CROYDON PUBLIC REALM DESIGN GUIDE

2019

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EXTERNAL GUIDANCE
When refering to external guidance,
always refer to the most up-to-date version
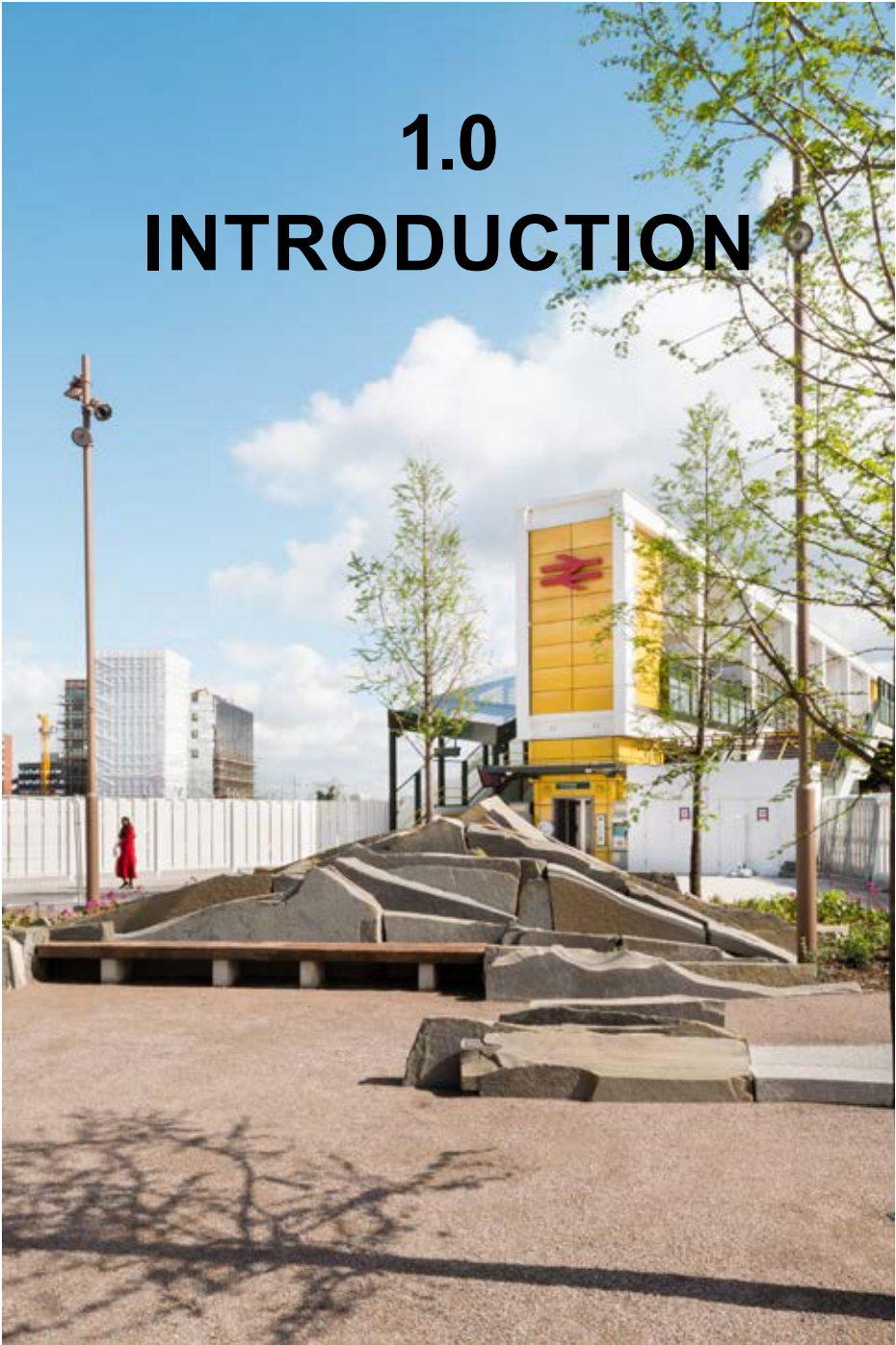equivalent of the guidance stated, where it
exists.

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CONTENTS

1.0
INTRODUCTION

The London Plan describes the public realm as "all the publicly-accessible space between buildings, whether public or privately owned, from alleyways and streets to squares and open spaces" *(Draft London Plan, Greater London Authority, 2018).*

The public realm should accommodate a variety of uses and users. It should be designed for people of all backgrounds, ages, pedestrians, cyclists and for any social activities whether temporary or regular, during different times of the day and night. It should be functional, accessible, safe and facilitate movements through it.

Restaurants spilling on topavement along South End

Integrated play elements at New Addington

Temporary Crazy Golf in Exchange Square

1.1 WHY A DESIGN GUIDE?

Croydon is one of the most populous Boroughs in London and its population is expected to grow considerably in the coming years. The *Croydon Local Plan 2018* anticipates 33 000 new homes to be built between 2016 and 2036 to accommodate this growth.

A growing population will place greater demands on the Borough's physical infrastructure but will also attract investment and create opportunities to improve existing public realm areas and create new ones.

The *Croydon Local Plan 2018* states that the Council with its partners will improve Croydon's public realm to respect, enhance, create local character and distinctiveness, and integrate with the historic environment.

Croydon Public Realm Design Guide (Croydon PRDG) establishes guidelines for materials and layout for the public realm as part of the borough's public realm framework.

The aim of Croydon PRDG is to:

▪ Secure quality
▪ Ensure consistency
▪ Simplify maintenance
▪ Facilitate discharge of planning conditions
▪ Help secure best rates

SECURE QUALITY

Croydon Council expects the design approach applied to any public realm proposals to be of a high quality. The palette of materials and street furniture set in this Guide is simple, fit for purpose and timeless, but also offers a sufficient range to allow designs to respond to the character of an area.

ENSURE CONSISTENCY

Improvements will be delivered by various parties (Croydon Council as well as public and private sector partners) in phases.

There is therefore a need to coordinate these projects, as well as the 'business as usual' renewal of the public realm.

Although the public realm will be in public or private ownership, with different management regimes, there is an ambition to create a seamless environment that is conducive to social interaction,

16 Places of Croydon as defined in Croydon's Core Strategy

walking and cycling.

Croydon Council has developed a set of Masterplans for the Croydon Opportunity Area (COA). Together they provide a framework for improvements in the Opportunity Area and ensure public realm schemes are joined up at a strategic level in the COA.

The role of the Croydon Public Realm Design Guide is to ensure that public realm schemes are joined up at a detailed design level, as well as cover areas not included in the Masterplans like District Centres.

SIMPLIFY MAINTENANCE

The quality of the public realm has a lot to do with how it looks and feels after a few years of use, and Croydon Council is responsible for the maintenance of most areas of public realm.

The palette of materials and street furniture presented in this Guide is robust, low maintenance, easily repairable and replaceable, vandal resistant and affordable.

The limited palette ensures that Croydon Council Highways department can either store limited amounts of materials for quick replacements or source products simply '"off the shelf".

Where a material has a long lead time or has a minimum order quantity associated to it, the Council should seek to reach an agreement with the supplier for them to store an amount on behalf of the Council. This will facilitate future maintenance and relieve the pressure on the Council's storage facilities.

Masterplans in Croydon Opportunity Area
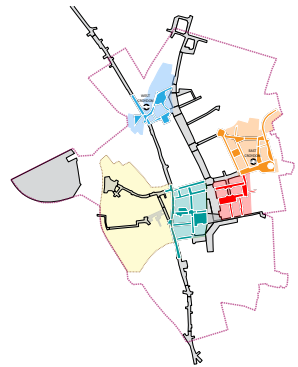
East Croydon (Interim Planning Guidance, 2011)

West Croydon (Interim Planning Guidance, 2011)

Fairfield (Interim Planning Guidance, 2012)

Mid-Croydon (Interim Planning Guidance, 2012)

Old Town (Supplementary Planning Document, 2014)
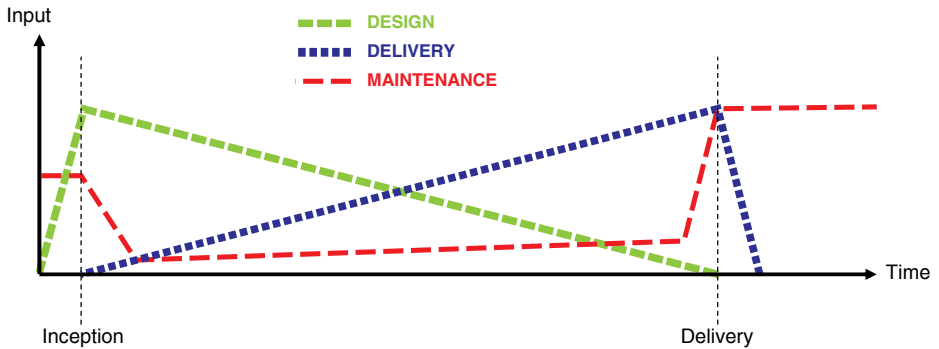
Interdependencies between design, delivery and maintenance of public realm projects

FACILITATE DISCHARGE OF PLANNING CONDITIONS

While Croydon Council will deliver a large proportion of the planned improvements to the public realm in both the Croydon Opportunity Area and the rest of the Borough, this will be complemented by schemes delivered by public and private sector partners.

The Croydon Public Realm Design Guide should be used by all those who are involved in either shaping or looking after Croydon's public realm, including developers and their consultants.

The Guide will provide these teams with certainty as to what the Council's expectations are for the public realm in Croydon, thus easing their work and facilitating discharge of planning conditions.

PROCURE BEST RATES

Croydon Public Realm Design Guide will be used as a Guide to appoint Croydon Council's term contractor and secure standard rates.

Large orders of standard material will also ensure best value is secured.

1.2 WHERE DOES IT APPLY?

The Public Realm Design Guide sets out a consistent approach and a palette of materials and street furniture for the entire Borough.

In addition, three sub-area types within the Borough have also been identified in order to respond to specific circumstances: Croydon Opportunity Area, District and Local Centres, Conservation Areas.

The specific boundaries of the COA, district and local centres and Conservation Areas are provided in the Croydon's Local Plan and illustrated on the opposite map. In addition, consideration should be given to whether a public realm proposal is located in a:

- Street that is part of the Transport for London Road Network.
- Publicly or privately managed area.
- Urban park or open space.

TRANSPORT FOR LONDON ROAD NETWORK

Streets in the Borough that are a part of Transport for London Road Network (A22, A23, A232) should use the Croydon Public Realm Design Guide to ensure consistency with surrounding public realm if it can be agreed with TfL on a project by project basis. However if an agreement cannot be reached with TfL then the TfL's *Streetscape Guidance* should be applied.

PUBLIC OR PRIVATE?

This Guide is concerned with both the public realm managed by Croydon Council (whether delivered by the Council or adopted), and areas that are owned and/or managed by a private body but remain publicly accessible. There may be some flexibility in the application of this Guide depending on the specific performance and maintenance requirements of a proposed scheme.

URBAN PARKS AND OPEN SPACE

This Guide covers urban parks, 'pocket parks' created in the public realm and some of the hard infrastructure in parks. Design of natural and semi-natural landscapes such as woodlands or heathlands are not managed through this Guide,

Transport for London Road Network
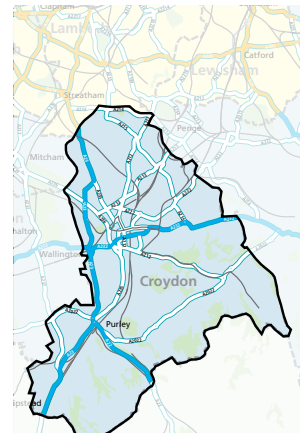
——— A road

——— TfL Road Network

but through specific action plans and green space management plans.

Public Realm Areas

CRYSTAL PALACE

NORBURY

Beulah Road

Pollards Hill

Thornton Heath Pond

THORNTON HEATH

SOUTH NORWOOD

Broad Green

ADDISCOMBE

Shirley

Brighton Road Selsdon Road

Brighton Road Sandersted Road

SELSDON

NEW ADDINGTON

PURLEY

Sandersted

COULSDON

Hamsey Green

Borough

Croydon Opportunity Area

District Centre

Local Centre

Conservation Area

TfL Road Network
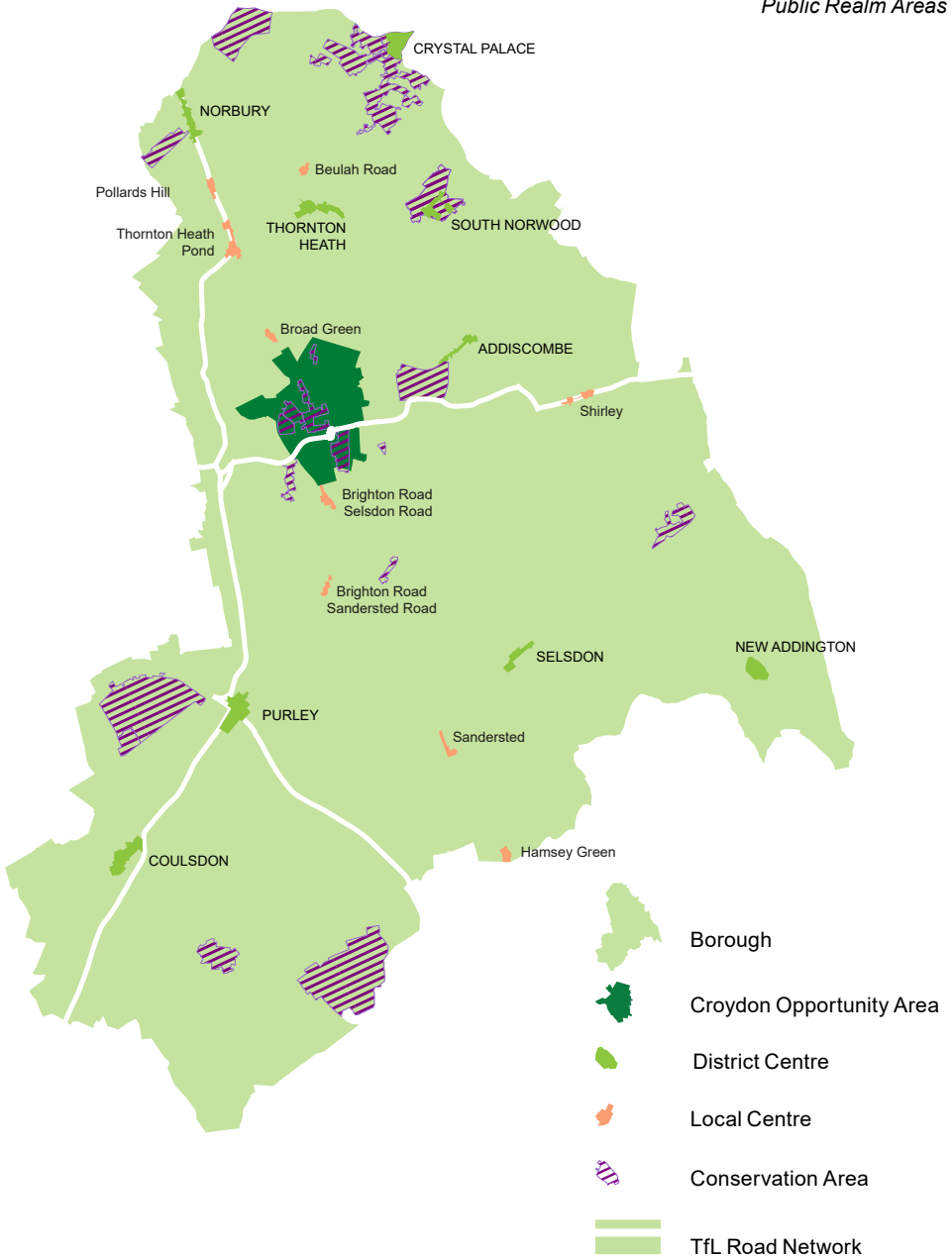
1.3 STATUS

Croydon Public Realm Design Guide is non-statutory formally adopted Corporate Guidance for all interventions within the public realm.

The Guide is a supplementary document to the relevant British standards, national and regional policies and the Croydon Local Plan.

The Croydon Public Realm Design Guide should be used by all those who are involved in either shaping or looking after Croydon's public realm including: Croydon Council teams involved in design, delivery and maintenance of public realm projects; developers and their consultants. The Guide is obligatory for all future Council projects.

The application of this guidance will be monitored and, if necessary, the Guide will be reviewed in order to accommodate lessons learnt and new guidance. This is the second edition of the Guide.

2.0
DESIGN
GUIDELINES
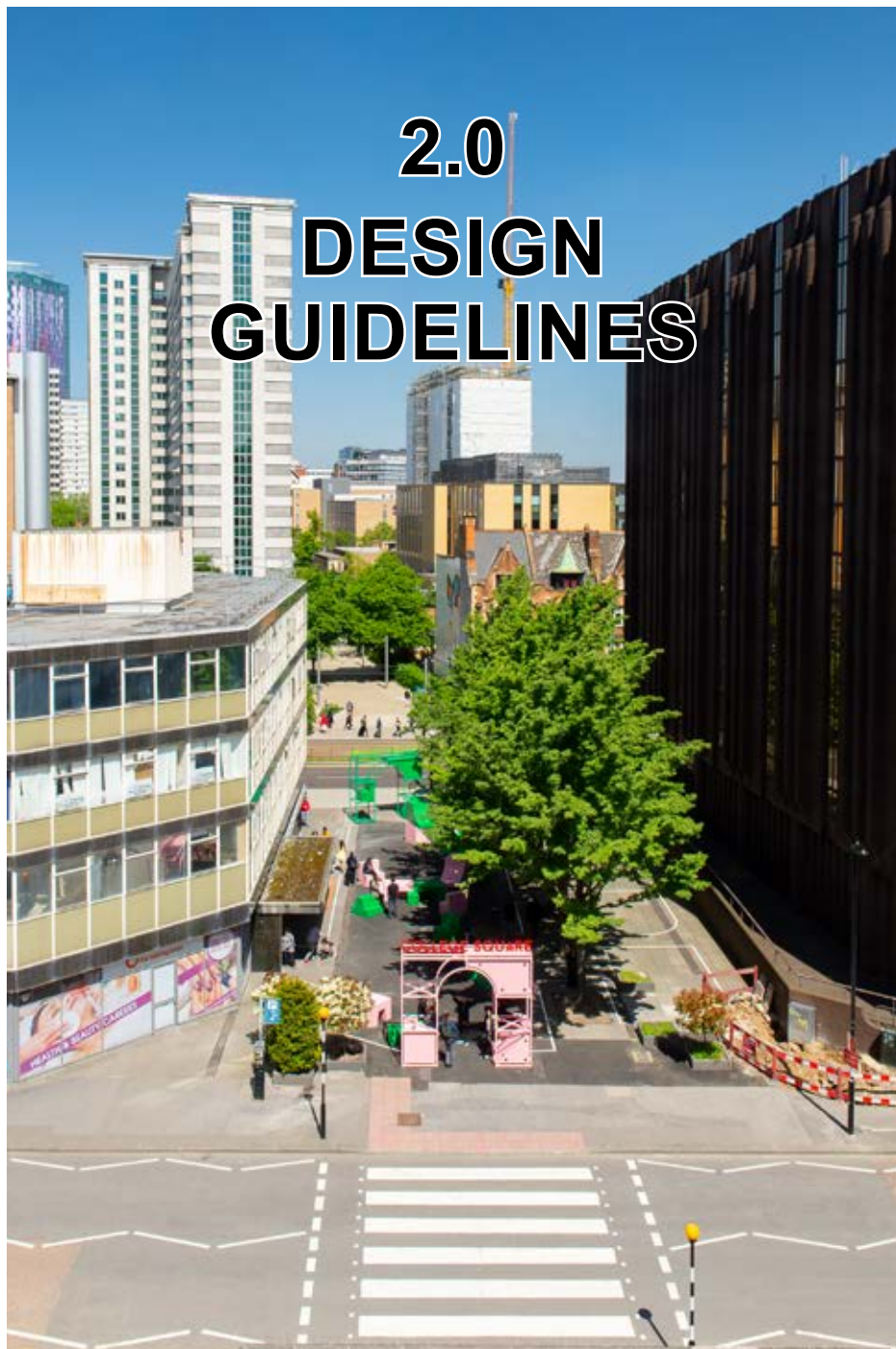
2.1 PRINCIPLES

Croydon's Public Realm Design Guide is underpinned by a set of core principles. It is important that anyone involved in shaping or looking after Croydon's public realm understands and follows these principles in the work that they do.

ATTRACTIVE

DESIGNED FOR PEOPLE

SUSTAINABLE

MAINTAINED TO HIGH STANDARDS

Croydon public realm will be

SAFE AND WELCOMING

PLACE SPECIFIC

Croydon public realm will be

ATTRACTIVE

- Projects should be designed to be attractive; to attract users, enhance places, encourage civic pride and care and attract inward investment.
- A simple palette of quality materials will be delivered through high quality workmanship.
- The future maintenance regime of any scheme will be considered from the outset to ensure that the public realm remains attractive.
- Professionals involved in the design of the public realm should normally cooperate and include a landscape architect, architect, engineer or suitably qualified designer as part of the design team.

SUSTAINABLE

- Materials will be durable, energy efficient and sourced from sustainable, reclaimed, recycled or renewable supplies when possible.
- The whole life cost of materials will be considered, including shipping.
- Designs will prioritise pedestrians, cyclists and public transport, helping to provide mode choice, especially for local journeys.
- Open space will be conserved and protected to encourage biodiversity and natural habitats.
- SUDS will be retrofitted when possible and incorporated in the design of new spaces.

SAFE AND WELCOMING

For instance:
- The public realm should be well connected with natural surveillance secured by active frontages, mixed use developments and good sight lines. Cul-de-sacs and blind corners should be avoided.
- Designed to reduce crime and anti-social behaviours and maintained to stay safe, welcoming and inclusive.
- Counter terrorism measures will be installed when appropriate.

Croydon public realm will be

DESIGNED FOR PEOPLE

- More pedestrian space will be sought in the Croydon Opportunity Area and District and Local Centres. Existing pedestrian space will be protected and enhanced.
- Designs will encourage more active lifestyles, social interaction and physical and mental wellbeing.
- Access for disabled people and those with mobility impairments will be provided.
- Where appropriate, community involvement in the design, maintenance and retrofitting of the public realm will be encouraged.
- Public realm will be flexible and designed to cater for various uses, including cultural activities and play.

MAINTAINED TO HIGH STANDARDS

- Streets will be cleaned to a high standard.
- Enforcement will be used if necessary to deter people from littering or other negative environmental actions.
- Schemes will be designed to be practical to maintain over the medium to long term.
- Maintenance programmes will be developed to ensure incremental improvement over time.

PLACE SPECIFIC

- The public realm will respond to heritage, local character and sense of place.
- Public art will be sensitively and imaginatively incorporated in high quality architecture or public realm settings; it will be accessible and integrate.
- Public realm work located in or near heritage assets (Conservation Areas, LASCs, listed and locally listed buildings) should consider the significance of the affected heritage asset and should seek to preserve, enhance and/or better reveal that significance and setting.

HEALTHY STREETS FOR LONDON

In 2017 Transport for London (TfL) published a new approach for London streets, focusing on improving air quality, reducing congestion and helping make London's diverse communities greener, healthier and more attractive places to live, work, play and do business.

The document sets out how to put people and their health at the centre of public realm decisions, helping everyone to use cars less and to walk, cycle and use public transport more.

Croydon Council is committed to follow TfL's Healthy Streets principles.

A more detailed guidance on Healthy Streets and wider transport strategy is contained in the adopted *Mayor's Transport Strategy (2018)*.

*10 Healthy Streets Indicators (Source: TfL, 2017)*

AGREEING A VISION

In 2013 Transport for London's Roads Task Force developed a Street Types Matrix, illustrated below. It is a useful tool when agreeing a common vision for a place. A specific street does not necessarily need to fulfil the same functions pre and post project. However, it is key to the success of a given project that all stakeholders understand and commit to the vision and that the delivery strategy is coherent overall – all elements are important. For example, both the choice of materials and road geometry should reflect the agreed vision.

Understanding what the final goal is will help shift some streets from one end of the Place spectrum to another, thus supporting the Healthy Streets agenda.

Wellesley Road, Croydon was highlighted in the Roads Task Force's report (2013) as having the potential to become a "City Street". Steps were taken towards delivering this vision (before and after photos below).

Street Types Matrix (Source: Roads Task Force, 2013)
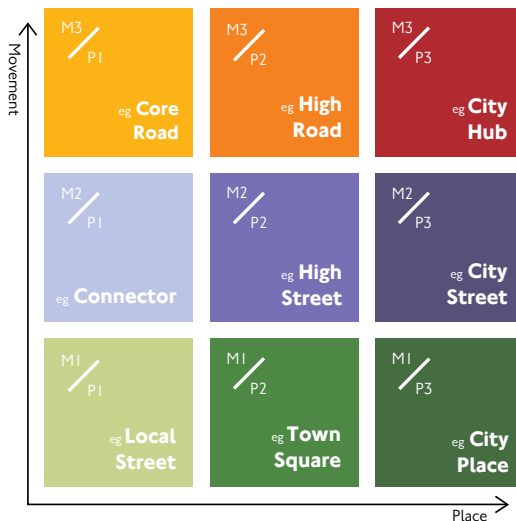
2.2 SUSTAINABILITY

The Croydon Local Plan sets the scene for a sustainable Croydon. In particular, Croydon has a target to achieve a 34% reduction in carbon dioxide emissions on 2005 levels by 2025.

Interventions within the public realm should support the creation of an environment that is sustainable through its whole life cycle. An environment that:

1. uses recycled materials and recycles its waste;
2. has a low energy consumption;
3. addresses its own impacts;
4. encourages environmentally friendly behaviours;
5. lasts longer; and finally that -
6. takes into account socioeconomic sustainability.

USES RECYCLED MATERIAL AND RECYCLES ITS WASTE

REUSE ANY WASTE THAT IT PRODUCES

Existing paving, kerbs and street furniture should be reused wherever possible, depending on specifics of a scheme, brief and design concept.

For example, waste arising from tree works should be converted into either usable millable timber, cordwood or wood chips.

USE MATERIAL WITH LOW EMBODIED ENERGY

Preference should be given to materials with a low embodied energy using recycled and local materials.

For example asphalt with recycled aggregates will be favoured. While natural stone will be used in sensitive contexts, man made paving is often better for environmental reasons.

HAS A LOW ENERGY CONSUMPTION

The need for power supply should be eliminated where possible.

Intelligent infrastructures should be powered from renewable energy sources.

Lighting should be energy efficient.

ADDRESSES ITS OWN IMPACT

SUDS PROVISION

Croydon is ranked the 4th settlement in England most susceptible to surface water flooding (Defra, 2009). Croydon Local Plan states that flood risks

Tree trunks provide informal play opportunities in St John's Memorial Garden

Solar powered parking meters in Queen's Gardens

should be tackled "by making space for water and utilising sustainable urban drainage systems."

Croydon Strategic Flood Risk Assessment or SFRA (joint with the Boroughs of Wandsworth, Merton and Sutton) and Croydon Surface Water Management Plan can be used to guide which SUDS will be the most suitable based on site specific considerations. Specific SUDS related policies and considerations can be found in the Croydon Local Plan (adopted in early 2018), as well as in the London Plan. The Croydon Lead Local Flood Authority (LLFA) has also produced further guidance on the requirements for sustainable drainage proposals supporting planning permissions (available on Croydon Council's website: https://www.croydon.gov.uk/environment/flood-water/advice-to-planning-applicants).

Croydon Council 's SUDSguidance should be applied alongside the ones contained in *TfL's 2016 SUDS in London Guide* and *Ciria's SUDS manual*.

All public realm schemes should explore early on whether it would be beneficial to have SUDS integrated in the design in collaboration with relevant Croydon's flood and drainage officers.

If SUDS are to be successfully incorporated in public realm proposals, a SUDS consultant should be brought on board as this is a specialised area of expertise.

DEALS WITH POLLUTION AND CONTRIBUTES TO A HEALTHY ECOSYSTEM

Proposals should seek to maximise the provision of soft landscaping including green walls, green roofs and trees.

Schemes should seek to maintain, repair or create a new healthy ecosystem where the original one had been interfered with or damaged.

SUDS components in the street may include:

- Permeable pavement
- Tree planting
- Tree trenches
- Bioretention systems (rain gardens)
- Filter drains to collect water and treat pollution
- Detention basins
- Hard 'basins'
- Swales
- Pools, ponds, canals, rills and runnels
- Surface water drainage soakaways and infiltration systems

Deculverting the River Wandle in Wandle Park helped to restore the river's ecosystem.
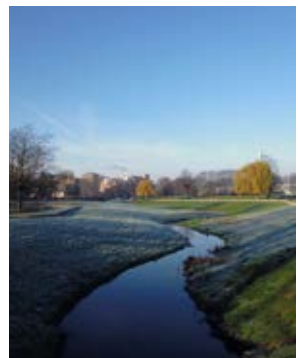
Schemes that include trees and soft landscaping dealing with some of the pollution created by vehicle movement within the public realm will be preferred.

ENCOURAGES ENVIRONMENTALLY FRIENDLY BEHAVIOURS

MOVEMENTS

Sustainable transport modes should be encouraged. This might be done through - but is not limited to - the provision of continuous, accessible walking and cycling routes; wayfinding and cycle parking facilities; infrastructure for electric vehicles, by providing more space for car clubs and improving the bus network.

RECYCLING

Recycling bins should be part of an agreed layout for street furniture and be integrated into the design from early stages.

LASTS LONGER

ROBUST

Consideration should be given to supply, durability, longevity and ease of replacement or replication of the materials and products being used.

ADAPTABLE (INCLUDING CLIMATE CHANGE)

Schemes should be designed to address their current use but also take into account that this use might change in the near future.

Adequate measures should be put in place to manage higher temperatures and reduce impact of weather extremes (both heat and cold conditions), including:

- the provision of street trees, small open spaces and green or living roofs and walls;
- natural water resources such as ponds, rivers and flood balancing lakes should be protected and upgraded;
- low water use planting and landscaping reducing or eliminating the need for supplementary water from irrigation;
- parking areas for over 10 places should be shaded by trees as good practice for climate change mitigation and introduce greenery into the streetscape.

TAKES INTO ACCOUNT SOCIOECONOMIC SUSTAINABILITY

Social and economic aspects should be considered in the design of public realm to ensure that places and connections will support local economic development, equality and diversity; as well as being safe and helping to prevent anti-social behaviour. In line with these aims the design of the public realm should:

- consider the wider urban context to identify key uses of the relevant spaces;
- create a sense of ownership;
- strive to enhance and support local economic activities;
- support diversity of use by taking into account the needs of all ages, backgrounds and physical abilities;
- recognise the multiplicity of overlapping land uses that occur in urban areas;
- support accessibility and connectivity - by helping to create permeable, joined up places
- accommodate change.

The temporary "Ideas' Shop" along South End helped build a sense of ownership of the public realm proposals that were about to be delivered.

Food Festival along South End. The built programme was adjusted to allow the yearly festival to happen.

2.3 ACTIVATING THE PUBLIC REALM

Croydon's public realm should create the conditions to facilitate diverse uses, during the day and evening, weekdays and weekends, summer and winter. The design of the public realm should consider how it can enable activity, for example by providing lasting infrastructure such as power, water, digital connectivity or access facilities to support temporary and regular events. Proposed uses should build on existing activities, and work with what is already there.

MAKING THE SPACE

▪ Croydon's public realm should provide a variety of spaces that can host a diverse range of activities.

▪ The scale, size and form of spaces should be designed with future uses in mind, to complement rather than replicate the surrounding offer.

▪ Design considerations should include how public realm can support adjacent occupiers, for example by providing space for outdoor eating, performances, play or respite.

PROVIDING THE INFRASTRUCTURE

▪ The infrastructure necessary to host activities or hold events should be integrated into public realm schemes from the start. This should range from stages and shelters to power and water supplies.

▪ Access to and use of utilities should be integrated with management and maintenance plans.

PROGRAMMING USES

▪ The public realm should be designed to help enable community events and business activity.

▪ Proposed activities should be socially sustainable, self-sufficient, and viable. They should respond to existing needs and build on established initiatives.

▪ Public realm should open up opportunities for small entrepreneurial ventures by activating social networks such as markets and music.

Temporary Crazy Golf on Caithness Walk

Market Day along New Addington's Central Parade

Wandle Park opening day

Programme of events in New Addington's Central Parade

2.4 PUBLIC REALM 'IN WAITING' AND MEANWHILE USES

Significant areas of Croydon's public realm are set to be transformed through regeneration, but it is just as important that areas awaiting transition contribute positively to the public realm in the interim. The provision of temporary public realm both before and during construction is encouraged where it acts as a stepping stone to something more permanent.

TRIALLING PUBLIC REALM PROJECTS

When it is possible and necessary to organise a temporary trial before delivering a permanent solution it should be done.

Likewise, if a series of similar projects are being progressed, their delivery should be staggered so that pilot scheme(s) inform the larger programme.

In both cases, the trial and precursor project(s) should be used as an opportunity to test and refine options, limiting risk for the completed project(s).

Precursors can also act as a platform for meaningful community engagement and in turn build a sense of ownership and improve patterns of behavior.

Far left: testing the closure of Croydon High Street to vehicles, including temporary installations.

Left: pilot ground art by Ruskin Square. This was delivered as part of a larger programme of Ground Art.

DEVELOPMENT SITES

Where sites are awaiting redevelopment, meanwhile uses should be considered to help fill the gap. Temporary uses that can help test demand for certain aspects of the planned development will be especially supported.

These two sites at Reeves Corner have been have been identified for infill developments in the Old Town Masterplan.

CONSTRUCTION SITES

Where development is phased over long periods, interim uses should be considered.

Hoardings should do more than advertise, by for example testing building lines, opening vistas into future routes, becoming usable features for seating, play or as an opportunity for temporary public art installations.

Wayfinding and lighting should be integrated into imaginative hoarding designs.

Far left: Box Park occupies part of the Ruskin Square redevelopment site, activating this key frontage while it lies vacant.

Left: Saffron Central Growing Community project on the former site of Taberner House.

VACANT BUILDINGS

Vacant buildings, particularly ground floor retail units, impact negatively on the public realm. Bringing these spaces back into use restores active frontages, makes a positive contribution to the public realm, and invigorates retail areas. Cultural, enterprise and educational uses are encouraged in partnership with existing local organisations.

Temporary use of shops opposite Croydon Minster (consultation and community activities) and along Church Street (startups).

2.5 PLAY

The public realm is for everyone and therefore provision should be made for play. This can be through formally designated spaces or informal provision. Play provision should be inviting, imaginative and stimulating. Street furniture can be designed to double-up as play equipment. Natural objects and planting should be integrated into play space so children are given the chance to enjoy their shapes, colours and textures. When designing play equipment, the maintenance responsibility and adequate inspection and repair budgets should be identified and planned.

EDUCATION AND WELLBEING

▪ Play is fun and good for people as it involves physical and mental exertion, socialising and getting some fresh air if it occurs outside.

▪ Forms of physical play should encourage experiences of swinging, jumping, climbing, balancing and the built environment.

▪ Play spaces are designed to provide challenging physical experiences for children and children should be able to make their own risk assessments when it comes to using play equipment.

▪ Reasonable safety standards still apply to all play provisions and appropriate impact absorbing surfaces should be installed where required.

INCLUSIVE EXPERIENCE

▪ The public realm is for people of all ages and therefore provisions should be made to encourage a variety of play options within the public realm.

▪ Play spaces that appeal to children of all ages should be designed to provide a variety of play opportunities from the more physically demanding to the more gentle and intellectual.

▪ A significant proportion of inclusive play equipment should be provided for different needs and types of disabilities/abilities. Furthermore, parents and carers who are themselves disabled should also be able to gain access to play spaces if they are to accompany their children.

▪ Outdoor gyms that test balance and strength, designed for teens and adults should be considered in parks. Their provision is

Skate park in Wandle Park

Outdoor gym in Lloyd Park

Play area in Wandle Park

recommended as a way of promoting healthy living.

▪ When designing horizontal surfaces in the public realm, patterns can be used to enable playing chess and other board games in order to encourage people of all ages to spend time outdoors, socialise, have some fun and gain some mental stimulus.

FORMS OF PLAY

▪ Natural materials and surfaces are preferred in play areas borough wide. Natural features such as logs, planting and rocks should be integrated into play areas. This gives children the chance to enjoy the shapes, colours and textures of natural elements and increase the visual attractiveness of play spaces for all to enjoy.

▪ Designing play opportunities into public realm in addition to formally designated play areas is supported. Multifunctional play objects integrated in the built environment are especially encouraged in Croydon Opportunity Area, district and local centres. Integration of street art and play is especially encouraged in these locations.

▪ Play areas should also incorporate educational elements related to local heritage and natural resources.

AREA SPECIFICS

▪ Hard, abrupt boundaries to play areas should be minimized when possible to assist the integration of a play space in to its surroundings balanced against the need to ensure that play spaces are appropriately safe and secure.

Informal play element along Caithness Walk
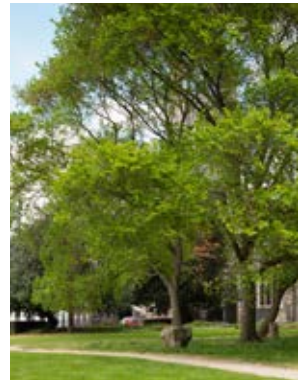
A boulder provides an informal opportunity for play in St John Memorial Garden

Play street event in Croydon

2.6 PUBLIC ART

Art plays the role of enriching the public realm. Through visual expression, it can stimulate the mind and surprise and delight the senses. Public art should be commissioned sensitively so that it sits appropriately within and responds to its surroundings. However those who commission it should be prepared for the fact that for art to achieve a depth of expression, it sometimes must break with convention.

ART IN THE PUBLIC REALM

- Public art is a means of bringing art to everyone so that it is not just experienced by people who visit museums and galleries but becomes part of everyday life with no financial charge.
- Public Art is encouraged in new developments and Croydon Council supports the introduction of innovative art components in public realm schemes and into landscape design proposals.
- Art in the public realm should enhance the visual and spatial experience of the public realm and stimulate the imagination.
- It can be two or three dimensional and can appeal to the senses through imaginative use of colour, light, proportions, texture, sounds and movement. Interactive and participatory art installations are encouraged.
- Multifunctional installations integrated into the overall design narrative and design concept will be preferred (for example art as paving, seating or play element).
- Art installations that address specific issues and its context as part of the overall design will be particularly supported.
- Murals (paint only) that cannot be interpreted as advertisements are permitted development and do not need planning permission or advertisement consent. Usual consents for listed buildings still apply.

Stimulating the imagination: window into the past on Gillett Road, Thornton Heath

Interactive art: peeping through St Michael's Church's rose window, West Croydon

Three dimensional art along Surrey Street

Temporary interactive 'Light Art Trail' along St George's Walk

Light and mural to brighten the space below the Jubilee bridge at Reeves' Corner

Art to deal with unsightly conditioning units along Surrey Street

PLACE AND COMMUNITY SPECIFIC

Good public art contributes positively towards local character and distinctiveness of areas. It should be designed to respond to its context.

Far left: Village bell at Broad Green, London Road

Right: wall art by Ruskin Parade, Selsdon Road. The graphics allude to aspects of local history and landscape

The process of creation of an artwork provides opportunities to engage with the local communities, whether in its design, construction or production. As well as being a valuable experience in itself, it can increase the sense of ownership and pride in the artwork, the wider public realm and the place in which it is located.

Far left: famous Croydon residents chosen by public vote stand by this bench

Right: involving the community in creating artwork in Thornton Heath

Existing bespoke elements often already exist in the public realm. Priority should be given to restoring historic art features before delivering new ones.

Far left: existing memorial wall integrated in the streetscape at Surrey Street

Right: existing hand made clay plate along Wellesley Road

BESPOKE ELEMENTS AND LIFE SPAN

Any bespoke element will be treated as an art installation and the following will apply:

▪ It should be robust and vandal-proof.

▪ If the art installation is the Council's responsibility and no specific agreement has been put in place it should be assumed that no maintenance will be carried out to it and it will be removed once damaged.

▪ If a standard replacement needs to be provided (bespoke seating needing to be replaced by a standard bench when at the end of its life) this should be planned for from the outset and the standard replacement type specified.

▪ Public art can be a permanent or temporary feature of the urban realm. Arrangements to remove temporary art installations after their agreed life span comes to an end must be in place from the start.

This piece of granite in South Norwood has been designed to stand the test of time

Bespoke pavers in South End to be replaced by standard ones at the end of their life

Bespoke seating on Dingwall roundabout. If damaged they will need to be replaced by an off-the-shelf element

Robust and vandal-proof bespoke street furniture at College Square

Year of the Bus 2014. Sculptures were installed in Croydon after having been in Central London

2011 Riots' anniversary. The House of Reeves was covered with photos from the community .

2.7 COUNTER TERRORISM

Hostile Vehicle Mitigation (HVM) has emerged as a pressing challenge with significant consequences on public realm design, particularly for Croydon's key civic spaces.

The guiding principle should always be to ensure HVM strategies and measures are fully integrated into the public realm design in a holistic manner which ensures the appropriate level of security while avoiding the creation of hostile urban environments.

WHEN TO CONSIDER HVM MITIGATION MEASURES?

- Key stakeholders should be engaged at the earliest opportunity to assess whether HVM measures are needed for a specific project or site.

- These must include the appropriate regional or national Metropolitan Police Counter Terrorism Security Adviser, Croydon Council's Planning and Strategic Transport teams and TfL if measures are proposed on the Transport for London Road Network.

- The development of mitigation strategies should be guided by the JASPAR principles.

- HVM strategies must be integrated into the design from an early stage to avoid retrofitting when possible.

JASPAR principles

| **J** ustifiable |
| **A** ppropriate |
| **S** ustainable |
| **P** ractical |
| **A** ffordable |
| **R** easonable |

HOLISTIC AND LAYERED

Any HVM strategy must be holistic and layered to ensure it is robust and integrated to create safe and welcoming spaces.

- **Holistic** - it should combine a set of measures of different types: physical (e.g. bollards, fencing, furniture, public art), electronic (e.g. CCTV) and procedural (e.g. bag search, liquids and gel ban, metal detector, traffic management).

- **Layered -** it should be implemented (if practical)

Layered approach principles (Source: CPNI, 2014)

Asset · Threshold · Site · District

on a series geographical layers - district /site / threshold /asset.

EXAMPLES OF COMPONENTS PART OF A HVM STRATEGY

Design approach will need to consider any adverse impacts upon pedestrian flows.

Below are some examples of physical components of a HVM strategy. This list is not exhaustive.

VERTICAL ELEMENTS: STREET FURNITURE, PUBLIC ART (TEMPORARY OR PERMANENT)

Purpose built off the shelf HVM barriers and bollards	Customisation of existing approved product /clad version	Entirely bespoke
They are tested and meet specific HVM standards. Use of off the shelf HVM barriers and bollard should be minimised	Bollards that contribute positively to the public realm will be preferred	Approach is supported. Designers should factor in potentially longer lead times and higher costs. It might be prohibitive if needs to meet specific HVM standards

1200mm max
(measured at 600mm or highest point if object <600mm)

500mm
(minimum)

Spacing of HVM bollards. This is the only case where it is desirable and necessary to have obstructions less than 1500mm apart as normally required (see Chapter 3.0 Road Geometry)

VERTICAL, TOPOGRAPHICAL CHANGES AND PUBLIC ART

A combination of vertical elements, topographical changes and public art might offer the best opportunity to integrate successfully HVM in the public realm.

The water feature in Darling Harbour, Sydney changes in levels, creating an HVM barrier

Example of topographical changes integrated in the landscape to create an HVM barrier

The water feature on Market Square in Nottingham, combines vertical elements and changes in levels, creating an HVM barrier

TRAFFIC MANAGEMENT

This might include for example vehicle exclusion zone, traffic calming methods, or looking at the street pattern.

HVM STANDARDS

The standards IWA 14, PAS68 and PAS170 set out the testing requirements for HVM objects. Due to the high cost and extensive site preparation, meeting these will only be appropriate to protect particularly high risk assets.

 International IWA 14-1:2013

 BSi PAS 68

NON-HVM OBJECT: PAS 170-1:2017

DESIGNER CHECKLIST

The Centre for Protection of National Infrastructure (CPNI) has put together the following checklist for HVM mitigation strategies.

#		Item	
1	▪	Identify stakeholders	✓
2	▪	Consider liability and due diligence	✓
3	▪	Assess threat to the site and its adjacent buildings	✓
4	▪	Seek advice from CPNI, CTSAs and / or security professionals where necessary	✓
5	▪	Walk the site to gain first hand experience as a user - consider desire lines	✓
6	▪	Apply appropriate tools & techniques to understand pedestrian movement	✓
7	▪	Understand the importance of site observation work and other assessment methods	✓
8	▪	Consider the strengths and weaknesses of computer modelling	✓
9	▪	Review planning implications for wider area scheme	✓
10	▪	Trial pedestrian flows on site alongside a computer simulation to 'stress test' design layouts	✓
11	▪	Consider wider strategic security proposal if applicable	✓
12	▪	Explore options for asset re-location to mitigate the threat	✓
13	▪	Assess possibility of security measures extending beyond the client's ownership boundary	✓
14	▪	Liaise with adjacent landowners to explore wider scale opportunities	✓
15	▪	Review requirement for security as an integral part of the design brief	✓
16	▪	Sympathetic approach to public realm function and appearance	✓
17	▪	Holistic approach to HVM, consider future flexibility and evolving threats	✓
18	▪	Remember Four Cs - Capacity, Comfort, Convenience and Conflict	✓
19	▪	Ensure strategic site planning and layout doesn't compromise security	✓
20	▪	Develop proposals in the context of existing or proposed local security strategies and plans	✓
21	▪	Explore opportunities for play, arts and culture	✓
22	▪	Explore potential for multi-functional elements	✓
23	▪	Clearly define boundaries to publicly accessible areas	✓
24	▪	Review opportunities for vehicular approach and access management	✓
25	▪	Consider the adoption of proposals and potential implications of ongoing maintenance	✓
26	▪	Design with maintenance in mind	✓
27	▪	Implement continual assessment of HVM measures against current threats	✓
28	▪	Consider preparation of formal management plan	✓
29	▪	Coordinate management plan with other local strategic plans	✓
30	▪	Periodically review measures against changing threats or other varying circumstances	✓
31	▪	Fully inform management and operators of site maintenance requirements	✓
32	▪	Consider contingency plans	✓

3.0
ROAD
GEOMETRY

This chapter does not intend to replace existing guidance but highlights key aspects designers should have particular regard to when designing public realm projects.
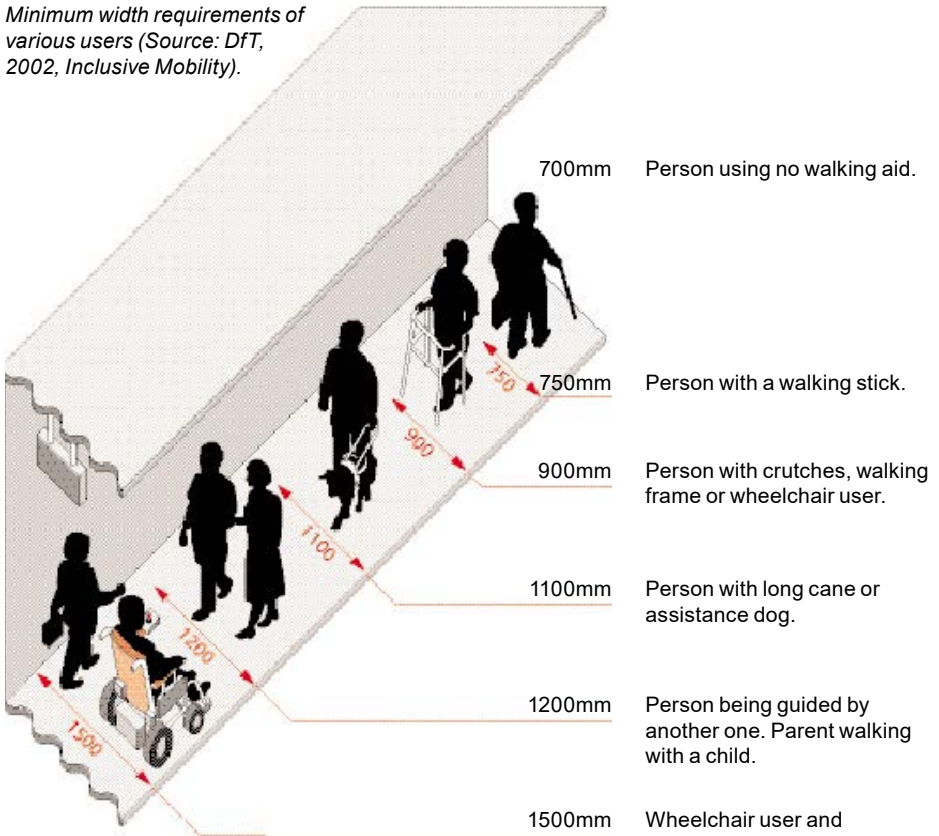
3.1 PEDESTRIANS

Design tools should be used to create environments which will encourage people to use outdoor facilities and shift towards sustainable modes of transport.

Croydon is committed to inclusive design in accordance with the London Plan: public realm should be accessible to all regardless of age or ability.

INCLUSIVE MOBILITY AND WIDTHS

Minimum width requirements of various users (Source: DfT, 2002, Inclusive Mobility).

700mm	Person using no walking aid.
750mm	Person with a walking stick.
900mm	Person with crutches, walking frame or wheelchair user.
1100mm	Person with long cane or assistance dog.
1200mm	Person being guided by another one. Parent walking with a child.
1500mm	Wheelchair user and pedestrian either side by side or passing each other. If 2,000 width is not achievable because of physical constraints **1500mm could be regarded as the minimum acceptable under most circumstances.**
2000mm	Two wheelchairs can pass one another comfortably. **This should be regarded as the minimum under normal circumstances**.
3000mm	Minimum desirable width by bus stops.
3500mm	Minimum desirable width by shops.

- In compliance with the *2010 Equality Act* Croydon's public realm should not be unreasonably difficult for disabled persons to make use of it.

- An absolute minimum clear footway width of 1.5m should be left to allow unobstructed pedestrian use. Where narrower paths already exist that cannot be widened, suitable alternatives will need to be considered, including the creation of a shared surface.

STREET FURNITURE AND LAMP COLUMNS POSITIONING

- Street furniture will be positioned at least 450mm from the kerb face (at least 800mm for lamp columns).

- Street lighting should ideally be located at the back of the footway in order to future-proof any kerb alignment change and provide adequate illumination to pedestrian areas.

- Priority should be given to have a clear space between buildings and the street furniture zone ≥ 1200mm and preferably ≥ 2000mm . Once this minimum clear width is reached, it becomes acceptable to locate street furniture up to 800mm from the kerb face.

Diagram showing positioning and dimensions of clear zone and street furniture zone
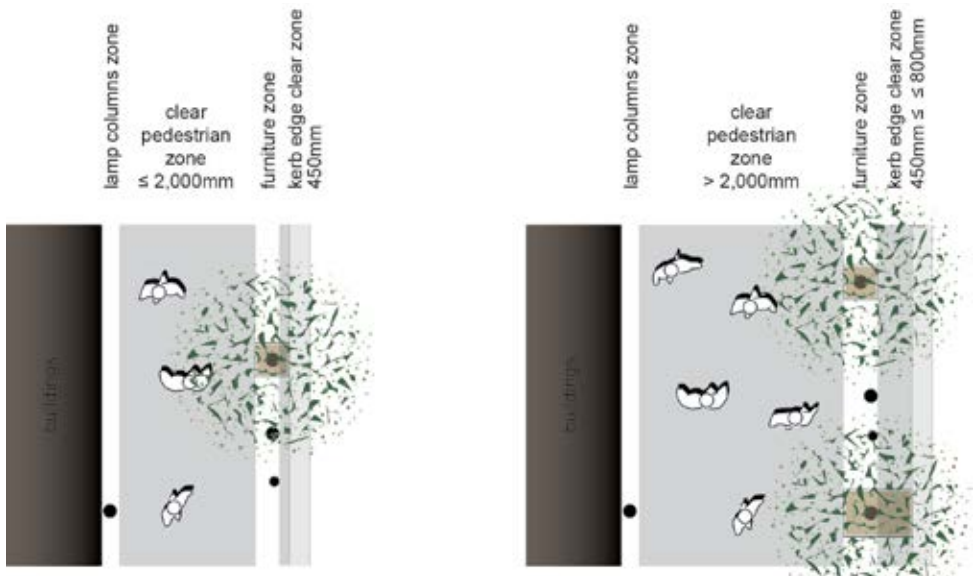
- By bus stops and shops the clear width needs to be 3000 and 3500mm respectively before it becomes acceptable to locate street furniture up to 800mm from the kerb face. More detail is contained within the *TfL Accessible Bus Stop Design Guidance (2017).*

PEDESTRIAN COMFORT

- Pedestrians will be given at least the same level of consideration than vehicles. A road would not be designed under capacity. The same principles will be applied to pedestrians on Croydon's streets.

- Levels of pedestrian comfort as listed in TfL's 2010 document (*Pedestrian Comfort Guidance for London*) will be met. Where they are not, footways should be widened, decluttered or suitable alternatives will need to be considered.

- Decluttering of unnecessary, damaged and poor quality elements is encouraged to help creating a more accessible and welcoming environment.

Next page: Pedestrian comfort levels on footways in people per metre per minute (ppmm) (Source: TfL, 2010, Pedestrian Comfort Guidance for London).

Guidance for different areas type (Source: TfL, 2010, Pedestrian Comfort Guidance for London).

		HIGH STREET		OFFICE AND RETAIL		RESIDENTIAL		TOURIST ATTRACTION		TRANSPORT INTERCHANGE	
		Peak	Ave of Max	Peak	Ave of Max	Peak	Ave of Max	Peak	Ave of Max	Peak	Ave of Max
A		COMFORTABLE		COMFORTABLE		COMFORTABLE		COMFORTABLE		COMFORTABLE	
B+											
B		ACCEPTABLE		ACCEPTABLE		ACCEPTABLE		ACCEPTABLE			
B−		AT RISK						AT RISK		ACCEPTABLE	
C+		UNACCEPTABLE/ UNCOMFORTABLE		ACCEPTABLE		AT RISK	AT RISK	UNACCEPTABLE/ UNCOMFORTABLE			
C−				AT RISK	AT RISK					AT RISK	AT RISK
D						UNACCEPTABLE/ UNCOMFORTABLE					
E											
		Peak and Average of Maximum Activity levels have similar guidance as people visiting retail areas stated they were particularly sensitive to crowding.		The "at risk" level is set at a lower PCL during the Average of Maximum Activity than peak flows. This is because of the greater number of single travellers and the short duration of maximum activity.		The "at risk" level is set at a lower PCL than peak flows in Residential Areas to reflect the short time this is likely to occur. A site visit to Residential sites is particularly important to check if there is school activity or a bus stand in the area.		Peak and Average of Maximum Activity levels have similar guidance as people visiting tourist areas are likely to be particularly sensitive to crowding		The "at risk" level is set at a lower PCL during the Average of Maximum Activity than peak flows. This is because of the greater number of single travellers and the short duration of maximum activity.	

A+   < 3ppmm
< 3% Restricted Movement

A   3 to 5 ppmm
13% Restricted Movement

A-   6 to 8 ppmm
22% Restricted Movement

The pedestrian environment is very comfortable with plenty of space for people to walk at the speed and the route that they choose.

B+ RECOMMENDED MINIMUM FOR ALL AREAS

B+   9 to 11ppmm
31% Restricted Movement

B   12 to 14ppmm
41% Restricted Movement

B-   15 to 17 ppmm
50% Restricted Movement

B+ provides enough space for normal walking speed and some choice in routes taken. At B and B-normal walking speed is still possible but conflicts become more frequent. In retail areas, people start avoiding the area.

INCREASINGLY UNCOMFORTABLE

C+   18 to 20ppmm
59% Restricted Movement

C   21 to 23 ppmm
69% Restricted Movement

C-   24 to 26 ppmm
78% Restricted Movement

The pedestrian environment is increasingly uncomfortable, with the majority of people experiencing conflict with other pedestrians and lack of personal space. Bidirectional movement become difficult.

VERY UNCOMFORTABLE

D   27 to 35ppmm
100% Restricted Movement

E   >35 ppmm
100% Restricted Movement

People have very little personal space and speed and movement is very restricted. Bypassing slower pedestrians becomes difficult. Extreme difficulties are experienced if moving in reverse flows.

LEVELS AND DISABLED USERS

- The design of public realm and buildings should support social inclusion. The guidance in *Inclusive Mobility (DfT, 2002)* should be applied.

- When an aspect of a public realm prevents some people from benefiting from it, a suitable alternative should be provided.

- Pedestrians should have a possibility of at grade movement, without clutter and architectural barriers e.g. in the form of steps, stairs, street clutter or poor quality surfaces.

PEDESTRIAN CROSSINGS

- Where possible pedestrian crossings should be straight, subject to safety audit.

- Where a staggered crossing is necessary, a kerb should be included in the design to help visually impaired users.

Thornton Heath library: accessible for all
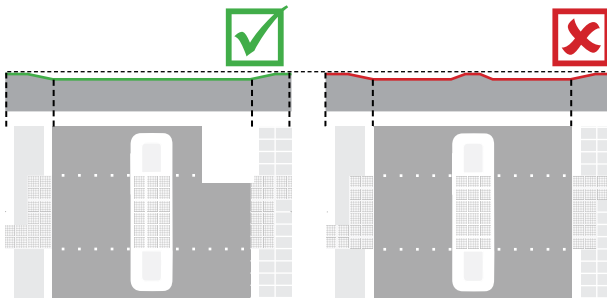
Pedestrian crossings should be straight and at grade. Refuge island should be level with carriageway
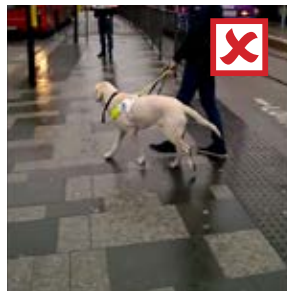
Far left: a kerb should be included on all staggered crossings to help visually impaired users

Left: a guide dog unable to find the second part of the staggered crossing (no kerb present to guide him)

CROSSFALLS

- Crossfall on footways, while necessary to provide drainage, can make it difficult for wheelchair users if too great. The following guidelines should be followed:

  - The minimum crossfall for a footway being within public highway is 1:40 and the maximum permissible is 1:20 (although this is to be avoided where possible).

  - Crossfalls shallower than 1:40 will result in poor drainage of surface water form the footway surface.

- Variable crossfall, such as may be found when travelling along a street with vehicle cross-overs, can be irritating as it affects the steering of wheelchair users and can also cause problems for people with walking difficulties. Solutions that allow to minimise this will be supported.

KERB HEIGHTS

- Kerbs and pavement levels along public transport facilities should be elevated in order to enable level access to vehicles such as buses or taxis.

- A kerb of 60mm or greater is recommended to ensure it is detectable by blind and partially sighted people. (*UCL, 2009*)

Precise detailing at vehicle crossovers can allow to minimise extent of the crossfall change

Kerb heights

Where	Kerb height
tram stops	to be determined by TfL Trams.
bus stops	100 to 140mm (ideally 125-140mm)
dropped kerbs	max 5mm bullnose (square edge if flush)
all other kerbs	max 125mm standard 115mm below 60mm design needs to consider alternative solution for blind & visually impaired

- Where a kerb lower than 60mm is proposed, close consultation with the Access Officer and relevant disability groups will need to inform the design.

- Design solution might include the creation of a "safe space" also sometimes called "comfort space" (*DfT, 2011*).

- Where the carriageway is levelled with the footway, it should be delineated through colour contrast and /or change of texture, as well as appropriate warning tactile paving at either end of the area.

Far left: New Street, Brighton. Gully and tactile paving create a "safe zone"

Left: Lansdowne Road. A strip of tactile paving ensures visually impaired users will know they are about to cross the carriageway

3.2 CYCLISTS

Croydon has the greatest potential for cycling and walking. This is because we make a great many short journeys by car that could easily be walked or cycled given the right conditions.

To help put this right, improved and progressive cycle provision must be integrated into all public realm improvement schemes and new developments.

KEY DIMENSIONS FOR CYCLING

▪ A maximum cross fall of 1:40 is recommended for paths used for cycles (as for pedestrians, see previous chapter).

▪ The minimum height clearance for cyclists should be 2.4 metres.

▪ Mandatory cycle lanes should be at least 1.5m wide to accommodate all types of cyclists safely including disabled cyclists.

▪ A 0.5m safety zone to prevent 'dooring' by motorists is also desirable where a cycle route is located along parking spaces.

▪ Where bollards or kerb upstands are used across a pathway to prevent access to motor vehicles the distance between two bollards, or gaps between kerb upstands, should be of 1.5m.

▪ Where cyclists share the space with general motor traffic the preferred lane dimension is either:
  ▪ >4 meters (enough space for a motorised vehicle and a cyclist to pass one another comfortably); or:
  ▪ <3.2 meters (so overtaking is not possible).

▪ Where lane widths are between 3.2 and 4 metres due to existing constraints and other priorities, consideration should be given to discouraging dangerous overtaking through design and other speed management measures.

SUPPORTING GUIDANCE ON CYCLING

For matters not covered by this Guide, the publications below can be used as further guidance on designing cycling facilities:

- *Croydon's Cycling Strategy 2018-23* (Croydon Council, 2018)
- *A Guide to Inclusive Cycling* (Wheels for Wellbeing, 2017)
- *London Cycle Design Standards* (Transport for London, 2014)

Cycle and pedestrian crossing opposite the Minster

3.3 PARKING

For parallel parking, parking bays on Croydon streets will be designed using the following requirements:

PARALLEL PARKING

- Parking bay length should be:

Cars parked on London Road

	mimimum	preferred	High Street locations
intermediate bays	5.5m	5.8m	6m
end bays	4.5m	5m	5.5m

Parking bay length, parallel parking

- On High Street type locations and especially on bus routes the parking bays are longer in order to minimise the delay to traffic when drivers are manoeuvring into the bays.

PARALLEL PARKING BAY WIDTH

Parking bay width should be mimimum 2m. However in special circumstances and in discussion with LBC Highways, 1.8 metres width might be considered.

4.0
PALETTE OF
MATERIALS
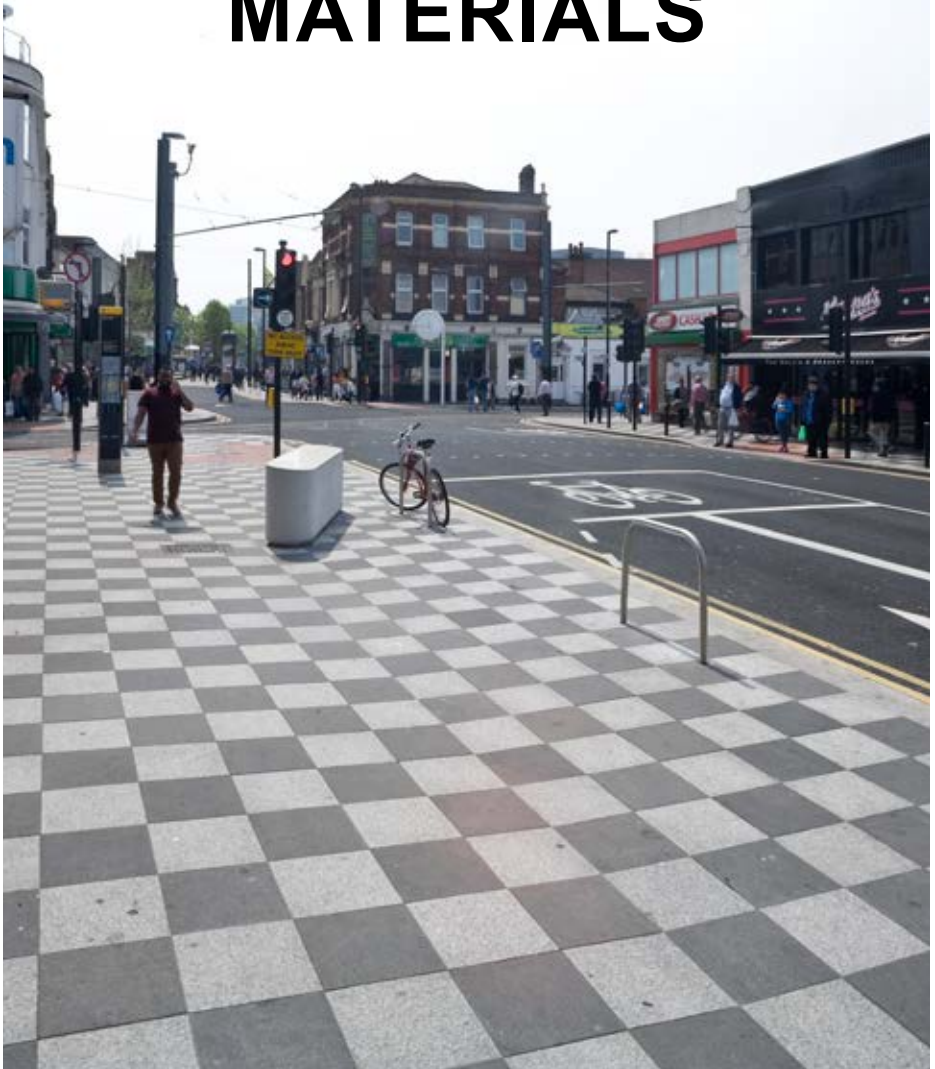
The following chapter sets out the specific palette of materials that all schemes delivered in Croydon should use. This is critical to achieving a consistent, high quality and well-maintained public realm in Croydon.

4.1 SURFACE MATERIALS

Surface materials should be seen as an integral element of creating, regenerating and revitalising places and spaces, ensuring cohesion and continuity. In order to achieve this, a limited palette with materials that are simple, robust, appropriate to the local character and fit for purpose should be used.

GENERAL GUIDELINES

- The selection of surface material should support a place's local identity and choice should take in to account safety, maintenance regime, and coherence with a wider public realm context.

- Where possible, significant historic surfaces should be refurbished and retained.

- Vehicle overrun on footways should be designed out where possible. However, in areas where it might happen, reinforced materials and adequate technical solutions should be applied, such as: reinforced paving, widened kerbs, an increased flag thickness, alternative bedding and jointing type, mesh reinforcement or grass cells.

- Where appropriate, skid resistance should be assessed, for example when using natural stone on trafficked areas.

- Resurfacing schemes should include areas of private forecourt where the public are able to walk across freely (in dialogue with the relevant landowner). This will ensure footway materials are unified from the back of the kerb to the building edge. Future maintenance will accord with the Council's model. Where this happens, the boundary between public and private space should be subtly marked.

- Wherever possible, replaced surface materials should be reused on site or recycled.

Areas of footways along Lansdowne Road where vehicular overrun was anticipated were treated accordingly with granite setts

PAVING

- Clear detailing and high quality workmanship are essential to minimise the cutting of paving units.

- Where mortar infill is applied, natural sand and cement, free from dye, should be used. Cutting should be very precise and kept to minimum to avoid large infills.
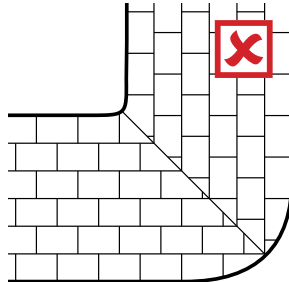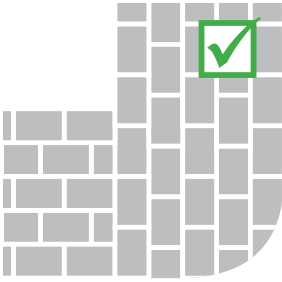
Corners should be tiled in the simplest way to keep cutting to absolute minimum. Junctions should be at the right angle. Surface pattern should strengthen the priority direction of pedestrian movement

Dropped kerbs should be designed as shown on the photograph far left. If this is not possible due to level changes, a specific detail that might include smaller paving units should be produced by the design team to address this

▪ Where paving is used on vehicular surfaces, care should be taken to ensure that the colour chosen do not easily show oil staining.

▪ Paving substructure used on vehicular surfaces should be suitably strong to avoid cracking.

▪ In Croydon Opportunity Area, District and Local Centres, and in Conservation Areas, consideration should be given to choose a surface finish that complement the footway materials for vehicular surfaces such as parking bays or entry treatments.

▪ Mortar bedding should be used for edgings, drainage channels, ramps, gradients steeper than 1 in 10 and where paving is continuously wet.

▪ Consideration should be given to the cleaning regime (for example whether the area is likely to be jet washed on a regular basis) when deciding the type of construction.

GRANITE

	Flags	Sett
▪ **Sizes:**	600x400mm 600x200mm 400x200mm	200x100mm 100x100mm
▪ **Where?** **(in Borough)**	Croydon Opportunity Area (COA) District & Local Centres Conservation Areas	
▪ **Where?** **(in street)**	Footways only	Footways and carriageway
▪ **Thickness**	Minimum 65mm. In areas with vehicular overrun it should be not less than 100mm.	
▪ **Finish:**	Flamed on footways	Flamed on footways fine picked on carriage way
▪ **Edge**	Square with rigid construction, chamfered with flexible	
▪ **Preferred colours:**		

Silver grey   *Mid grey*   *Dark grey*
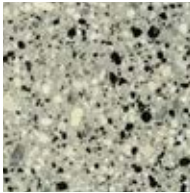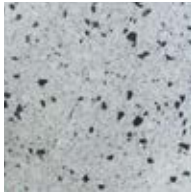
YORKSTONE PAVING

▪ **Where:**	Can be used in Conservation Areas in the context of specific heritage assets
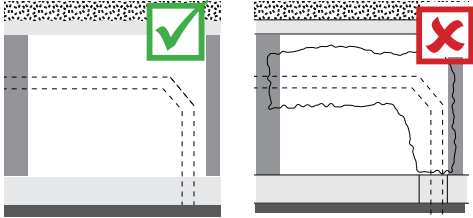
Sizes and applications as for Granite.

ARTIFICIAL STONE PAVING

Where concrete paving is used, high quality pavers should be used.

	Flags	Block pavers
Range	Marshalls' conservation paving (or equivalent)	Aggregate Industries' Vianova or Hardscape's Kellen Breccia/Liscio or equivalent
Sizes:	600x450mm	200x200mm 200x100mm
Where? (in Borough)	COA District & Local Centres Conservation Areas Borough-wide	
Where? (in street)	Footways only	Footways and carriageway
Thickness	63mm	80mm
Finish:	Smooth on footways	Smooth on footways fine picked on carriageway
Edge	Square with rigid construction, chamfered with flexible	
Preferred colours:	*Silver grey* *Charcoal*	*Light grey* *Charcoal*
Other:	Fibre reinforced	-

ASPHALT SURFACES

▪ **Where?** **(in Borough)**	COA District & Local Centres Conservation Areas	Borough-wide	Borough-wide
▪ **Where?** **(in street)**	**Carriageway only**	**Footways and carriageways**	**On footway segregated cycle tracks**
▪ **Colour**	No surface colour should be applied unless a specific risk needs to be highlighted. In this case an asphalt with a clear binder, coloured aggregate and eventually added pigment will be preferred	No surface colour should be applied	Clear binder and coloured aggregate preferred
▪ **Repairs**	Cuts should be neat and discrete. To prevent unsightly scarring areas, larger than an immediate patch may require resurfacing		

RESIN BOUND GRAVEL

- **Where?**
  (in street)

Tree surround	Cycle paths

- **Aggregate size**

10mm	6mm

- **Colour**

mix of mid grey and buff such as SureSet Norwegian Pearl or equivalent	*SureSet Barley Beach or equivalent*

A colour with a minimum of 20 % luminance difference with surrounding surfacing should be used to aid the partially sighted. Resin colour should be clear

- **Construction**

All resin bound gravel surfacing paths should be built fully permeable

- **Edging**

Steel edging or appropriate paving detailing

SELF-BINDING GRAVEL SURFACES INCLUDING LIMEDUST AGGREGATES PATH

▪ **Where?**	Parks and some Conservation Areas (special consideration should be given to people with mobility difficulties when using this material)
▪ **Edging**	Timber pressure treated softwood 200mm x 25mm fixed with galvanised nails to 400mm x 50mm x 50mm long softwood pegs driven into the ground. Steel edging. Or no edging can also be acceptable depending on the circumstance
▪ **Note**	The lifecycle of self-binding surfaces tends to be significantly shorter than for bound surfaces due to issues of overgrowing vegetation, ponding and pothole development, which very quickly make paths unacceptable to many cyclists and walkers (unless repaired quickly)
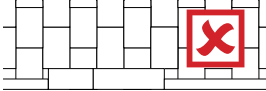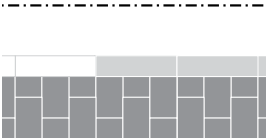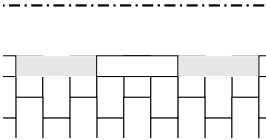
TACTILE PAVING

	Controlled crossings	Uncontrolled crossings
▪ **Type of crossing**		
▪ **Colours**	Can be red but not necessarily *Red blister tactile paving* *Charcoal blister tactile paving*	Must not be red. Can be buff or a natural shade *Natural blister tactile paving*
	Natural or charcoal tactile should be used in place of red if more compatible to the character of a particular area and meeting the contrast requirements. Chosen colour should be consistent across an area	
▪ **Contrast to surrounding**	Contrasting colour with minimum 30 points of luminance difference (BS8300) 	Can match or be in a contrasting tone to the paving surface within which they are located
▪ **Size**	400x400mm	
▪ **Material**	Same material as the surrounding paving (granite tactile with granite paving, concrete tactile with concrete paving or asphalt). The use of metal stud tactile paving is not permitted as they become slippery when wet.	

KERBS

▪ **Where?**	**COA District & Local Centres Conservation Areas**	**Borough-wide**
▪ **Material**	Granite	Concrete conservation
▪ **Reuse**	Kerbs should not be mixed but consolidated (material and width) when re-used	
▪ **Colour**	Silver grey	
▪ **Finish**	Fine picked	
▪ **Kerb width**	300mm (150mm for Conservation Areas outside COA, District & Local Centres)	150mm/300mm (to be consistent with existing)
▪ **Upstand**	See *Kerb Heights table* in chapter 3.1	
▪ **Edge**	10mm bullnose radius on full upstand or low kerbs. Square on flushed kerbs	
▪ **Specials**	The use of specials that make kerbs less prone to damage and reduce the number of paving cuts needed will be supported *Granite quadrant at vehicle crossovers in the COA*	*SUDS detailing*

SURFACE DRAINAGE

- Linear, open channels are the Council's preferred means of surface drainage.
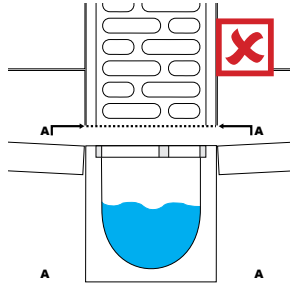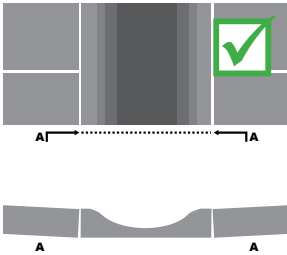
Open channels, simple and easy to maintain are preferred means of surface drainage

- Crossfalls should go away from buildings and draining to gully or linear channels.

- Drainage channels should be located in the carriageway. Footway drainage channels should be avoided. If it is not possible to do so, gullies and channels should be incorporated into the paving design.

Open channels incorporated into the paving design at West Croydon and South End

- The number of manholes and junctions should be kept to the required minimum.

INSPECTION & UTILITY COVERS

- Inspection covers must be clearly labelled to identify the relevant utility company.

- Preference is given to the use of inlaid inspection covers where practical and in agreement with utility companies, allowing for uninterrupted paving patterns. Inlaid inspection covers filled with concrete or mortar are not acceptable.

- Inspection/utility covers should be laid square to the pavement coursing to enable close cutting, avoiding messy infills.

- Cast iron covers are also acceptable in the footway, and required on the carriageway.

- In areas which are vulnerable to vehicular over-run, highway specification inlays should be used.

- Cast iron heritage covers, including coal hole covers, fire hydrants and drain and vale covers will be retained and restored.

Historic metal covers manufactured locally in Croydon

Patterned coal hole cover

68

4.2 STREET FURNITURE

Street furniture, both contemporary and historic, is an integral part of the public realm. It is representative of a place and its individual identity. Croydon's palette consists of a restricted range of street furniture that is simple, usable, durable and easy to maintain. It is important that the selection of street furniture makes a positive contribution to each area, does not impede access or add to visual clutter, reflects and enhances its distinctive local character.

GENERAL GUIDELINES

The following applies to all pieces of street furniture discussed in more detail thereafter:

Durability - All street furniture should be durable and vandal proof.

Colour - All metal elements should be either stainless steel or factory powdercoated in black RAL 9004 Signal Black. If not available choose nearest black (for example RAL 9005 Jet Black). This applies to all street furniture including third parties ones (bus shelters and utility cabinets), the only exception being Legible London signs and charging points for electric cars.

Positioning - Street furniture should be located so as to not cause an obstruction towards the front of the footway (refer to "*Street furniture and lamp columns positioning*" in *3.0 Road Geometry* chapter*).* At least 1.2m clear footway for pedestrians needs to be maintained before adding nonessential street furniture.

Avoid clutter - Only add street furniture and signage that is either needed or improves the user experience. Consolidate street furniture locations. Combine street furniture functions when possible and consider street furniture zoning. Where digital infrastructure is provided, it should be integrated within street furniture, for example smart lighting, smart benches, smart waste.

Heritage - Where possible historic street furniture should be refurbished, retained and re-sited close to their original location.

Robustness - All street furniture should be secured to the ground and any fixings should be flush to avoid becoming a trip hazard. If paving needs to be cut to install a piece of street furniture it should be done neatly. Consider street furniture type and size of foundation and how it might interfere with existing utilities.

Bad, better, good

LITTER BINS

What?	Hartecast HC2057 or equivalent	Furnitubes COV722 LR or equivalent	Broxap BX 2319 or equivalent	Bigbelly
Where?	COA District & Local Centres	COA District & Local Centres Conservation Areas Borough-wide	COA District & Local Centres Conservation Areas Borough-wide	Not appropriate for Conservation Areas or Local Heritage Areas
About	To be used as a pair only with relevant logos (recycling and general waste)		To be used only where Furnitubes COV722 LR or equivalent does not fit	Smart, solar-powered, waste compacting
Colour	Black RAL 9004 Signal Black or nearest colour			Grey/black
Extras	A stub plate should be provided to extinguish cigarettes in all cases			Ashtray included

- The number of bins needed varies depending on footfall and maintenance regime. A sufficient number should be provided to ensure pedestrian routes are clean and litter free.

- Bins should have a slam shut door with a robust low maintenance lock.

- Bins should have galvanised steel pull out liners and a hood to prevent litter from being blow out of the bin. Liners should be able to withstand high pressure water cleaning for a period of up to 5 years without degradation.

SEATING

▪ **Material**	Metal framed seating with wooden slats for seating and backrest are preferred.
	Seating made entirely of wood can be considered in green spaces and parks. Hardwood should be sourced from sustainable providers.
	Granite blocks might be considered where there is a need for a vehicle deterrent.
▪ **Location considerations**	Seating should be located close to waiting places and places with high pedestrian flows.
	When heritage assets exist in an area, seating should be positioned opposite if possible.
	Care should be taken to locate seating in sunny positions, however close to shade and away from windy areas.
▪ **Inclusive design**	Seats should be functional and inclusive. Armrests should be provided.
	The location of seats should enable wheelchair users to pull up next to them and to be able to have a conversation with the seat's user without obstructing the passage.
	Seats should be at least 0.5m above floor level with backrest at 0.75m above floor level.
▪ **Maintenance**	Seats should be easily to maintain and economical to replace.
	The number of structural legs should be kept to a minimum so as to limit the need for cleaning the areas around the base of seats.
▪ **Integrated design**	Opportunities to provide seating integrated with other elements, for example digital connectivity or public art or steps (if a level difference exists) should be explored.

	Metal frame, wooden seat	Wooden frame and seat	Granite block
▪ **What?**	Metal frame, wooden seat	Wooden frame and seat	Granite block
▪ **Examples**	Broxap's Eastgate Cast Iron Framed Seat BX 2020 or Montseny Seat or equivalent (bench & chair) or equivalent	Memorial bench	Corallo granite cube bollard by Artform Urban Furniture or equivalent
▪ **Where?**	COA District & Local Centres Conservation Areas Borough-wide	Green spaces and parks	Where there is a need for a vehicle deterrent
▪ **Metal colour**	Black RAL 9004 Signal Black or nearest colour. Stainless steel can be considered in the COA	N/A	N/A

BOLLARDS AND GUARDRAIL

	Modern bollard, for ex Furnitubes' Zenith bollard or equivalent	Cannon style bollard, for ex. Broxap BX 1575 or Furnitubes' HOL520 SC or equivalent	Timber bollard 125 x125mm or 100 x100mm
▪ **What?**			
▪ **Where?**	COA	Borough-wide	Parks Green verge
▪ **Material**	Stainless steel	Cast iron	Timber
▪ **Colour**	Stainless steel or factory finished black	Factory finished black	Natural
▪ **Height**	In accordance with DfT's Inclusive Mobility guidance (2002) these bollards should be min 1000mm high. (The same minimum height applies to other freestanding objects on the highway)		
▪ **NB**	Colour contrasted bands (150mm deep) on bollards to be considered to help partially sighted people depending on context		

- The use of bollards and guardrail should be kept to an absolute minimum. They may only be used in places where it is essential to protect pedestrian areas from vehicular traffic. However alternative design approaches should be explored and exhausted first; for example: raising kerb heights or using trees or cycle stands to prevent motor vehicles accessing pedestrian areas.

- When bollards are absolutely necessary, they should be installed minimum 1.5m apart to allow for the passage of wheelchairs, trolleys, cycles and pedestrians while restricting passage of motor vehicles. Exceptions to this rules can be made for Hostile Vehicle Mitigation (HVM) bollards, however

What?	Bell bollard, for example Furnitubes' BELL100 Bell or equivalent	Mallatite DuraFlex - Retro reflective Self Righting Traffic Bollard or equivalent	Furnitubes' Capital bollard with integrated cycle signage.	Simple profile post and rail system such as Visirail or equivalent
Where?	Borough-wide	Borough-wide	Borough-wide	Borough-wide
Material	Cast iron		Cast iron	Galvanised steel
Colour	Factory finished black	In black. Dark finish on the rear face	Factory finished black	Factory finished black

after exhausting ways to integrate holistic design measures (refer to *2.7 Counter terrorism* chapter).
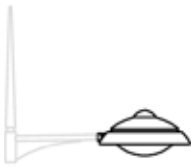
- Vehicle access to pedestrian areas should be controlled with drop or removable bollards. Gates should not be used to control vehicular access to pedestrian areas.

- Croydon Council is committed to the removal of pedestrian guardrail where possible, subject to safety audit. Preference will always be given for traffic schemes that design-out the need for guard rails.

- When a guardrail is absolutely necessary, a guardrail that does not obstruct people and enable drivers to see through it should be specified.

- Please note that Keep Left bollards are usually non-mandatory, especially where it is clear which side of the road feature road users should pass (DfT,2013 - Traffic Advisory Leaflet 3/13). They should be omitted unless requested by a safety audit, which should in particularly assess the impact of not having one in regards to motorcycle usage (TfL, 2016 - the Urban Motorcycle Design Handbook). Please also refer to Chapter 4.3 Signage and wayfinding.

LIGHTING

- The quality of urban lighting has a major bearing on the perception and attractiveness of a place. A good light level promotes a sense of security within the public realm and helps to stimulate the night time economy. Urban lighting also plays an important role in reducing vandalism, crime and other anti-social behaviour.

- Excessive lighting will not be acceptable in green areas. The negative impacts of lighting on wildlife in natural and semi-natural landscape must be considered as well as the potential for promoting anti-social behaviour.

- Footway and highway lighting should replicate daylight conditions.

		Phillips Iridium	DW Windsor's Rio
Lantern			
Where? **Column**		Matallite column (see table in next pages)	Tapered with spike
		COA Borough-wide	COA ▪ Dingwall Roundabout

- Croydon's streetlights are being managed through a PFI with Skanska. It should be assumed that any new lighting delivered on public highway will be added to Croydon's PFI management contract (ending 2036) and therefore strictly conform to the palette. A specific management agreement will have to be put in place for any new lighting provided.

- Architectural and feature lighting are considered bespoke items and need specific budget and maintenance arrangements, approval of the Street Lighting Contract Manager is required.

- The height and spacing of lamp columns should not solely be determined by light calculations but

Oak Columns and historic lanterns retained on Woodcote Village Green

76

DW Windsor Milano	DW Windsor's Ely (standard arc)	DW Windsor Strand	DW Windsor's Windsor
Cardiff column	Cardiff column	Cardiff column	Cardiff columns (with crossbar)
COA ▪ Queen's Gardens ▪ College Green	Conservation Areas: ▪ Chatsworth Rd ▪ Church Rd (Upper Norwood) ▪ East India Estate ▪ Harold Road ▪ Norbury Estate ▪ Norwood Grove *(excl. Copgate path)* ▪ South Norwood & Upper Norwood Triangle *(excl. St Aubyn's Rd)*	Conservation Areas: ▪ Addington Village ▪ Bradmore Green	Conservation Areas: ▪ Central Croydon ▪ Church Street ▪ Croydon Minster ▪ The Webb Estate & Upper Woodcote Village ▪ Norwood Grove *(Copgate Path only)* ▪ The Waldrons

also by the character of the area.

- Height of lamp columns should be in proportion with the surrounding buildings and the space they inhabit.

- As with all street furniture, historic street furniture should be retained and refurbished.

- The Conservation Areas to the right were designated after the start of the Skanska PFI contract and therefore currently have the standard Phillips Iridium lantern and Matallite columns installed. Should the lighting equipment be replaced in the future, efforts should be made to select it from the Conservation Areas palette, where appropriate to do so.

Conservation Areas designated since start of Skanska PFI contract

Beulah Hill	2008
Croham Manor Rd	2008
Kenley Aerodrome	2006
St Bernards	2008
Wellesley Rd North	2008

▪ **What?**	**Standard column**	**Standard Heavy duty column**	**Oversized column**
▪ **Dimensions**	base ⌀168.3mm shaft ⌀114.3mm	base ⌀168.3mm shaft ⌀114.3mm	base ⌀219.1mm shaft ⌀168.3mm
▪ **Height**	6 or 10m	6 or 10m	10m
	(To be determined by lighting calculations and character of the area)		
▪ **Where?**	Borough-wide	Borough-wide	To be avoided
▪ **Attachments**	Small signage only	Small signage and one extra attachment	Signage Banners Festive deck hanging baskets
	(To be confirmed on a case by case basis with site specific calculations)		

CCTV

- The provision of CCTV in public areas should be balanced against other aspects of public realm. It should not determine the design.

- Preference is given to cameras being mounted on buildings or integrated onto lighting columns.

- Preference will be given to accommodating control cabinets inside buildings or below ground. When neither options are possible, they should be placed in an unobtrusive location.

- Cameras should be as small and discrete as modern technology allows.

- Associated signage should be kept to a minimum and mounted on buildings or on existing poles.

- Lighting requirements should be carefully considered. For instance, too little light or glare from adjacent lighting will affect the recording quality.

BUS SHELTERS

- Croydon Council will work with TfL and other external agencies to ensure the design and location of bus shelters within the Borough is appropriate to the areas they are located in.

- Where footway space is restricted, preference will be given to open sided bus shelters with a cantilevered roof, located either at the rear of the footway or backing onto the carriageway.

- Where footway width allows for at least 1.5 m wide clear zone, it is acceptable for bus shelters to have side panels.

- Lighting should be incorporated into the design to enable safe use during evenings and at night.

Bus stop waiting facilities on a wide footway (West Croydon)
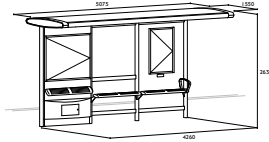

Bus stop backing onto the carriageway to make the most of a narrow footway (South End)

While the palettes of bus stops are set by external agencies such as TfL, the choice is sufficient to ensure response to local constraints. Below: some of the bus shelters configurations in TfL's palette
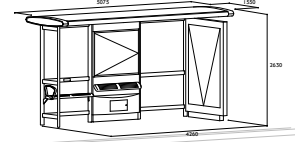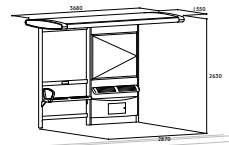

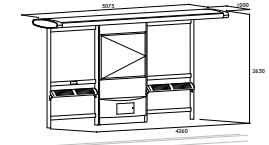Ad Cant/ 2 bay shelter/ BTK
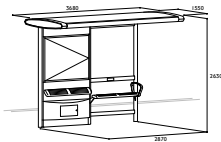
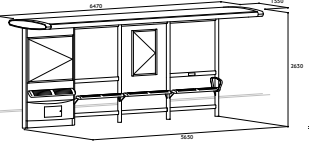Ad Cant/ 3 bay shelter/ BTK

Advertising MK1/ 3 bay shelter

Non-advertising cantilever/ 2 bay

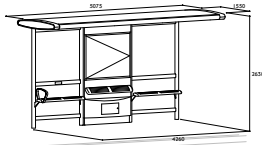
Non-advertising cantilever/ narrow/ 3 bay shelter
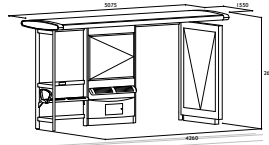

Ad Cant/ 4 bay shelter/ BTK
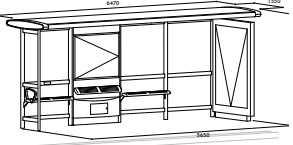

Non-advertising cantilever/ 3 bay

Advertising MK1A/ 3 bay shelter

Advertising MK1/ 4 bay shelter

TELEPHONE KIOSKS

- The Council will not support the installation of any new telephone boxes unless it can be demonstrated that there is demand for a public payphone in a specific location.

- The Council will work together with payphone operators to remove existing boxes.

- Any remaining listed or historic telephone kiosks should be retained, regardless of their location.

Above: Historic telephone kiosks should be retained and maintained

Left: telephone box in South End Local Heritage Area detracting from recently completed public realm improvements (as shown on the photograph far left) and blocking views to heritage assets included locally listed Swan and Sugar Loaf

POST BOXES

- The Council will work with external agencies to ensure post boxes are kept in good repair.

- Any remaining listed or historic post boxes should be retained if possible.

- For new installations, preference is given to post boxes integrated into buildings and walls.

Far left: post box integrated in the wall

Left: historic post box

80

VEHICLES CHARGING POINTS

▪ The UK government's objective is that by 2040 no new cars and vans sold in the UK will be conventional petrol or diesel (Defra, 2017). On current technological trends this means a significant proportion of cars and vans will be fully electric or plug-in hybrid by that time.

▪ Evidence indicates that most plug-in vehicle owners will wish to do the largest proportion of their charging at home. The availability of affordable and accessible domestic charging options is therefore key to increasing the uptake of plug-in vehicles in the UK. However many areas in Croydon have houses without off-street parking, presenting a barrier to choosing a plug-in vehicle.

▪ Vehicle charging points should be provided in all public realm schemes located in residential areas that do not have off-street parking, in line with the Croydon Local Plan.

▪ The presumed placement of freestanding residential charging points will be groups of 2-5, serving one or more road, rather than ad hoc.

▪ Provision of vehicle charging points should be considered at main destination points (transport hubs, shopping centres etc).

▪ In Conservation Areas, vehicle charging points should be sited discreetly avoiding impact on listed buidlings or other sensitive heirtage locations.

▪ Department for Transport requirements are that vehicle charging points have to be 2m from any other street furniture with a power supply. To avoid street clutter charging points should be aligned with other street furniture but always comply with the 2m rule.

Vehicle charging points in Wandle Road car park

Vehicle charging point fitted in lamp column

- Consolidation of street furniture and its use for multiple functions at the same time is encouraged *(see 4.2 Street Furniture, General Guidelines)*. Charging points can be retrofitted at low cost in existing lamp columns when these are located at the front of the footway and by agreement with the lighting PFI Partner. This approach will be supported.

- Rapid charging points feeder pillars, which can be up to 2 cubic meters, will be discouraged in most public realm situations. However in some particular cases, for example in car parks, petrol stations or near taxi ranks located in generous areas, they might be considered acceptable.

UTILITY CABINETS (CONTROL BOXES)

- The design and location of these cabinets are led by external agencies. The Council will take a proactive approach in working closely with external agencies to ensure that a consistent approach is taken in determining their location and design.

- It is preferable to install cabinets underground when possible, particularly in Conservation Areas. This should be explored as new technologies become available.

- Where an underground location is not possible, cabinets should be located to the rear of the footway, preferably against a solid vertical feature such as boundary wall. Consideration should be given to designing-out posting, for example by incorporating fluting into the design of the cabinets.

WATER FOUNTAINS

- Water fountains should be provided in main public realm.

Utility cabinet located at the rear of the street, painted black

Water fountain in Ruskin Square

4.3 SIGNAGE AND WAYFINDING

Though not always immediately obvious, many of Croydon's key destinations are within easy walking distance. The addition of carefully sited signage and well designed wayfinding can play an important role in ensuring Croydon's streets and footways are safe, accessible and legible. Elements of signage and wayfinding can range from road traffic signs and street name plates to "A" