



# Streetscape Design Guidelines

First Edition



**Brighton & Hove  
City Council**

## Foreword

I am pleased to introduce Brighton & Hove City Council's Streetscape Design Guidelines.

The city's streets are complex places which fulfil a number of roles. Ensuring streets are designed, managed and maintained in a way that enables them to maximise their potential value to residents requires the specialist skills of a wide range of people.

If we get our approach to streets right, we unlock a range of opportunities. Streets won't just be places for people to move through as quickly as possible; they'll also be places in which people want to undertake other activities. The more time people spend in streets, the safer streets feel, the better the local economy fares and the more vibrant and attractive the city becomes for everyone. This in turn makes the city more attractive for visitors, which further benefits the local economy.

Providing attractive, balanced streets and choosing street materials carefully helps the sustainability and health of the city. Good design and workmanship can reduce future maintenance requirements dramatically. This, along with avoiding unnecessary street furniture, offers long term financial benefits.

In short, Great Streets make for a Great City, and I hope the Streetscape Design Guidelines provide a useful tool for everyone involved in ensuring Brighton & Hove remains a great city for the foreseeable future.



A handwritten signature in blue ink, which appears to read 'Geoffrey Theobald'. The signature is written in a cursive, flowing style.

Councillor Geoffrey Theobald, OBE

Cabinet Member for Environment, July 2010.

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## Introduction



New Road functions successfully from a traffic management perspective with minimal signage and no lining

It is easy to underestimate the impact that street furniture and materials have on our experience of the city. Perhaps this is because when materials are well chosen, they enhance and complement their location discreetly. Human activities in and around the street become the things we associate with the streetscape.

For example, if asked to describe what makes North Laine so successful, we are more likely to cite the vibrant mix of independent shops and people than street materials. But it is difficult to imagine the area without the red clay pavers that contribute to its unique place and character in the city.

Similarly, when New Road was redesigned, a concerted effort was made to minimise signs, lines, guardrail and other everyday items of 'restrictive' street furniture (items that police behaviour). This was achieved whilst enabling the street to operate, from a traffic management perspective, in much the same way as it always did. It is unlikely that many of today's street users actively recognise that there is less of this 'street clutter' in New Road than in surrounding streets, and that this is one of the things that makes the street environment an attractive place to spend time. However, the detrimental impact of normal levels of street clutter would be very apparent if it was suddenly reintroduced back into the street.

The Streetscape Design Guidelines (SDG) provided in this document aim to ensure a consistent, co-ordinated and high quality approach to street furniture and surface materials in Brighton & Hove. With guidance on considering, siting, specifying and installing street furniture, the document supports efforts to enhance the character, quality and fitness for purpose of our streetscape.

The SDG is not a comprehensive design guide: it focuses on specifications and considerations associated with individual elements of street furniture and materials at detail level. To achieve maximum success, it is important that the SDG guidance is applied within the wider context of the Public Realm Strategy.

The SDG is based on the general philosophy that the city's public spaces should enhance rather than restrict the ability of all residents to enjoy them to their maximum potential.

Carefully considered street furniture and materials can help achieve this by strengthening character, improving the quality of the streetscape and providing people with the things they

need to enjoy the city, whilst at the same time having a positive impact on maintenance requirements and sustainability. Without careful consideration, street furniture and surface materials can have the opposite effect.

The SDG is designed for everyone who specifies and/or installs street furniture or surface materials in the city. This includes Council officers, developers and contractors. The guidance is designed primarily for the urban streetscape (which generally consists of hardscaped areas with buildings either side). However, the general principles contained in the guidance may also be applied to wider areas, such as the rural fringe around the city, parks or the seafront, where relevant\*.

This document is Edition 1 of the Streetscape Design Guidelines. It is hoped that the scope of the document will be extended through future editions.

\*It is possible that SDG guidance on standard types of street furniture or surface materials may not be appropriate in these locations, due to their unique individual character.



Avoidable street furniture has a negative impact on the street scene



Integrated Public Art: The bench at Jubilee Library

## Policy Context

The Streetscape Design Guidelines contribute to delivery of the city's Public Realm vision as set out in the Public Space Public Life Study. The Public Space Public Life Study informs the Local Development Framework and the Sustainable Community Strategy.

The Core Strategy of Brighton & Hove's Local Development Framework sets out the overarching planning policy for the public realm network including the streetscape under Council Policy 3 (CP3) Public Streets and Spaces. CP3 "seeks to ensure new schemes within the public realm network achieve consistent standards in quality, legibility and accessibility and contribute towards the implementation of the Public Space Public Life Study (2007)". The aims of CP3 most relevant to the streetscape are:

- Enhancing the local distinctiveness of the city's neighbourhoods;
- Utilising high quality, robust and sustainable materials for all elements of the streetscape;
- Reducing the clutter of street furniture; and
- Incorporating an appropriate and integral public art element."

## Public Realm Strategy

Brighton & Hove's Public Realm Strategy aims to establish a co-ordinated, consistent and high quality approach to all work in the public realm, including the streetscape. The overall objective is to ensure the city's streets and public spaces are designed to bring maximum benefit to all residents. If all areas of the city work to maximum potential for residents, they will also be much more attractive for visitors.

The more attractive and usable the city is for everyone, the more time everyone will want to spend in it, bringing a host of social, economic and sustainability benefits.

A huge number of people undertake work which impacts on our streetscape, often with different primary objectives and within a variety of constraints, whether financial, legal, temporal or other. Establishing a consistent, coordinated and high quality approach to our streetscape is therefore a complex task.

The SDG is one of several documents that together aim to make this work as easy as possible:

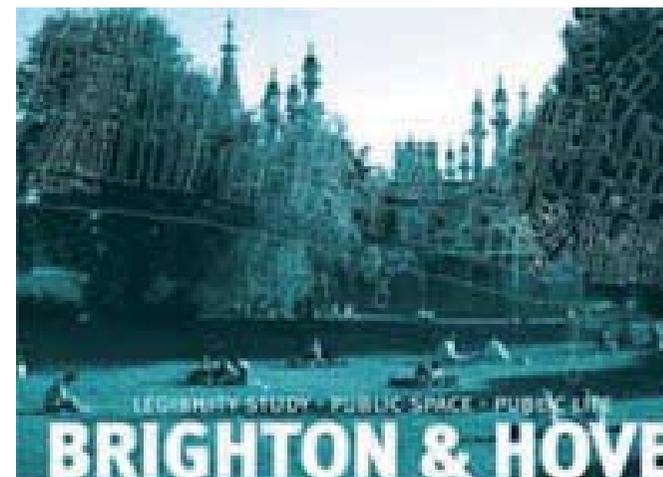
**The Public Space Public Life (PSPL) Study** sets out strategic recommendations to improve the public realm network, along with guiding design principles that should be followed to ensure the recommendations are delivered in the most successful way.

**The Public Space Public Life (PSPL) Delivery Plan** sets out how the PSPL Study's strategic recommendations can be delivered in a coordinated way. For example, where the PSPL Study identifies a recommendation for improving the pedestrian network and sets out good design principles for successful pedestrian networks, the PSPL Delivery Plan identifies where pedestrian network improvements are most urgently required, and any other streetscape improvements that may be required in the same area.

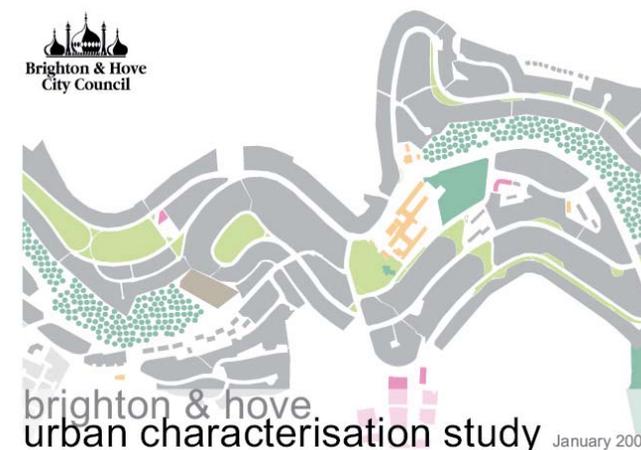
**The Urban Characterisation Study** and Conservation Area Appraisals describe the different character areas in the city, providing historic context and a reference guide to help ensure any work within the public realm network protects and strengthens the character of an area where relevant.

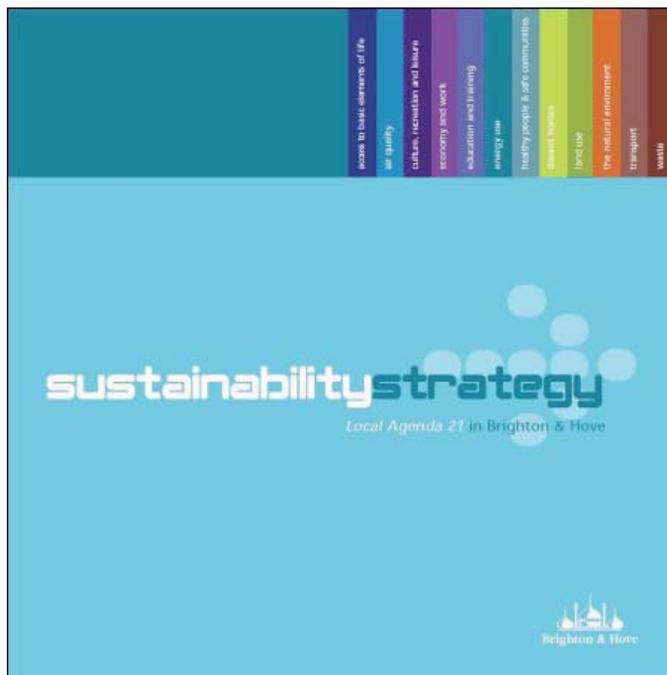
**The Materials Database** is an online reference tool that provides easy access to details of existing and recommended street furniture and surface materials on an area and citywide basis.

