an overarching green vision for the area made up of a series of linked public realm projects”.

This document provides the roadmap for delivering the Green Grid vision, which needs to be a shared and on-going process to be successful. It is a tool for partner organisations, planners, Council officers, developers and design consultants to plan and deliver projects that contribute to this vision.

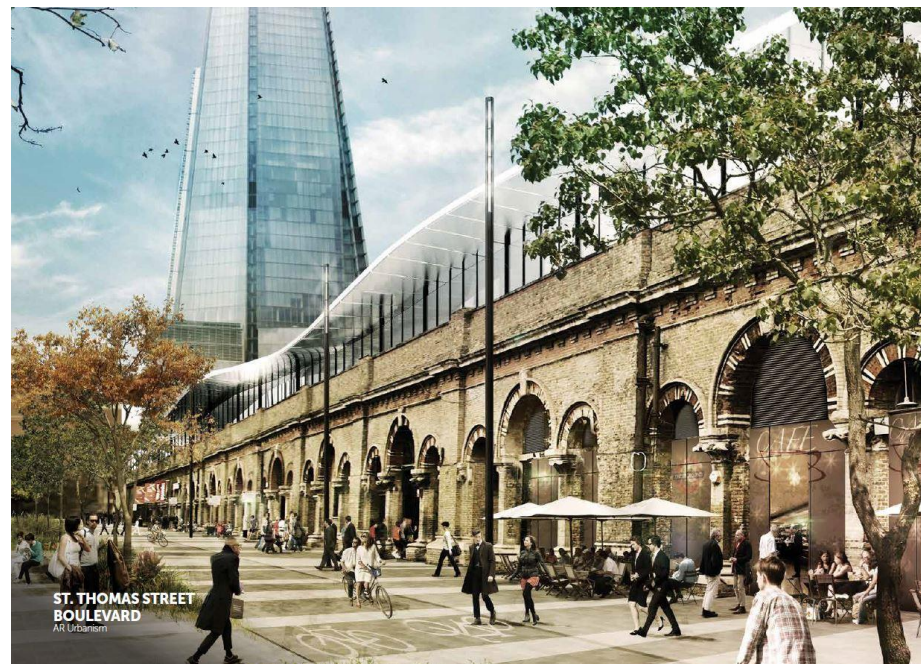
## THE VISION IN CONTEXT

London’s policy makers are keenly aware of the need to increase London’s resilience to the challenges of climate change, air pollution and the growing demands on resources that could affect the future growth and prosperity of the city. They understand that green infrastructure has a big contribution to make in improving building performance and transport networks and to enhance quality of life.

The London Bridge strategy sits firmly within this policy context, while setting out a clear route to being a place where green projects can be pioneered and delivered. Relevant policies are set out on pages 16 and 17, but include:

- the Mayor’s Environment Strategy has an ambition to make London the first National Park City, increase green space in London to 50%, and increase tree cover to 10% by 2050 – while accommodating significant new development.
- A new greening factor planning tool will be implemented at borough level to increase GI in new development.

*A vision for St Thomas Street (London Bridge Plan)*



- The New Southwark Plan (NSP) includes policies that require new development to incorporate green infrastructure and promote biodiversity; and many local organisations have their own corporate responsibility targets to enhance the environment.
- The London Bridge Area Vision in the NSP specifically states that “*New development should support the creation of a distinctive and inspiring world class environment through a mix of inspiring new architecture, restored and reactivated warehouses and other heritage revealed with ‘placemarks’, public art and quality public realm that provides openness, connectivity and a ‘green grid’. Greenery and innovations in environmental resilience should be incorporated into buildings*”

## THE NEED FOR GREEN INFRASTRUCTURE IN LONDON BRIDGE

The London Bridge Plan sets out how delivery of the Green Grid vision will make it *more resilient to climate change, and be a more competitive and welcoming business destination as a result*. There are specific challenges that GI can help tackle in London Bridge:

- The area is within one of Southwark’s designated **Critical Drainage Areas** (the only one in the north of the borough), meaning that property and infrastructure are at risk of surface water flooding.
- Borough High Street and Tower Bridge Road are both designated as **London Air Quality Focus areas**, and the high footfall around the station means that many people are subjected to this pollution.
- The institutions in the London Bridge **Health Cluster** - Guy’s hospital, Kings College London and also London Bridge Hospital – have corporate objectives to create a healthy external environment that complements and supports the specialisms. Contact with nature has been shown to have a positive impact on health and wellbeing.
- There is growing evidence of a strong relationship between a green environment with access to nature and **productivity in the workplace** – including staff wellbeing, and attractiveness of a job to high quality staff. With over 50,000 people working in London Bridge, a number set to grow, it is crucial to create a positive working environment for this world-class business neighbourhood.

*A vision for the Low Line (London Bridge Plan*



- Significant **new development** is planned in London Bridge, with accompanying densification, pressure on space and numbers of people. Greening can play a role in reducing the urban heat island effect, and help mitigate against wind. The wind on the river has a natural cooling effect, so urban heating is of particular significance south of the railway, which is also where most new development is planned.
- A significant planned increase in **retail and culture** in the area requires increasing the leisure and shopping time spent in the area, so creating an inviting and attractive environment that encourages a wide demographic to spend time is important
- London Bridge sits along the banks of the **River Thames** where riverside and in river habitats are limited. Greening the Thames Path and using SUDs systems can contribute to improving the overall water quality and biodiversity of the Thames into which our surface water drains. Installing drinking water fountains and discouraging single-use plastic can reduce the amount of litter on the streets and entering the Thames. Interventions will also help to foster a sense of custodianship, enhancing perceptions of and deepening connections to the river.

GI delivers multiple benefits that can address these issues and their effect on our economy, health and lifestyle.

## THE FIVE GREEN INFRASTRUCTURE THEMES

Five themes have been chosen to provide a simple way of communicating the complex functions of GI in the London Bridge context. They will also ensure resources are targeted where they will have the most benefit, by identifying multifunctional projects that will have the greatest impact.

Each of the five themes is described below with an explanation of its relevance to meeting the challenges identified above, and to local policy objectives. A subsequent statement after each theme summarises the proposed outcomes for the TLB Green Grid.

### *Green and beautiful*

London Bridge is a crowded place, so providing refuges of tranquillity will increase physical and emotional wellbeing. Integrating greening into streets, spaces, buildings and alleys, will improve connectivity and encourage appreciation of the distinctive character of London Bridge and surrounding areas.

#### ***Proposed outcomes:***

***Vegetation (such as trees, planting areas, green walls and roofs), is visible from every part of the BID.***

***People have regular contact with high quality greenery.***



### *Cleaner air*

The challenge of London's poor air quality is particularly acute locally on Borough High Street and Tower Bridge Road. Team London Bridge is supporting businesses to reduce the impact from freight, and looking at strategies to restrict traffic in the area. The Mayor is supporting the creation of Low Emission Routes and Quietways, which can cut exposure to air-borne pollution by up to 60%. The most beneficial green infrastructure projects will be those which expand the network of Low Emission Routes and Quietways, or encourage their use.

#### ***Proposed outcomes:***

***TLB has planned and delivered several low emission routes. People have the knowledge to make informed choices to reduce their exposure to poor air quality.***

***There are measures in place in London Bridge to help reduce some of the most harmful effects of air pollution.***





### *Collecting and storing rainwater*

Climate change brings wetter winters and more frequent, extreme weather events. London Bridge BID is within a critical drainage area, meaning that it is at a high risk of flooding compared to other parts of Southwark. The Mayor requires all new development to achieve (as a minimum) 50% attenuation of the undeveloped site surface. Attenuating water through soil and vegetation is preferred over underground storage tanks, which provide no additional GI functions. Retrofit projects such as rain garden planters will improve resilience further.



***Proposed outcomes: GI elements such as street trees, parklets and green walls, increase the capacity to absorb and store storm water, increasing flood resilience within the BID area. They deliver multiple benefits to the BID by increasing the cover of vegetation at street level and on buildings.***

### *Homes and food for wildlife*

A richer more diverse ecosystem will be more stable in the face of climate change. Green spaces and the wildlife they attract improve the quality of life for residents and workers, and create a sense of place that fosters local identity and improves the business environment.



***Proposed outcomes: Wildlife can be experienced in every corner of the BID and people feel more connected to nature in their daily lives. TLB partners take an active role in raising their employees' awareness of London's biodiversity.***

### *Reducing energy use*

Heating and cooling buildings is a significant source of carbon emissions. London's new buildings will follow the Mayor's energy hierarchy: being lean, being clean and being green; and must meet the targets for emission reductions in the London Plan. New and retrofit projects that incorporate vegetation that can insulate or shade facades will help building performance, reduce energy consumption and provide other GI functions.



***Proposed outcomes: Architects, engineers and building managers are fully aware of the benefits vegetation can provide to insulating and cooling buildings. The multiple benefits of designing solar panels with a green roof is common knowledge. Buildings are managed to improve energy performance.***



## A COLLECTIVE ROLE IN ACHIEVING THE VISION

The delivery of the Green Grid Action Plan can involve everyone working as individuals or groups and as part of the wider BID partnership.

In order for London Bridge to achieve its Green Grid vision, new developments and retrofit projects will need to weave together the different functions of GI to deliver newly emerging London Plan policy objectives for the environment.

### Planners and Council officers

Make use of partnerships to deliver projects. This ensures multiple objectives are met and resources are combined to achieve more.

### Developers and consultants

Delivering outcomes for the five GI themes requires a multi-disciplinary team. Ensure design teams have sufficient skills and knowledge to deliver a joined-up approach to new developments or retrofit projects.

### Partner organisations

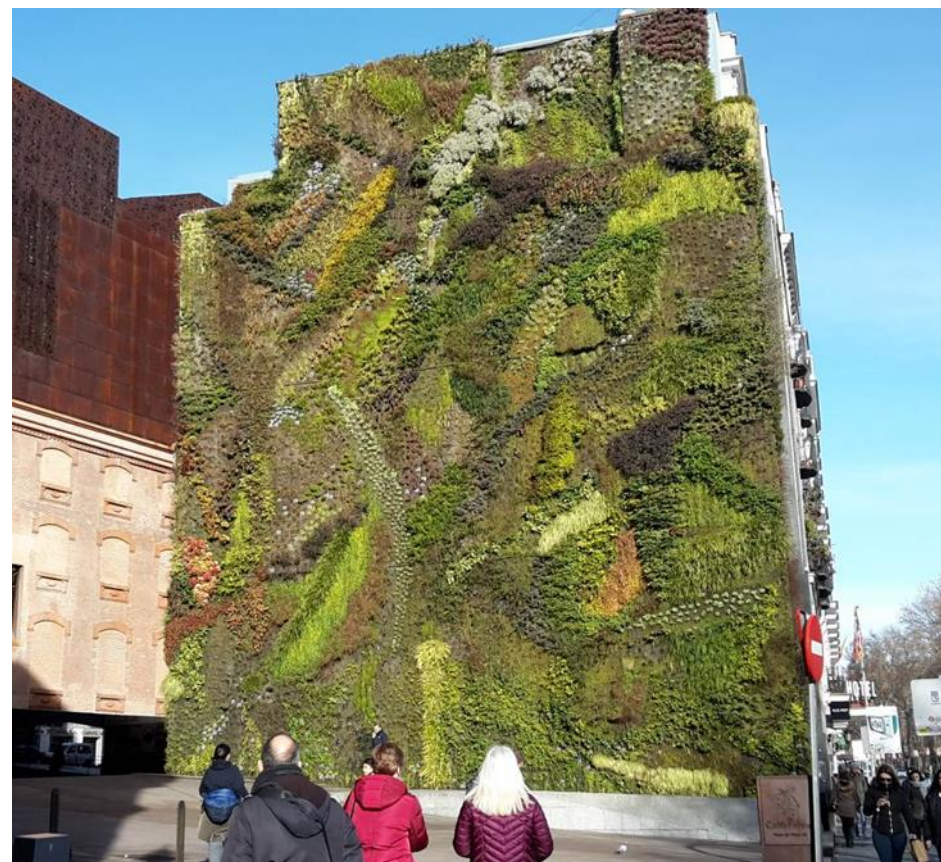
Be a knowledgeable client. Use this plan to make your intentions clear to your consultants and ensure outputs are of high quality and multi-functional.

### Businesses

Businesses can get engaged in all kinds of ways in being green. PWC has a wonderful green roof that they maintain. Nine Lives bar staff have their own herb and vegetable garden, and their waste is composted and used to grow fresh produce that can go onto the menu - a circular system. A business can encourage a volunteering day, and these have been put to good effect locally – planting gardens in schools and estates.

### Residents and employees

Interested in volunteering, or lending your skills? Use your lunch or a spare afternoon to help make the area greener and more attractive to people and wildlife. Or go wildlife spotting locally, taking advantage of led walks or national campaigns (for example the Big Garden Birdwatch in January).



*Green wall captures interest of people passing by (Caixa Forum, Madrid, designed by Patrick Blanc)*

## CALL TO ACTION

To build on the successes so far, opportunities should be sought to encourage more people to get involved in the TLB vision in a variety of ways – both to create and care for green space.

In late 2016, a partnership group was formed with the aim of facilitating this progress. Walkabouts to discuss greening opportunities were organised with eight of the largest land owners. This comprised The Shard, King’s College London, Guy’s Hospital, London Bridge City, Southwark Council, Fair Street Community Housing, Potters Field Park Management Trust and Network Rail.

For each walkabout, a case study was produced to show proposed interventions, benefits to GI and location. Projects identified in areas owned or managed by these organisations are illustrated on the map below. The map also indicates some of the key place-shaping projects of the London Bridge Plan against which GI projects should aim to deliver. Twelve images on the next pages demonstrate the diversity of projects identified by the partners.

For stakeholders who would like to know more about this work, or would like to explore the opportunities to deliver a GI project, contact Jack Skillen, Placemaking Director at Team London Bridge.



GREEN GRID STRATEGY OPPORTUNITIES MAP

KEY	
	Greening project
	Potential Green Opportunity
	Project area
1.	Thames Path
2.	High Street London Bridge
3.	Green Links
4.	Low Line
5.	St Thomas Street Boulevard
6.	Inns & Yards
7.	Health Cluster
8.	Health Cluster
9.	Quietway

*Location of Green Grid opportunities in the BID depicting greening projects that are already happening and potential opportunities for new ones*



# Example Projects 1-6

An artist's impression of sustainable urban drainage on Tooley Street



An artist's impression of sustainable urban drainage on Collingwood Street



An artist's impression of greening contemporary architecture at the Shard



An artist's impression of green walls and street trees on Bermondsey Street on the new station forecourt



An example of a green roof on a bus stop - proposed at London Bridge bus station



An example of planting in tree pits-proposed along Snowsfields and Newcomen Street





# Example Projects 7-12

An example of a down-pipe planter. Proposed in Fair Street Community Housing and Orchard Lisle House in Collingwood Street



An example of a bin shelter. Proposed on Collingwood street and in Fair Street Community Housing



An artist's impression of climbers on Café Fratelli's southern façade



An artist's impression of "meanwhile" flower-rich grassland, created as a temporary use by piloting waste aggregates as soil. Proposed on Tower Bridge Road and along Newcomen Street



An example of a biodiverse small-scale green roof. Proposed for low roofs located on Great Maze Pond



An artist's impression of wildlife-friendly planting around existing trees





# How we will achieve the Green Grid vision

To deliver the vision, TLB will combine the many functions and benefits of GI, to ensure new projects are planned and delivered through new developments, infrastructure improvements and maintenance and management choices.

## WORKING TOGETHER TO ACHIEVE THE VISION

- GI projects will deliver healthy streets through lowering emissions or by designation of Low Emission Routes.
- The roofs and facades of buildings will be vegetated for multiple benefits including energy efficiency.
- Sustainable urban drainage, and green roofs on bins and bus shelters, will absorb and store surface water runoff.
- Parklets and fresh air squares will provide stepping stones for the benefit of people and wildlife

## TARGETS FOR 2021

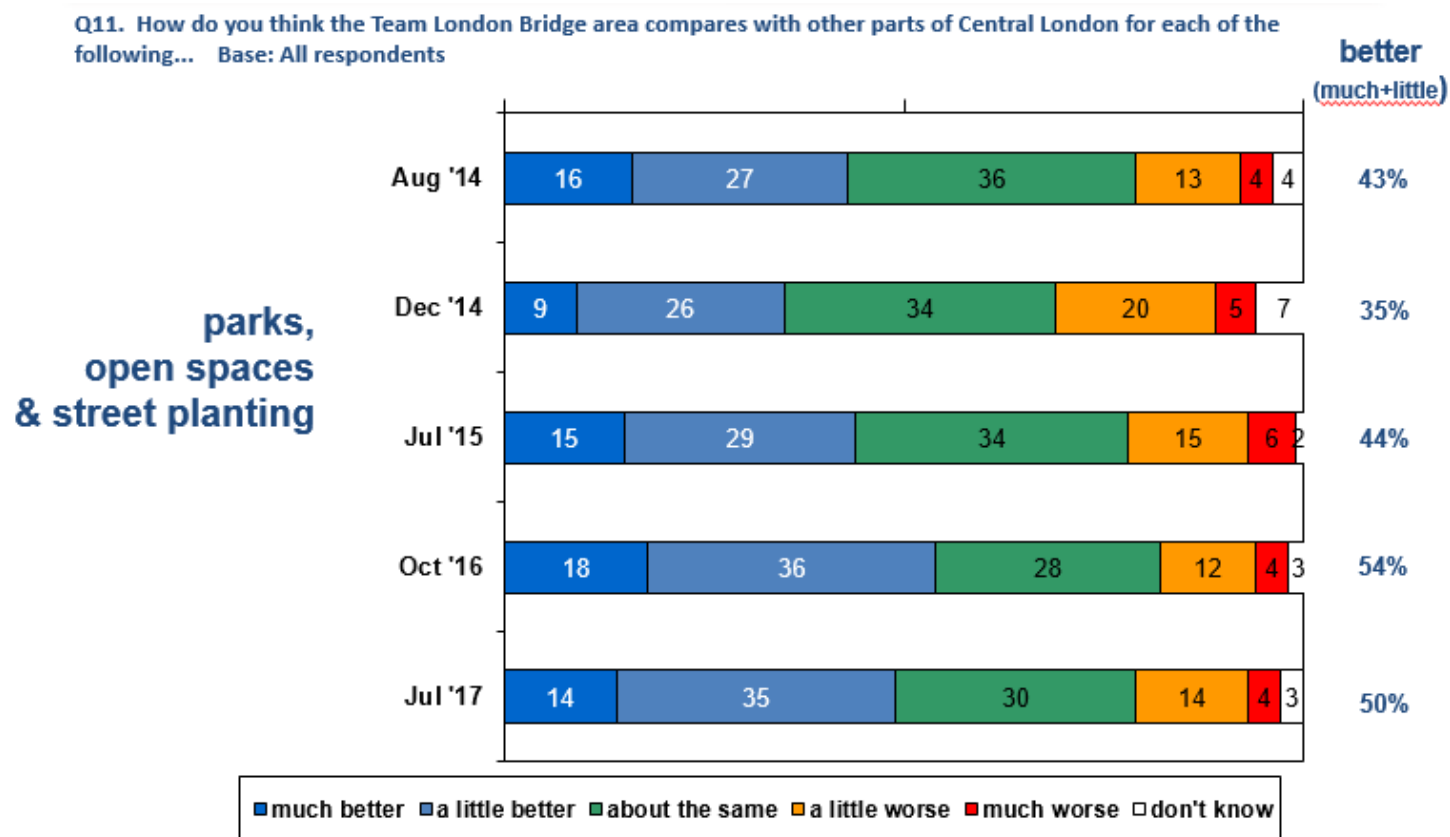
Based on past projects, and the number of opportunities identified with stakeholders, the following targets are achievable over the term of the BID, and would showcase the value a BID can bring to improving the local area. The following targets are based on retrofitting, but much more is possible through new development opportunities – and this should also be monitored.

1. Plant 50 more long-lived trees to increase tree canopy cover by 10%
2. Retrofit 200m<sup>2</sup> green roofs and 500m<sup>2</sup> green walls
3. Plant 1200m<sup>2</sup> of flower-rich grassland
4. Create 800m<sup>2</sup> of landscape planting

## HOW WE WILL MEASURE SUCCESS

In the context of the BID, it is useful to understand impact in terms of broad benefits to the community (landowners, businesses, staff, visitors, residents) as well those for biodiversity, and much will depend on physical changes as well as the ability to communicate the message widely.

One existing measure of perceptions exists through TLB’s bi-annual user survey which asks, “How do you think the Team London Bridge area compares with other parts of Central London for parks, open spaces and street planting?” Results show a slight improvement in perceptions of parks, open spaces and planting over the period 2014 to 2017. This has been despite intense use and development pressure during this time, indicating the success of new initiatives and the value of doing more.



TLB can consider expanding the survey to include measures related to the five GI themes (as mentioned above on p7-8), as well as more objective measures:

**Homes and food for wildlife** - People indicating that in London Bridge they feel connected to nature in their daily lives; the number of wildlife friendly habitats.

**Green and beautiful** - People indicating they have regular contact with high quality greenery; size of planted areas turning from grey to green.

**Cleaner air** - Measures are in place in London Bridge to help reduce some of the most harmful effects of air pollution.

**Collecting and storing rainwater** – Green infrastructure has increased resilience to flooding within the BID area; total catchment of surface water runoff; grey hard surface that has been replaced by soil and vegetation.

**Reducing energy use** – The BID area is taking measures to adapt to climate change; Green infrastructure used to improve BREEAM performance and building efficiency.

Other outcome measures relating to the impact on business could include:

- Number of businesses benefiting from green infrastructure projects
- Improved wellbeing of staff from improved awareness of nature and the environment, as monitored through staff surveys.
- Footfall increase along low exposure routes with green interventions
- Increased profile of London Bridge Green Grid projects mentioned through press, sector events, visits, published case studies, awards etc.

# The Green Grid so far

## SUCCESS AND MISSED OPPORTUNITIES

Following the completion of the TLB GI audit in 2012, twelve pilot projects were prioritised. They included green roofs, green walls, sustainable drainage systems and parklets. In 2017, over half of these projects have been implemented, some are still in the process of implementation, and a small number are unlikely to be delivered. Some of the projects contribute substantially to the GI resource, but in other cases, opportunities have been missed. For example, there is a huge void of green infrastructure in the central area of the BID, which is also the busiest. This area includes St Thomas Street, Tooley Street West, the area around London Bridge Station and The Shard. The planning process has delivered many of the GI features, whilst others have been retrofitted through partnerships. Together they help absorb rainwater, support pollinating insects and provide summer cooling. The successes of the delivered projects are provided below in the context of the five GI themes: air, energy, water, wildlife and beauty.

### *The World's first vertical rain-garden green-wall*

An existing building located on Tooley Street has been retrofitted with approximately 60m<sup>2</sup> of sustainable green wall planting, reusing rainwater from the building roof to irrigate the plants (most green walls use potable water). Green walls have also been created through new development and include 20m<sup>2</sup> at One Tower Bridge and initially 10m<sup>2</sup> of climbers at the entrance to Lalit Hotel (although this area will increase as the plants grow).

*Wildflower rich meadow, Druid Street*





### *The first flower-rich meadow in the BID*

Highway Improvements to Druid Street provided the opportunity to improve this area. A dull **374m<sup>2</sup>** stretch of mown grassland was re-turfed with native wildflower and is now managed as a meadow. It provides year-round habitat for wildlife, attracts butterflies and bees and has improved the visual amenity in this area for residents and people passing through.

### *Green roofs have doubled in size*

The new development at One Tower Bridge has made the largest contribution to the BID with 1055m<sup>2</sup> of green roof, designed specifically to provide habitat for wildlife. The new Cancer Centre at Guy's Hospital has a 470m<sup>2</sup> green roof. This brings the total in the area to 3238 m<sup>2</sup>. No green roofs have been retrofitted in the BID since 2012.

### *Greenwood Theatre, Lalit Hotel and One Tower Bridge*

Approximately 240m<sup>2</sup> of exotic herbaceous planting, shrubs, small trees and climbers have been planted outside the Greenwood Theatre. This is now a well-used and colourful 'pocket park' in the heart of the BID. New planting has also been created at Lalit Hotel and One Tower Bridge.

### *Fresh Air Squares*

Three parklets provide seating and planting. The initial one took over two parking spaces and monitored air quality.

### *Quietway and station tree planting*

18 new street trees have been planted along Newcomen Street, a cycling Quietway, as part of the Guy's Cancer Centre development, and outside the new station exit on Tooley Street.



*The vertical rain-garden green wall on Tooley Street.*

## Additional Information

# Green Infrastructure Policies in the London context

## *The current London Plan*

The current London Plan includes [Policy 2.18 on Green Infrastructure](#) and [supplementary planning guidance on Sustainable Design and Construction](#).

## *All London Green Grid*

The All London Green Grid (ALGG) supplementary planning guidance to the London Plan provides a strategic framework for creating, improving, managing and maintaining high quality GI. ALGG aims are to create a network of interlinked, multi-functional and high quality open and green spaces that connect with town centres, major employment and residential areas, public transport nodes, urban fringe countryside and the Thames.

## *The emerging policies in the New London Plan*

[Policy G1 Green infrastructure](#)

[Policy G4 Local green and open space](#)

[Policy G6 Biodiversity and access to nature](#)

[Policy G7 Trees and woodlands](#)

[Policy S11 Improving air quality](#)

[Policy G5 Urban greening](#)

Policy G5 of the new London Plan relates to Urban Greening, stating that “Major development proposals should contribute to the greening of London by including urban greening as a fundamental element of site and building design, and by incorporating measures such as high-quality landscaping (including trees), green roofs, green walls and nature-based sustainable drainage.” It also specifies that “Boroughs should develop an Urban Greening Factor (UGF) to identify the appropriate amount of urban greening required in new developments. The UGF should be based on the factors set out in Table 8.2, but tailored to local circumstances. In the interim, the Mayor recommends a target score of 0.4 for developments that are predominately residential, and a target score of 0.3 for predominately commercial development.

## *[The New Southwark Plan](#)*

Policy 58 in the Plan is about Green Infrastructure. It states that:

Major development must:

1 Provide green infrastructure with arrangements in place for long-term stewardship and maintenance funding.

Large-scale major development must:

2 Provide new publicly accessible open space and green links.

Green infrastructure should be designed to:

3 Provide multiple benefits for the health of people and wildlife; and

4 Integrate with the wider green infrastructure network and townscape / landscape, increasing access for people and habitat connectivity; and

5 Be adaptable to climate change and allow species migration while supporting native and priority species.

Related policies include P59 Biodiversity, P60 Trees, P62 Energy, P69 Reducing Flood Risk.

#### [Southwark Biodiversity Action Plan 2013 to 2019](#)

The BAP's five themes are Wildlife and Ecosystem Services, The Urban Forest, The Built Environment, Climate Change & Sustainability and Connecting with Nature. The climate change theme aims to "deliver ecological solutions to offset the impacts of climate change". The connecting with nature theme aims to increase community action and events relating to wildlife.

#### [The London Bridge Plan](#)

Section 29 of the London Bridge Plan under "Placeshaping" relates to the Green Grid. It is intended to "provide an overarching green vision for the area made up of a series of linked public realm projects". Relevant examples of delivery projects include the delivery of green walls throughout the business district, increased tree planting, new pocket parks and green spaces and "Fresh Air Squares"

#### [Clean Air Route Finder](#)

Through the Mayor's Air Quality Fund, the Mayor has supported the Cleaner Air Better Business (CABB) project to develop an interactive map of London that allows you to put in any route and be shown a low pollution walking option.