**The Streetscape Design Guidelines** set out standard design and installation specifications for the elements that make up the streetscape (such as street furniture and surface materials) along with the issues that should be considered when choosing and implementing them.



The Public Space Public Life Study (above) and Urban Characterisation Study (below) can be downloaded from the Council's website





The Sustainability Strategy can be downloaded from the Council's website

## Brighton & Hove's Sustainability Agenda

The SDG is prepared in line with the Brighton & Hove Sustainability Agenda which aims to help developers and other interested parties assess the sustainability of design schemes for new homes and mixed-use developments. The document is also a useful tool in assessing the sustainability of proposed street furniture and surface materials. The criteria under the category 'Resources' are particularly relevant to the SDG and should be used when evaluating any bespoke street furniture or surface materials.

Generally, all street furniture and surface materials used in the construction of the streetscape should be of low embodied energy (have low environmental impact). To achieve this, the following considerations should inform decisions relating to new design schemes:

- Where possible, street furniture and materials should be locally sourced (within 35– 50 miles from the site).
- Timber used in the construction of the streetscape should be sourced from sustainably managed and temperate sources. Recognised accreditations include the Forest Stewardship Council Certification Scheme and Pan European Forest Certification.
- Use of locally reclaimed or recycled materials should be maximised.
- The quantity of waste created on site and sent to landfill should be minimised.
- Any contribution to the urban heat island effect should be minimised. This term refers to the higher temperatures in urban areas on hot days, partly caused by building materials (particularly darker materials such as tarmac, and heavier materials such as concrete), which absorb and radiate heat. Consultation with Council's Sustainability team will help to determine the most effective on-site measures relevant to a specific design proposal to help minimise this effect.

## How to use the Streetscape Design Guidelines

The Guidelines are designed to provide quick and easy access to key information relating to street furniture and surface materials. Each section in the document is divided into four key areas:

1. Considering - general principles that should inform decisions on street furniture or surface materials.
2. Specifying - guidance on which type of street furniture / material should be used in which location.
3. Siting - guidance on optimum locations for items of street furniture / material.
4. Installing - guidance on correct methods of installing the item of street furniture / material.

The SDG is divided into three parts. Part 1 deals with Street Furniture, Part 2 with Signs & Road Markings and Part 3 with Surfaces.

The guidance set out in the SDG should be considered alongside the general good design principles outlined in the Public Space Public Life Study. To make this as easy as possible, the SDG provides links to helpful sections of the Study where relevant. Whilst the SDG guidance should also be considered alongside other guidance, in most instances the SDG does not refer specifically to external guidance. It is expected that the user will make links with such guidance themselves where appropriate.

For practical reasons the Guidelines focus on the most common elements of street furniture and surface materials in the streetscape. However the principles contained in the SDG apply to all elements that make up the streetscape, regardless of whether or not they are explicitly mentioned in this document.

The SDG focuses on aspects of street furniture and design that relate specifically to the character of Brighton & Hove. The SDG does not replicate more generic good practice guidance, such as that contained in Manual for Streets.



A good example of high quality installation



Failure to consider wider streetscape needs results in this shelter having a detrimental impact on the physical and visual quality of the street

# Part 1 • Street Furniture

Part 1 provides guidance on Street Furniture. The General Design Principles at the beginning of the section apply to every item of street furniture in the streetscape. The General Design Principles are followed by individual chapters focussing on common items of street furniture, setting out the additional specific principles that apply to each.

## General Design Principles

### Considering

Street furniture can be 'enabling' (facilitating or encouraging positive activity within the streetscape; i.e. cycle stands and seating) or 'restrictive' (preventing behaviour from occurring; i.e. bollards and guardrail). As a general rule, only essential street furniture shall be introduced into the streetscape. This is especially true of 'restrictive' street furniture.

Guidance is never site specific and always general; therefore it should not be assumed that an item of street furniture is necessary simply because guidance may recommend it. It is useful to be 'guided' by guidance but to then challenge the appropriateness of that guidance to your specific circumstance.

Where an item of street furniture prevents a detrimental impact resulting from a type of behaviour (for example a bollard preventing vehicles from driving on and damaging a footway), consider whether the problem can be resolved in a different, less intrusive way (such as by strengthening the footway).

If new street furniture is absolutely necessary, consider whether it is able to fulfil additional functions of benefit to the streetscape. For example, can a bin be located in such a way that it performs its primary function of being somewhere for people to leave litter, whilst also preventing vehicles from damaging a pavement so that a separate bollard is not required?

Avoid including restrictive street furniture in a scheme to pre-empt a potential problem that may not actually happen. Additional street furniture can always be added retrospectively if a need is proven, as long as space for its potential "retro-fitting" has been accommodated in the original design scheme.

Wherever possible, superfluous or redundant items of street furniture should be removed when undertaking a project in an area. Can new items of street furniture be combined with existing street furniture to minimise additional clutter? For example, a new sign may be mounted on an existing bollard or lamp column rather than a new post.



'Enabling' street furniture in Lisbon - these pods provide a place to rest and add interest to the street scene



Restrictive street furniture can create more problems than benefits (Oxford Street, London)



Redundant street furniture is detrimental and should be removed



Character can be beneficial but so is consistency. Here, 3 different bollards are used in close proximity

## Specifying

In most instances, choice of street furniture should reflect either the standard item for Brighton & Hove or the agreed heritage / character type for the specific area in which it will be located (see the Materials Database). This approach ensures furniture is of a consistent quality and character, and makes maintenance much easier. If there is a particular need for a bespoke design this should be appropriate to the context and identity of the location, and the item must be agreed in advance with Brighton & Hove City Council's Maintenance and Design and Conservation teams (and anyone else considered relevant by those teams).

Standard street furniture items for Brighton & Hove have been carefully chosen to ensure they meet the criteria of the Brighton & Hove Sustainability Checklist. If sourcing locally for certain street furniture items has not been possible, the product has rated well on other criteria. Where deviation from the standard or heritage / character type for Brighton & Hove is sought, bespoke street furniture must also meet these criteria.

Consideration should be given to retaining historic/heritage street furniture. Existing historic street furniture such as lamp columns, monuments and railings may be an important part of Brighton & Hove's heritage. Sometimes it is not obvious which items of street furniture are considered to be of importance. If in any doubt it is worth checking with the Council's Design and Conservation Team.

If considering replicating historic designs, ensure details are accurate and authentic. Some historic items of street furniture are statutory listed buildings, which cannot be removed without Listed Building Consent.

Consider tonal contrasts between the item of street furniture and wider street-scene so as not to create hazards for visually impaired people.

Always consider future maintenance implications of street furniture. For example, any new street furniture should be graffiti and sticker proof. If in doubt, check implications with the Highways Maintenance team and Cityclean.

Ensure all new items of street furniture are recorded on the Materials Database to enable easier future maintenance.

## Siting

Street furniture items should be carefully positioned to maximise practical benefit without blocking sight or movement 'desire lines' (the route people moving through a space would naturally want to take). Make sure each item of street furniture is located to encourage, rather than discourage its use and does not conflict with the wider use of the street and other items of street furniture.

Consider the potential impact of future factors, such as licensing of outdoor seating areas.

Always consider how street furniture can be detected by visually impaired people.

Rather than simply relying on guidance to find an appropriate location for street furniture, consider the character and use of the specific street or space you are working in. For example, the appropriate space to leave between an item of street furniture and a wall will depend greatly on pedestrian flow in the area if pedestrian congestion / impeded movement is to be avoided. Page 54 of the PSPL Study provides advice on ensuring sufficient pavement width is provided for pedestrian flows.

As a general rule street furniture should be placed in "zones" between the wall and carriageway. Zones are important in regard to maximising provision for movement within the street as well as unifying the streetscape. However, remember that this may be unsuitable for some items of furniture.

Street furniture (or overhang from) should be at least 450mm from the kerb to avoid conflict with the vehicular envelope (any part of a vehicle - such as a bus wing mirror). It may also be beneficial to consider grouping street furniture by material or colour palette.

## Installing

Standards of workmanship rather than cost of materials have the greatest impact on the quality of the final streetscape. Therefore it is vital that street furniture is fitted with care and attention to detail. Holes for fixing street furniture should be core drilled wherever possible.

As a minimum standard, where a material is not suitable for coring, holes should be carefully cut to the minimum size necessary to accept the street furniture fixing, before any remaining gaps are carefully infilled with mortar coloured to match the surrounding material as closely as possible. Holes for fixings should not be untidily chiselled out leaving large gaps carelessly infilled.



Carefully positioned furniture in a linear 'zone' has a practical benefit



This railing obstructs pedestrian movement and creates congestion



Very different standards of workmanship and attention to detail are apparent in the images above and below.



When undertaking any streetscape works caution must be applied in regard to the protection of tree roots and other underground elements such as utilities.

Where possible, any surfacing material reinstated during the fixing or removal of an item of street furniture should be the same as that used in the surrounding street, in terms of both colour and specification. Where this is not possible (perhaps because the surrounding material is already inconsistent, unfit for purpose or so old it is either faded or no longer available) the replacement material should complement the primary existing surface material as closely as possible.

Always seek advice of the Highway Services team when installing any element of furniture to ensure there is no impact on drainage or water flows.

Damaged street furniture should be repaired, replaced or removed at the earliest opportunity.

## Public Seating

### Considering

Seating provision is a vital component of a usable streetscape. For some street users, seating is a necessity. People should have the option of being able to sit without having to buy food or drinks. Although an area may contain cafés with outdoor seating this does not therefore mean there is adequate seating.

Consider the amount, nature and usage of the existing provision of public seating when determining the need for additional seating. Consider public (e.g. a bench), private (e.g. café), formal (something designed specifically for seating) and informal (something people sit on that is not designed for seating alone; such as steps or a wall) seating opportunities.

The quality of seating should also be considered: is an existing bench usable due to its location and state of repair?

Consider ways in which to ensure seating can be used by all residents. For example, armrests can help less mobile people use the seats.

Cityclean is currently in the process of replacing existing seating stock with the standard Brighton & Hove City Council bench (see opposite). When undertaking a scheme in an area where existing benches are unfit for purpose due to their state of repair or location, consider upgrading them to the Brighton & Hove City Council standard.

For further information on seating provision in Brighton & Hove see page 64 of the PSPL Study.

### Specifying

Formal seating is generally provided through either an artistic commission or the standard Brighton & Hove City Council bench.

The standard Brighton & Hove City Council bench is based on a traditional local design and is provided by Earth Anchors. Standard Brighton & Hove City Council benches should be ordered through Cityclean (for on street locations) or Cityparks (for park locations).



Standard Brighton & Hove bench



Where seating is provided through an artistic commission, guidance on Public Art should be applied



The memorial by St Peter's Church, an example of the kind of structure people enjoy sitting near

Where seating is provided through an artistic commission, guidance on Public Art should be applied.

Metal seating should be avoided in areas that receive direct sunlight as this will become hot and unpleasant for users. Timber should generally be avoided in damp and shady areas because it will be unable to dry out and therefore rot or become a breeding ground for mosses, algae or fungi.

### **Siting**

The most important consideration with seating is identifying a place that people actually want to sit. Benches should be placed in positions where they offer views of 'people activities'. For example, research shows that seats overlooking streets are used more than seats overlooking green spaces.

Popular 'staying places' are edges of spaces or areas where two places meet, making these ideal locations for seating. People prefer to sit or stand next to things that reduce feelings of exposure such as building walls or substantial street furniture components such as the memorial by St Peter's Church (see opposite). Seating should not be placed in an isolated position in the middle of a space.

Areas appropriate for additional seating may include routes that are well used by pedestrians, providing there is sufficient room on the footway to prevent the seating causing an obstruction.

When selecting a specific location for new seating, consider how users may benefit from pleasant sensory experiences including the availability of views and access to sunlight.

Protection from unpleasant experiences such as wind, rain and in some instances vehicular traffic should also be taken into account.

### **Installing**

As per Street Furniture: General Design Principles.

## Café / Restaurant Tables and Chairs

### Considering

Whilst the council generally licenses rather than provides café and restaurant seating, some consideration should still be given to this area to ensure such provision benefits rather than detracts from the wider street-scene as far as possible.

Tables and chairs provided by cafés and restaurants can add vitality to the city's streets and create pleasant places for people to enjoy the streetscape. Outdoor café and restaurant areas can improve feelings of safety by retaining 'life' in the street and providing passive surveillance.

Whilst outdoor cafe and restaurant seating should be encouraged in public spaces, care should be taken to ensure room is left for other uses to ensure mixed, lively streets.

Consider possibilities for and ways of overcoming potential negative impacts of licensed areas on users of the surrounding streetscape. For example, some street users may be intimidated by having to walk past the outdoor seating area of a pub. In such instances designers should consider how to ensure all street users feel comfortable using the street.

### Specifying

Café / Restaurant furniture will vary depending on the individual business.

Visually and physically, screens can "privatise" areas of the street. When screens are used to enclose café / restaurant seating, consideration should be given to suitable width and height according to the degree of exposure against winds, the available pedestrian walkway, and maintaining views into the space that the screens enclose.

Materials such as cotton canvas, PVC, polyester, or clear or frosted acrylic are acceptable for screens within the streetscape. All products should be resistant to salt laden winds and loss of colour in hot sun. A variety of ropes may also be suitable in this marine environment.

The posts and base of the screen should be manufactured in Marine grade Stainless Steel 314, polyester coated iron, cast iron or wood.

Additional signage and advertising other than the name of the café or chain is not acceptable



Above & below - outdoor seating contributes to life on the street





A simple rope barrier defines the restaurant area without creating a visual barrier.

on screens. Signage on café screens may well require Advertisement Consent, depending upon location, size and number of signs.

### **Siting**

Location and management of licensed areas should be considered from the outset of a design scheme with the support and advice of the Council's Highway Licensing team.

All placements require a highway licence and may also require a period of consultation.

Tables and chairs should be located in such a way as to ensure that pedestrian flow is not obstructed. The amount of space required for pedestrian flow will vary depending on the specific location.

Remember to ensure adequate space is provided for all street users, especially those with sensory or mobility impairments, to navigate around the licensed area.

### **Installing**

Fixing of tables and chairs should generally be discouraged, as the street surface is likely to outlast the period of occupation by the restaurant or café.

Licenses should ensure that all tables, chairs, fabric, solid screens, posts, bases and highway surfaces around the licensed area are kept washed and free of graffiti by the café staff.

Further guidance on licensed area arrangements can be found in the Council's "Street Access Issues" report (March 2010).

## Public Art

### Considering / Specifying

The provision of public art can create and enhance local distinctiveness and help develop a desirable sense of place. Public art projects also provide important opportunities to involve the local community, offer work opportunities for artists, contribute to the city's artistic tradition and strengthen the city's appeal as a unique tourist attraction.

Public art can take many different forms. It can be “stand alone” or integrated into wider landscaping or lighting schemes. Installations may also be developed as community artistic projects. When art forms part of a wider scheme, it is essential that artistic elements are planned and integrated as early as possible into the wider design.

When considering public art, seek the advice and support of the Council's Arts and Cultural Projects team at the earliest opportunity.

Page 115 of the PSPL Study gives further advice on ways to effectively integrate artistic elements into the streetscape.

### Siting / Installing

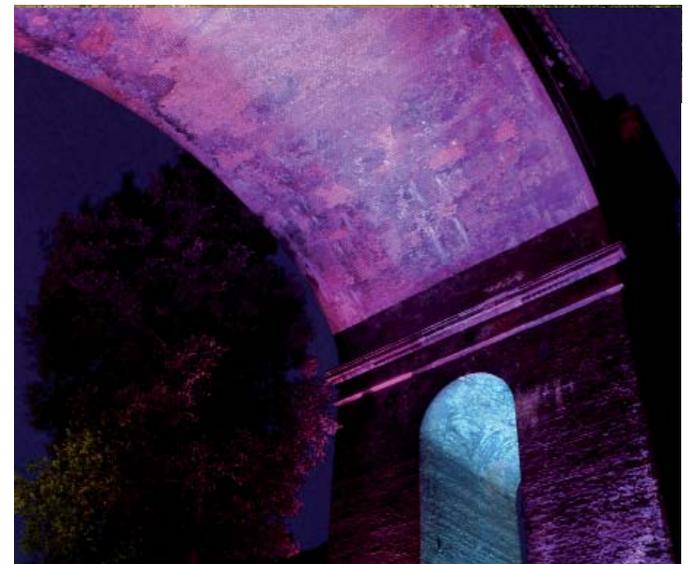
The artist and others involved in the process must be absolutely clear on responsibilities from the outset to ensure the artwork is sited, installed and maintained correctly.

Further, each new public art project should include a maintenance strategy, agreed with the Council's Arts and Cultural Projects team and anyone else who may have an implicit or explicit maintenance interest or assumed obligation.

Contact the Council's Arts and Cultural Projects team for advice on identifying opportunities for / commissioning public art.



Integrated art lends interest to different environments





On road is the preferred location of cycle parking

## Cycle Stands

### Considering

When considering installing cycle stands, investigate the surrounding area to determine whether there is an unmet demand, and also assess whether cycle stands will be detrimental or beneficial to the location. For example, cycle parking in a restricted space may create an obstruction, whilst cycles attached to other street furniture may hint at an unmet demand.

When considering numbers of cycle stands required in a location, consider future proofing the scheme by adding more stands than may currently be required. It is likely that demand for cycle parking will continue to grow in the future.

Cycle stands should be installed in banks of 5. As a general rule, avoid putting less than 5 stands in any location.

Whenever cycle stands are being considered, contact the Council's Transport Planning team for advice. For information on issues relating to the wider cycling environment see page 44 of the PSPL Study. For ways to improve conditions for cycling on a citywide scale, see pages 104-105 of the PSPL Study.

### Specifying

Black polyurethane covered, stainless steel inner "duracast" Sheffield stands should be used in all locations.

Any departure from the prescribed standard will need prior agreement with the Council's Transport Planning and Maintenance teams.

### Siting

Cycle stands should be placed in a visible position. Cycle stands should also be placed on cycle desire lines, and be located as close to the user's destination as possible. Ideally, cycle parking should be located within 25 metres of significant destinations (such as a railway station).

Cycle stands should be placed in a position where users feel it is safe to leave their bike, and also in a position where users feel safe at all times of the day. Overlooked, lively locations work

better than deserted spaces.

Cycle stands must not impede pedestrian movement.

Ideally cycle stands should be placed in the carriageway with the length of the cycle stand at right angles to the kerb. These cycle stands should be protected by a low build out and Doric bollard at each end, with a cycle parking sign attached to the bollard to guard against illegal vehicle parking (see picture). Where insurmountable spatial constraints in the carriageway prevent this approach, the next best option is placing cycle stands on the footway with the length of the cycle stand at right angles to the kerb.

Placing cycle stands parallel to the kerb should be avoided wherever possible.

### Installing

Cycle stands should be fixed by using a core drill to create a hole at the correct diameter. Holes should be infilled using a material that visually complements the host surface material. Allow for wheel (and handlebar) 'overhang' of roughly 0.5m either side of (and parallel to) a cycle stand.

DDA compliant tapping rails should be provided on each cycle stand at each end of a bank of stands. If this is not possible, a stand alone tapping rail should be provided. The distance between the ground and the bottom of the tapping rail should be a maximum of 150mm.



Placing cycle stands parallel to the kerb should be avoided if possible

City 2000 shelter



Garouste shelter



Giugiaro shelter



## Bus stops & shelters

### Considering

It is unlikely that a design will require provision of a new bus stop. Therefore the section focuses on designing the layout of, rather than siting bus stops. If a new bus stop is required, or if an existing bus stop needs relocating, speak to the Council's Public Transport team for advice.

Bus stops should be designed to make it as easy as possible to get on or off a bus. The bus stop should also be as pleasant a place as possible to wait for buses in all weathers, and should provide passengers with the information they need to make their journey as easy as possible. As a general rule, accessible bus shelters, kassel kerbs and Real Time Information with "Talking Bus Stop" technology should be provided at each bus stop. It should also be remembered that more popular bus stops will need to accommodate more people.

However, it is also important to remember that bus passengers only comprise a percentage of all street users. Therefore bus shelter specification should always seek to achieve good provision for bus passengers whilst ensuring the immediate environment also works well from the perspective of other street users.

As such every bus stop must be designed in consideration not only of its role as an interchange, but also within the wider context of its specific location. Important factors to consider include the relationship between the bus stop/shelter, any other obstacles (such as street furniture and licensed areas) and other functions, such as pedestrian desire lines and flows / cycle infrastructure, and visual permeability through / intrusion on the streetscene.

Generally, design of bus stops should aim to (in order of priority):

- Make sure there is adequate room for all street users to move and see around the bus stop / shelter.
- Make sure shelter location works well for bus passengers without causing problems for wider street users.
- Minimise street clutter.

For information relating to wider bus stop design issues and considerations, consult the Council's Public Transport team and see page 42 of the PSPL Study.

## Specifying

Shelters are modular in construction, being constructed out of 1.3m panels. They are usually between 1 and 4 panels in length with end panels of either 1.3m (full width) or 0.65m (half width). As a general rule, half width shelters have least impact on other street users; full width shelters offer waiting bus passengers better protection from inclement weather.

For reasons of personal security the bus shelter should be made of transparent material.

Transparent shelter panels on the bus approach side help people see buses coming. Transparent walls should incorporate tonally contrasting bands at least 150mm wide fixed to the surface at 2 levels; one at a height of between 1400mm and 1600mm, and one at a height of between 900mm to 1000mm from the ground. Decorative elements such as broken lines, logos or signs should not be considered as alternatives to bands as they are not as legible for partially sighted people.

Solid end panels should have distinctive and rounded edges. The outer edge of the panel should be highlighted with a strong colour or tonal contrast.

The advice of the Council's Public Transport team should be sought when choosing a shelter. The team can also advise on Real Time Information.

## Siting

The most appropriate bus stop/shelter arrangement will depend on the specifics of the individual site. Bus shelters/stops located on a footway extension, for example, provide optimum provision for bus passengers awaiting, boarding or leaving a bus with minimal obstruction to pedestrian flows. However, in some locations these potential benefits may be outweighed by problems caused to vehicular capacity and cycle lanes etc.

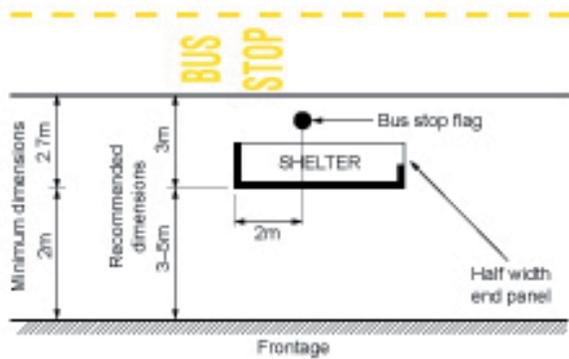
Whilst understanding the constraints of the specific location is most useful when making decisions about siting bus shelters, certain guidelines should still be considered.

A minimum width of 2.7 metres should be provided between the kerb edge and rear of the shelter to enable a wheelchair user to manoeuvre within the shelter. The minimum space required between the building line and bus shelter in any location is 2 metres. However, where pedestrian flows exceed 26 people per minute, more space will be required (a minimum of 1 metre of clear

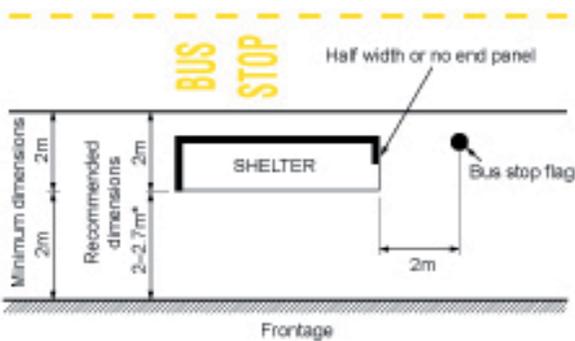


Whilst guidance would suggest that there is adequate pedestrian space between the bus shelter and the facade, proximity to licensed areas and high pedestrian volumes results in pedestrian congestion

**Figure 10: Passenger waiting area critical dimensions**

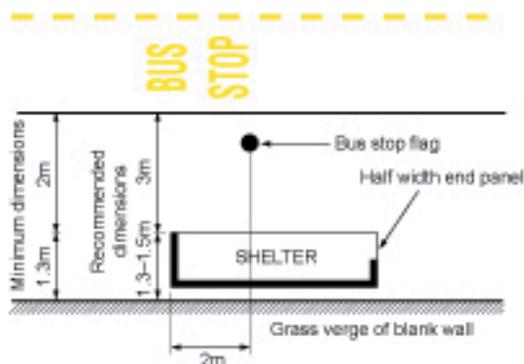


**Figure 10.1: Centre of footway**



\*Above 2.7m, recommend 'centre of footway' solution

**Figure 10.2: Back to kerb**



**Figure 10.3: Back of footway**

footway space is required for every 13 people per minute wherever possible). Calculation of required pedestrian space should also take into account the impact of other obstacles such as licensed areas, litter bins, telephone booths, shop entrances / fronts and sign posts.

To maximise the available waiting space close to the stop, and minimise obstructions to people boarding or alighting from a bus, a 20-metre area upstream (the direction of bus travel) of the bus stop should be kept clear of street furniture.

As well as build outs, three standard bus shelter arrangements may be considered.

The 'centre of footway' layout provides passengers with adequate shelter and the ability to see approaching buses and board with ease. This solution is appropriate in locations with sufficient footway space for both the shelter and other street users / uses.

Where narrower footways or other site constraints require alternative arrangements, the 'back to kerb' or 'back to footway' options may be appropriate.

The arrangements are shown on the diagrams to the left.

### Installing

Installation of bus shelters involves removal of the existing footway surface, setting the shelter in concrete foundations, and careful re-instatement of the footway surface to match the existing material.

Any bus shelter that includes an illuminated advertising panel requires Advertisement Consent. Guidance on where such shelters are acceptable is set out in Supplementary Planning Document 07.

Any bus stop information should be sited inside the shelter.

## Litter Bins

### Considering

When considering bins as part of a new scheme, consult with Cityclean from the outset to ensure necessary and practical bin provision is included as an integral part of the scheme design. It is important to provide sufficient numbers of bins, but equally excessive numbers of bins should be avoided. If unsure of how many bins are needed, start with a low number and monitor the situation to see if more are required. Make sure possible locations for additional bins have been identified in the scheme design, so they do not need to be retrospectively 'squeezed' in.

If considering bespoke bins, factor in ongoing maintenance implications. Bespoke bins will not look good for long if they are quickly covered in stickers and used as ashtrays.

Cityclean is currently in the process of upgrading existing bins in the city to the new square 120 litre Brighton & Hove City Council standard (see opposite). When working on a project in a location that features other types of bin, consider updating existing bin stock as part of your scheme.

### Specifying

All bins throughout the city should be 'square' 120 litre black Brighton & Hove City Council bins with integrated ashtrays (see picture). All bins should be ordered through Cityclean. Any deviation from the standard bin should be agreed in advance with Cityclean.

### Siting

Bins should be located as close as possible to sources of rubbish generation, such as bus stops, benches and shop entrances and in positions that enable easy servicing access.

Where possible, site bins close to other items of street furniture (such as lamp columns or bus shelters) to reduce the area taken up by the street furniture collectively. Bins should however not be located in positions that obstruct pedestrian flow – a clear and direct "movement corridor" should always be maintained through the street.

### Installing

Standard bins are attached to the ground by four bolts. Cityclean oversee installation.



Standard Brighton & Hove litter bin



Appropriate shape, size and species complement the character of the street.

## Trees

### Considering

Many of our most notable tree-lined streets have tree populations that are over-mature, and therefore at higher risk from climatic variations (such as drought) and disease.

An over-mature population of street trees tends to erode gradually over a number of years as individual trees decline and have to be removed. This generally affects the older areas of the City. In these areas new trees should be introduced, where practicable, between the mature trees to ensure that there will be continuous tree cover in future years as removals occur. Similarly tree lined streets that have experienced tree losses and resultant loss of continuity of planting should be replanted to restore the visual impact originally intended.

### Specifying

When choosing a species appropriate for any given location, consider the tree's ultimate shape, size and maintenance requirements in context with the objective and location of the proposal. Ensure the species is suitable for the specific microclimate of the location by observing successful plantings in a comparable context.

When considering a deciduous species, the impact of fallen fruit and leaves on the surrounding streetscape must also be taken into account. Consider the root spread and whether this may cause problems at a later date. Always consult the Council's tree specialists prior to any final decision.

### Siting

When proposing a new tree-planting scheme, consider the wider context to ensure the trees complement rather than detract from area character. For example, introducing trees may conflict with efforts to create a defined "urban" street character. Check whether the site is identified as contributing to the wider green network strategy.

Where the site is intended to contribute to the wider green network strategy, consider the best way to create a linkage with existing street trees and green spaces. If conflicts arise between locating trees and other structural elements of the scheme (such as CCTV or lighting columns), designers should compare the relative benefits of each to inform the final design. Contact with

the Council's tree specialists should be made to assist this stage of the design process.

Appropriate shape, size and species add character to the area whilst integrating well with the ground surfacing

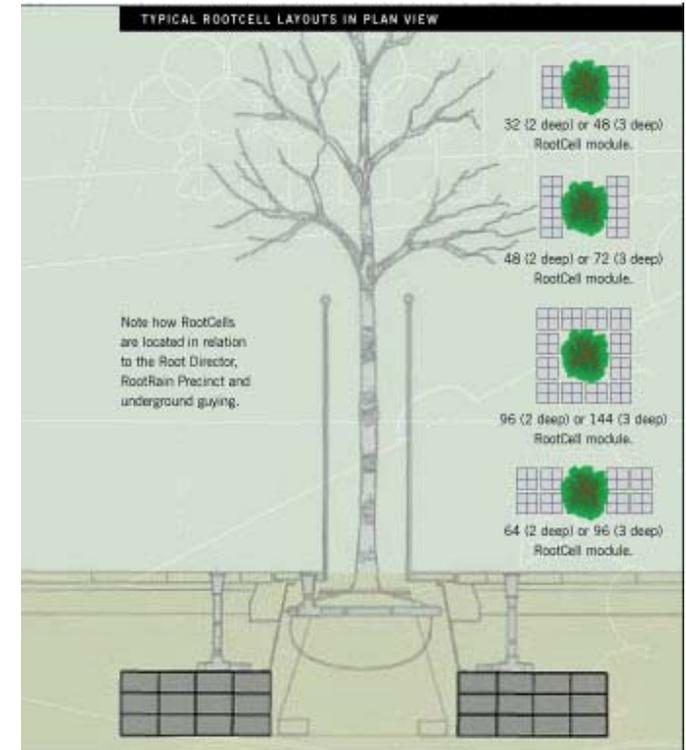
### Installing

Usually the most critical area affecting the success or failure of the urban tree is below ground. All too often trees are planted in cramped planting pits in poor subsoil.

In such circumstances, growth is retarded and roots will tend to colonise the area immediately below the paving leading to pavement damage.

Tree roots require space, nutrients, moisture and oxygen to thrive, whilst paved surfaces require solid, compacted ground to support pedestrians and vehicular overrun. To ensure trees are provided adequate space without compromising pavement structural integrity, the Council encourages the use of RootCell and Arborsoil planting materials, along with the Root Director modular root protection and RootRain irrigation systems. These devices assist in creating a root friendly environment and provide new trees with the best conditions for growth in confined spaces.

The diagram opposite illustrates the preferred combination of RootCells, Arborsoil, Root Director and RootRain. More detailed installation specifications will be necessary at the detailed design stage and can be found in the Greenleaf RootCell soil structure systems product sheet. The advice of the Council's tree specialists should be sought throughout the design and installation process.



Typical RootCell layout



The detrimental impact of planters often outweigh any benefits provided by the plants they contain



A formal integrated planting arrangement utilises surface water from the surrounding area

## Plants

### Considering

Planting can provide benefits to the streetscape whilst contributing towards the city's ecological systems and urban biodiversity. However, plants can also be expensive to establish and maintain, and poorly chosen planters can create bulky obstructions with a detrimental visual impact that outweighs any benefits provided by plants.

When choosing plants consider opportunities for planting food producing crops, for example fruit and nut trees, fruit bushes and herbs. Brighton & Hove City Council is a supporter of Harvest Brighton & Hove, a four year Lottery funded project which is encouraging more food growing in the city. Food growing in public spaces can help people think about the food they eat and make better choices for both health and the environment.

### Specifying / Siting

There are three general options for accommodating plants in the streetscape; permanent, mobile/temporary planters, and integrated planting schemes (where plants are planted straight into the ground).

Mobile or temporary planters should be avoided.

Integrated planting schemes can work particularly well within a wider sustainable urban drainage system ('SUDS') arrangement – the SUDS directing surplus surface water to the plants. See the Drainage section for further details on SUDS.

Although not generally encouraged, permanent planters can provide a means of introducing planting in areas where integrated planting schemes or tree pits are not possible. In such instances, the planters should be fully integrated into the wider street-scene rather than added "ad hoc". In this capacity, opportunities for the planters to bring aesthetic or practical benefits beyond their primary function should be considered. For example, can the planter's edge act as secondary seating opportunity, or can the planter help overcome a tricky level change?

Planters do not lend themselves to standardization. They will vary according to location, the type of plants they will hold and the specifics of the individual scheme.

Evergreen and variegated plants are generally recommended. Drought resistant species would also be advisable in hot sunlight. In every instance, the Council Ecologist's advice should be sought on the most appropriate planting options and maintenance arrangement for any given location. The Council's Design and Conservation team should also be consulted on any choice of planter.

Hanging baskets are not recommended as their water usage is not sustainable and can necessitate servicing from vehicles.

## Installing

Whilst installation will vary depending on the specifics of each individual scheme, there are distinct differences between installation requirements for permanent and temporary planters.

Permanent planters should have adequate drainage and an automatic irrigation system to reduce maintenance costs.

## Green walls

Green walls can often require planters. As a general guideline, Green Wall Planters should conform to the following minimum specifications:

- Dimensions: 0.3 m x 0.97 m x 0.89 m
- Irrigation is essential. Choose a capillary irrigation (via a float valve at base) or drip irrigation system.
- Substrate must be topsoil conforming to BS3882:2007, blended loam type with 9-10% organic matter content.



Capillary irrigated green wall in Shepherd's Bush



Informal integrated planting on the beach helps define space and adds visual and environmental quality



Do these bollards have a worse visual impact than the behaviour they are supposed to prevent?



Example of a bell bollard

## Bollards

### Considering

In general, the use of bollards should be avoided wherever possible – footway strengthening is always the preferable option. However, the city's narrow streets are not ideally suited to modern delivery and construction vehicles. In some instances strengthening footways to cope with vehicle over-run may not be possible, and it may not be beneficial to use an 'enabling' piece of furniture to perform the bollard's role. In such cases, bollards may be necessary.

Wherever possible consider the removal of redundant bollards. Circumstances making bollards redundant can include:

- Where there does not seem to have been a good reason for the bollard in the first place, or where there was a reason for the bollard, but that reason is no longer relevant.
- Where the bollard's impact is more detrimental than the behaviour it is trying to restrict.
- Where un-strengthened paving is replaced by strengthened paving.

### Specifying

Despite their disadvantages, well chosen (and located) bollards can make a positive contribution to the character of a street or area. The standard city bollard is the Doric bollard.

Doric bollards are available in a range of materials. The Highway Maintenance team can provide advice on the most suitable material (and supplier) for your location.

As an alternative to the Doric bollard, an area specific historic bollard, such as a North Laine or Brighton bollard, may be chosen. Details of the correct historic bollard for each area of the city can be found on the Materials Database.

Bell bollards are generally discouraged due to the relative space they take up - but may be used where circumstances result in them providing the only means of adequately protecting a building or paving.

In most instances buried root bollards should be specified. Where there is insufficient surface depth for a buried root bollard (for example above a basement) a buried flange bollard should be used. Surface fixed bollards should not be used.

Choices in relation to materials and deviation from the standard or historic bollard type must be agreed in advance with Council's Maintenance and Design and Conservation teams (and anyone else considered relevant by those teams).

## Siting

When bollards are required, their location should not obstruct pedestrian desire lines.

Generally, bollards should be positioned 0.45m from the kerb edge to bollard face.

Only use the minimum number of bollards necessary to achieve your objective.

Where more than one bollard is installed, bollards should line up with each other and be regularly spaced.

## Installing

Installation of bollards involves removal of the existing footway surface, setting the bollard in concrete foundations, and re-instatement of the footway surface.

When a bollard is reinstated, or a new bollard is provided, surface materials should be carefully re-laid and as close as possible to the primary existing surface material.

Where bollards are required on build outs, consider reflective bands to increase their visibility to drivers.



Poorly reinstated surface materials around bollards should be avoided



A good example of a Doric bollard - but are they all really necessary?



Excessive guardrail that creates a caged environment



For a child trying to see oncoming traffic, this railing arguably creates more of a hazard than a safety benefit

## Pedestrian Guardrails

### Considering

Historically implemented almost as a matter of course, guardrailing can be unsightly, create a hostile, caged environment for pedestrians and encourage higher vehicle speeds. It can also be expensive to maintain.

Guardrailing should be avoided unless there is a clear evidence of its need. Page 23 of Local Transport Note 2/09 sets out a methodology for assessing when guardrailing should be considered, and when it is unlikely to be beneficial. If there is evidence of the potential need for guardrailing, consider whether the need can be designed out, for example by reducing traffic speeds or through better siting of pedestrian crossings. If the need cannot be designed out, consider if the role of the guardrail can be performed by a more beneficial / less intrusive item of street furniture.

Consider whether the guardrail may increase danger. For example, pedestrians prefer to follow desire lines. What is the likelihood that they may climb over the guardrail and find themselves at greater danger of conflict with vehicles?

Old guardrailing should be removed if:

- The guardrailing cannot be justified as serving a necessary purpose, based on the criteria in Local Transport Note 2/09.
- The potential conflict that caused the guardrail to be installed can be compensated through alternative methods, such as improving the location of a pedestrian crossing.
- It is poorly installed (in which instance it may require reinstating).

Whenever guardrailing is removed, the impact of removal should be monitored. Until it is superseded, Local Transport Note 2/09 guidance on procedures to inform provision and removal of guardrailing should be followed.

### Siting

Siting of guardrail will be governed by the specific requirements of each location. Where guardrail is required, it should be placed as close to the kerb edge (30-45cm) as possible.

An audit trail of decision-making processes that inform decisions to remove or install guardrail should be retained.

## Installing

As per Street Furniture: General Design Principles



Is this guardrailing really necessary?

# Part 2 • Signs & Road Markings

The following section divides signing into three main areas of Traffic Management (which includes lining), Wayfinding, and 'Other Signs and Road Markings'. Whilst signing and road markings have a range of uses, in general, the same basic rules apply to all; they should achieve necessary functions adequately and consistently with minimal negative impact on the wider streetscape.

## Signing and Lining: General Design Principles

The following principles apply to all Traffic Management signing and lining in the city.

### Considering

Traffic Management signing and lining forms an important part of any scheme. It should be considered from outset and treated as an integral part of a scheme design.

Unnecessary signs and road markings, such as the hatching shown in the image to the right, should be avoided. They serve no purpose, cost money and detract from the city's visual quality.

Where a regulation needs to be enforced, or a message needs to be conveyed, can this be achieved without road markings or signage?

Where there is a possibility that a detrimental behaviour issue (such as illegal parking) may occur, but insufficient evidence that the problem will actually occur, start by letting the scheme run without lines and signs and monitor the situation. It is better to add signs and lines retrospectively to deal with a proven need, than add potentially useless signs and lines to combat a potential problem that may never take place.

When considering the need for Traffic Management signs and road markings, consider whether the impact of the sign or road marking will be more detrimental than the behaviour it is trying to restrict.

Where road markings and / or signing is required, how can they be designed to have minimal negative visual and physical 'clutter' impact on the streetscape whilst remaining enforceable and fit for purpose?

Consider seeking dispensation from the Department for Transport to enable flexibility from standard signing and lining approaches where this would bring worthwhile benefits to the streetscape. Permission from the Department for Transport is not automatic and can take some months to progress; this should be accommodated in any project timescales.



Is lining really needed to stop people driving into a wall?



Are three 'no right turn' signs really required here?



Carelessly painted lines can ruin the effect of an otherwise carefully laid and designed scheme

## Specifying

Always consult the Council's Parking Management team for advice as soon as the need to consider Traffic Management signage or road markings is identified. Specifically, the Parking Management team can help ensure adequate time is allocated for any necessary legal processes to be completed, and advise on the 'fitness for purpose' of any proposal.

Where relevant, lines and signs must be supported by the correct Traffic Regulation Order. This possibility should be given early consideration so that the associated process can be accommodated within the project timescale where necessary.

## Siting

If you are not familiar with signage guidance and legislation, take time to read the relevant documents. They will help you understand the options available to you. Where signs or road markings are required, they should be sited in line with the advice of the Parking Management team.

## Installing

Take responsibility for ensuring signs and lines associated with your scheme are installed with care and attention. Carelessly painted lines, for example, can ruin the effect of an otherwise carefully designed and installed scheme.

Avoid implementing lining in adverse weather conditions if this may have a detrimental impact on future durability.

## Road Markings

The following guidance relates specifically to Road Markings, and should be applied in addition to the “Signing and Lining – General Design Principles”.

### Considering

If road markings are absolutely necessary, consider whether using alternatives to paint (such as different surfacing materials) would be beneficial.

### Specifying / Siting: Yellow lines

Where required and appropriate, yellow waiting restriction lines should be installed in a narrow (50mm wide) format in primrose yellow. The narrow, primrose yellow standard will apply citywide starting with any new development or re-designed areas and gradually replace the current 75mm wide lines as whole carriageways are renewed. Where small areas need to be patched or existing lines are extended, the replacement lines will remain at the existing width.

### Specifying / Siting: Centre lines

Despite being introduced in the early days of motoring to remind people which side of the road to drive on, central lane markings are still included in most road schemes today. As well as having a negative visual impact on the streetscape and incurring cost to implement and maintain, evidence shows that these lines encourage vehicles to travel at greater speeds and in closer proximity to each other. Whilst they can have some benefits, like improving visibility in fog, centre lines should therefore be avoided within the city, unless the objective of the design is to encourage such behaviour.

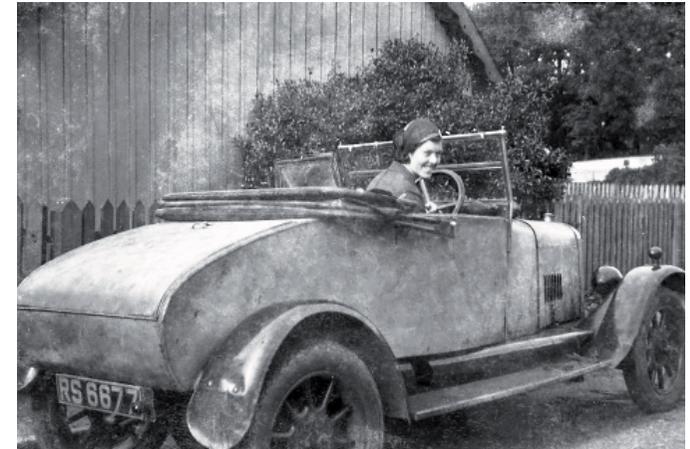
### Installing

Seek and obtain assurances that any road markings will be installed with suitable care and attention to detail.

If any markings need removing, check that this can be done in a way that will not create permanent damage to surface materials. If in any doubt, ask to see an example of where the approach has been used before on similar materials and / or test a small area.



Careful lining has minimal impact in this Ashford scheme



In the 1920's centre lines performed a useful function: reminding drivers which side of the road to drive on



Traffic signs can unnecessarily dominate the footway, physically and visually. Could this sign be simplified? Could the size of text be reduced? As traffic is only allowed in one direction is it even required?

## Traffic Direction & Information Signs

The following guidance relates specifically to Signs, and should be applied in addition to the principles outlined in “Signing and Lining – General Design Principles”.

### Considering

Always consider how signage can be minimised in your scheme, whilst remaining fit for purpose. Consider ways to minimise the impact of any mounting as well as the sign itself.

If signage is not absolutely necessary, or you are unsure if it is required, consider leaving it out and monitoring the street. Signage can always be added later.

Consider future maintenance - if a sign is going to be obscured by stickers within a week, is there any value in installing it in the first place?

Consider whether a sign will need to be illuminated, and if so how this will be achieved. It is important that any emitted light does not illuminate the sky or surrounding buildings and lead to light pollution.

### Specifying

When a sign is necessary, the smallest appropriate variant and simplest form of sign should be used.

Warning signs alert drivers to hazards on the road ahead. Whilst Chapter 4 of the Department for Transport’s Traffic Signs Manual provides advice for use of these signs, including appropriate sizes, location and illumination requirements, only use warning signs where absolutely necessary. There is evidence to suggest that warning signs can be counter-productive in an urban area as their presence can lull drivers into a false sense of security.

Signs will be illuminated where there is a statutory requirement. Use reflective surface signs where possible.

Regulatory signs are required for enforcement purposes. If consideration of site needs concludes that enforcement signs are required, then those signs need to be fit for purpose.

Placement and design requirements for these signs can be found in the Department for Transport's Traffic Signs Regulations and General Directions 2002 (TSRGD).

All regulatory signs should be of the minimum size and number to comply with regulations\*.

Parking and loading signs and markings are essential to enable adequate enforcement. The use of such signs is strictly regulated by the Traffic Signs Regulations & General Directions and Chapter 3 of the Traffic Signs Manual\*.

Double yellow lines indicate no waiting at any time. Additional "no waiting at any time" signs are no longer prescribed and should not be installed in these locations.

Existing signs should be removed where the opportunity arises.

\*Remember that these standards are open to challenge if benefits can be achieved through a "non conventional approach".

### Siting / Installing

In a street, redundant or badly sited signs are a major contributor to the erosion of visual quality. Therefore when signs are considered necessary to convey information to the driver, consider how they may be integrated into the place without dominating it for other street users. For example, can signs be integrated / placed on existing items of street furniture, or building facades rather than on new poles.



This primary route sign in Stanford shows that effective signing need not be obtrusive.

## Pedestrian / Cycling Wayfinding Signs

### Considering / Specifying

Historically the city has suffered from an inconsistent approach to pedestrian and cycling wayfinding signs. This is currently being addressed through a citywide wayfinding strategy which provides a single, consistent wayfinding system. No wayfinding signs should be added to the streetscape without prior agreement from the Council's Transport Planning team. Any requests for new signs should be made through the Transport Planning team.

### Siting / Installing

Siting and installation of signs must be carried out in line with the strategy's guidelines.

Any other wayfinding signs should be removed when opportunities arise.

### Other Signs & Road Markings

In general, all other signs and road markings in the city should be avoided wherever possible. Where they are absolutely necessary they should be kept to an absolute minimum. Redundant or unnecessary signs should be removed whenever the opportunity arises.



Standard Brighton & Hove wayfinding monolith

## Part 3 • Surfaces

To realise their full potential, successful streets should fulfil a movement and place function. Since the mid 20th Century, however, city street design has tended to focus on maximising space for vehicular movement, with secondary consideration given to the needs of other potential users and uses of the spaces. This has resulted in the creation of streets dominated by vehicular traffic infrastructure which contribute little to peoples' experience of the public realm network. Such places generally discourage rather than encourage people to choose to spend time in streets, which has negative impact in a range of areas, including the social, economic and sustainability capacity of cities.



Trafalgar Street was a good example of old fashioned street design. Vehicles had more room than required, to the detriment of other users.



Today Trafalgar Street's design is better balanced. There is still space for vehicles, but pavements are wider and a cycle lane installed.

## Footway and carriageway provision

Manual for Streets states that modern street design must consider the requirements of all uses and users. It is no longer acceptable for schemes to first consider the maximum amount of road space that vehicles may need to move through a place, and then allocate the left over space to pedestrians, cyclists and perhaps the occasional bench.

Balanced allocation of space is a simple but very significant principle and underpins the approach taken by the SDG to recognise the role of the streetscape as a place that works for all members of the community.

Whilst the need for balanced streets is a consistent theme of the PSPL study, specific information can be found in the sections commencing on pages 5, 40 and 102.

### Considering / Specifying

High quality design and workmanship, along with use of materials that are fit for purpose, is essential to successful footway and carriageway provision. All new design should aim to minimise the number of new and different materials, particularly in high profile public realm areas. This provides simplicity and continuity whilst ensuring robust and easily maintained surfaces. Where a scheme is proposed that will impact on highway structure and material, the proposal must be subjected to a maintenance audit by Highway Engineering & Projects.

Advice should also be sought from the Highway Services team when considering any scheme to ensure there is no detrimental impact on drainage or water flows.

The final section of this document deals with highway materials, tactile paving, antiskid surfacing, inspection covers, drainage and cycle tracks; these being areas where a consistent local approach is most appropriate. In other aspects of design that relate to general footway and carriageway good practise, decisions should be informed by Manual for Streets.

## Choosing the right Highway Material.

Due to geographic location, Brighton & Hove does not have a local stone that has historically been used for footways or carriageways. This, along with factors ranging from changing fashion to the move from imperial to metric measurements, has left the city with a varied mixture, rather than small palette, of surface materials.

Historically, there has been some debate about redressing this by retrospectively defining a precedent material for the city. Theoretically retrofitting the city's streets is a complex process – with potential for different materials to be used in different character areas, in streets of different scale and in streets with different movement priorities or uses. The process has scope to be so complex that decisions about appropriate materials can easily grind to a halt.

In the vast majority of cases, choice of materials needn't be complicated. There are eight basic principles to consider. These are, in no particular order:

- Environmental Impact
- Overall Construction Cost
- Fitness for Purpose
- Maintainability
- Appropriateness for Context
- Quality of Workmanship
- Integration with the Surrounding Street Environment
- Recycling

Factors influencing Environmental Impact range from type of material to haulage distances and methods. Although not exhaustive, the following considerations should be applied to the remaining principles:

**Overall construction cost:** Whilst cost is a consideration that falls across all the principles, it is critical that the cost of suitable construction / sub-bases is considered alongside the cost of the surface material itself when a decision is being made about materials affordability. In no circumstance should more expensive surface materials be specified at the expense of adequate construction. To do so is simple false economy; an expensive slab will stop looking expensive as soon as it is broken by a van wheel.



Poor quality workmanship has a detrimental impact



Badly reinstated paving



There is no reason for use of red paving at this bus stop.

**Fitness for purpose:** The material, and the way it is laid, should be adequately designed by competent practitioners to accommodate any demands placed on it. So for example, if an area of footway is likely to experience vehicle over-run, footway materials, and their foundations, must be able to accommodate over-run by the heaviest vehicle the footway could reasonably be expected to support. Large paving slabs, apart from tactile paving, should not be used in areas where frequent over-runs by heavy vehicles are expected, unless suitable strengthening can be achieved. In such areas, which may include private accesses across footways, consider use of smaller modules that complement the wider footway material whilst being better able to cope with the additional demands placed on them. Also consider skid resistance, especially on slopes. Will the material become avoidably slippery in wet or icy conditions? Manufactured components should comply with relevant British / European Standards.

**Maintainability:** Maintainability links to fitness for purpose – surfaces should be chosen and constructed to minimise the need for future maintenance. An additional consideration is the ease with which replacement materials can be sourced. Even the best constructed footway may get dug up by statutory undertakers, and because the city does not have a means of storing bespoke materials, it is important to choose something that can be easily sourced to enable a good re-instatement to be made.

A further consideration is future colour matching. Some materials fade over time more than others, leading to greater levels of contrast in the case of any future re-instatement. As a general rule, natural materials will suffer less from fading over time, coloured concrete will suffer more. The Highway Maintenance team can advise on the suitability of a specific material.

**Appropriateness for context:** Highway materials can contribute to local area distinctiveness; an obvious example being the use of red clay pavers which help define the North Laine. When choosing materials, opportunities to strengthen area distinctiveness should be considered, but the decision making process should also be informed by common sense. There is little merit in choosing red paver for a small traffic island on the basis that red was the predominant area material decades ago, if everything else in the vicinity has subsequently changed to grey. In simplest terms, materials should blend in with the surrounding street-scene, if not in module size, than at least in colour. This is one of the easiest things to get right, but something that seems to get overlooked on a frequent basis. For example, the use of red paving at this bus-stop (top left) is obviously an inappropriate choice, given that material across the wider location is grey.



A tidy material arrangement where two footways meet. Simple details like this are important to get right.

**Quality of workmanship:** This falls into three main areas: firstly, materials must be laid in such a way that they do not break (in line with fitness for purpose). The image to the right provides a good example of poorly laid and unsuitable materials that have lasted less than a few months.

Secondly, materials must be carefully detailed. For example, slabs should be accurately cut to size rather than untidily chiselled when they meet edges or street furniture, and curved rather than straight kerbs should be used for curved edges. Schemes should be designed to minimise the number of cuts required in slabs to overcome changes in surface levels.

Thirdly, re-instatements should be carried out with care and the correct replacement materials, not filled with the nearest available material.

**Integration with the surrounding street environment** is slightly more complex, but still basically straightforward if some simple principles are applied. Where two streets of different materials meet, the material in the primary street should take precedence at the junction, rather than vice versa. A section of new material should stop in line with a sensible aspect of the street, such as a building boundary, or the edge of a raised crossing. Variety of material should be limited wherever possible, and where more than one material is used in a new scheme, materials should be of similar quality.

**Recycling:** In certain locations, there may be merit in keeping any materials removed for reuse, whether at the site or elsewhere in the city. Obvious examples are granite kerbs, and any quality materials such as York or Caithness stone.

If new surfacing can meet these basic principles, then in most cases the result will be satisfactory. Although the basic principles may appear to be common sense, it is important not to assume that these details do not need clarifying prior to any physical works commencing: it is surprisingly easy to find examples of recent works in the city that fall short on one or more of these areas, as the photos in this section show.

In exceptional circumstances, such as when a large area is being repaved, choice of materials should be made in consultation with the Highway Engineering & Projects, Highway Maintenance and Design & Conservation teams, and anyone else considered relevant by those teams.

In all instances where a change in highway materials is proposed, the proposal should be subjected to a maintenance audit by the Highway Engineering & Projects team, and Highway Services should be consulted on potential drainage / water flow implications.



This image illustrates the importance of ensuring materials and construction methods are fit for purpose.



Nib nobblers - like this one - bring maintenance issues

## Drainage

### Considering

Whenever works are due to take place in the streetscape, check the history of the site with the Highway Services team to ascertain if there are known issues with flooding and surface water in the area. If so, identify ways in which the scheme can work around or resolve these problems.

Whenever additional drainage channels or gullies are introduced, they increase opportunities for blockages. For this reason, wherever possible street-works should be designed in a way that negates the need for additional drainage infrastructure. The best option is to re-shape or build natural falls that enable water to flow around or across areas of new construction and into the nearest entry to the existing main drainage system.

New drainage infrastructure should only be added to a scheme as a last resort. When a new scheme is being developed, opportunities for incorporating Sustainable Urban Drainage Systems (SUDS) should be investigated. SUDS provide an environmentally friendly way of dealing with surface water runoff, and avoid many problems associated with conventional drainage, such as exacerbated risk of flooding and pollution. SUDS can also be cheaper to install and maintain.

SUDS mimic natural water systems, slowing water down to reduce flood risk whilst managing pollutants on site. As well as being environmentally friendly, this form of urban drainage can complement attractive planting features and contribute towards increased biodiversity.

### Specifying / Siting

Where new drainage infrastructure is required, it should be designed to enable the drainage system to cope with extreme weather conditions and minimise maintenance requirements. For smaller schemes, a positive / negative gully arrangement is generally a preferable, if more costly means of providing drainage infrastructure than a “nib nobbler” due to reduced maintenance implications.

At a neighbourhood scale, SUDS can take a variety of forms that facilitate a more natural response to weather conditions. These include swales, French drains, retention basins / ponds and below ground storage. Consultation with the Council’s Sustainability, Highway Engineering & Projects and Highway Services teams will clarify the most locally responsive scheme, taking account of land use, land take, future management scenarios and the needs of local people.

Where SUDS are to be adopted, a long-term maintenance budget / procedure must be agreed with the Highway Services team before the drainage is installed.

SUDS will hold large amounts of rain water and river flood water depending on location and therefore the sub-base of the SUDS should be appropriate for storing water for re-use and to enable water to percolate into the subsoil.

### **Installing**

Details regarding installation will be scheme specific. Guidance should be sought from the Council's Sustainability, Highway Engineering & Projects and Highway Services teams from the outset of the design process.



Drainage meets art in Ashford



## Cycle Tracks / Lanes

Over the years, a variety of approaches have been applied to cycle tracks and lanes in the city, to differing standards. In future, it is important that cycle provision is consistent, in terms of both type and quality of provision.

This section summarises the considerations that will help achieve this. For more detail on specification, refer to the Brighton & Hove Cycle Track Design Guidance, available from the Transport Planning team. For the remainder of this section, “cycle tracks” refers to any kind of formal urban cycle provision in the city.

### Considering

Cyclist needs should always be considered as an integral and equal part of the overall street environment. Impact on wider street uses and users should always be considered alongside the needs of cyclists. Likewise, cycle facilities should never be squeezed into space left over after other users have been given first priority.

It will not usually be considered necessary to implement formal cycle tracks in lightly-trafficked streets. Dedicated cycle tracks should only be considered when either:

- cycling would otherwise be discouraged by wider traffic volumes and / or speeds, or
- where there is an important localised need (for example, within the vicinity of a school).

Considering the following criteria helps determine whether a street is likely to benefit from dedicated cycle infrastructure:

- a) Do existing cycle flow patterns and designated cycle route locations suggest the street is currently heavily used by cyclists?
- b) Are there any local plans / aspirations for new / improved routes or developments that may result in a potential increase in cyclist flows?
- c) Are the existing traffic volumes, speeds and environment likely to dissuade cycling?
- d) Does historic cyclist casualty data identify a need for dedicated cycle infrastructure?
- e) What opportunities or constraints are presented by the physical width of the street (including both the full width of the public highway and of the existing carriageway)?

(a) and (b) help determine the importance of a street / route to cyclists; (c) and (d) help in understanding where there are or may be safety or congestion issues that adversely affect cycling; and (e) is important in determining whether cycle tracks are physically feasible.

The criteria can be used in conjunction with the matrix below to identify whether a street should be provided with cycle track measures. The checked boxes show those conditions under which it will usually be considered that a cycle track will be beneficial.

		importance for cycling		
		High	Mid	Low
impact of traffic speed/mix	High	X	X	
	Mid	X	X	
	Low			



If there is sufficient need for a cycle facility, the cycle facility needs to be fit for purpose.

Where dedicated cycle tracks are considered necessary due to wider vehicle volumes or speeds, the first priority should be to tackle the factors that necessitate the cycle track. For example, can traffic speeds be reduced? Dedicated cycle tracks will only be implemented when the aspects of street environment that make them necessary cannot be designed out.

Where dedicated cycle facilities are required, the preferred option is a vertically segregated cycle track (a cycle track that is on a separate level to both the carriageway and footway). Painted lines, whether on footways or carriageways, are generally unsatisfactory. The former can lead to conflict with pedestrians, the latter with other vehicles. Full details on vertically segregated cycle tracks, and other cycle track options, are included in the Brighton & Hove Cycle Track Design Guidance

Cycle facilities should be continuous, and of reasonable length. Partial cycle lanes, stand alone sections of infrastructure or facilities that stop and start, should be avoided unless there is a very good reason. The cycle provision will only be as strong as its weakest part.



A vertically segregated cycle track in Trafalgar Street



This kind of thing should be avoided!

Cycle tracks should be wide enough. As a general guide, 1.65 metres is the minimum width required to accommodate a single cyclist. However, it doesn't follow that a cycle lane of 1.65 metres is therefore fit for purpose: space allocated to cycle infrastructure should be considered on a case by case basis, and will depend on elements such as available space, numbers of cyclists (now and in the future) and the amount of cycle overtaking that needs accommodating.

A number of different street features can physically impinge upon the part of the highway where the cycle track runs. Specific features that are commonly encountered include bus stops, junctions with side roads and parking / loading bays.

How cycle tracks can be designed to respond to the presence of such features depends on the form of cycle track provision. The Brighton & Hove Cycle Track Design Guidance contains options for accommodating such features in cycle track design.

As well as spatial and functional considerations, maintenance implications of cycle tracks should be considered at outset, especially when vertically segregated facilities are being proposed. Considerations should include:

- Will the cycle track be accessible to traditional road gritting vehicles, and if not, what alternative measures will be used to keep the cycle track cleared of / protected from snow, frost and ice in winter?
- Is adequate drainage provided?
- How will street furniture, such as litter bins, be accessed by service vehicles?

Whatever the form of cycle track provision, it should be noted that the default position in Brighton & Hove is that designated cycle tracks should not be treated with coloured (e.g. green) surfacing. For vertically separated cycle tracks, the need for distinctive surface colours for purposes of definition and to discourage encroachment by motor vehicles is, in any case, significantly reduced.

In all instances, decisions and design relating to cycle provision should be made in consultation with the Transport Planning, Highway Services and Highway Maintenance teams.

## Utility / inspection covers

Utility covers will normally be left as originally situated and supplied by the relevant company. If any changes are to be made to these covers, such as inseting into paving, this must first be approved by the relevant utility company in order to ensure that the covers satisfy their safety and operational considerations.

If the installation or inseting of covers involves the removal of the existing footway surface, careful re-instatement of the footway surface to match the existing material is required.

## Anti Skid Surfacing

When provided, anti skid surfacing should be the same colour as the wider carriageway. Different coloured anti skid surfacing is detrimental from a visual perspective. From a practical perspective, there is no benefit in highlighting where anti-skid surfacing is provided, other than to give people the perception that they can approach junctions more quickly. Coloured anti-skid surfacing should therefore be avoided unless the objective of the design is to encourage such behaviour.



## Appendix: Contacts

The following list provides contact names and numbers for teams referred to in the main body of the guidance, and is correct as at March 2010.

<b>Contact Area</b>	<b>Contact Name</b>	<b>Extension</b>
Access Officer	Gordon Allan	2293
Arts & Cultural Services	Donna Close	2008
Cityclean:Bins	Pat Flavin	4714
Cityclean:Public Seating	Mick Sutton	4714
Cityclean: Sticker proofing / anti graffiti etc	Sarah Leach	4702
Design and Conservation	Roger Dowty	2103
Ecologist	Matthew Thomas	2371
Harvest Brighton (external)	Ann Baldrige	431700
Highway Engineering & Projects	Bo Furdas	2237
Highway Licensing	David Fisher	2054
Highway Maintenance	Stuart Wilson	2467
Highway Services	Jeff Elliot	2468
Parking Strategy	Charles Field	3329
Public Space Public Life	Jim Mayor	4164
Public Transport	Paul Crowther	2479
Sustainability	Francesca Iliffe	2246
Transport Planning	Abby Hone	0390
Trees	Rob Walker	4349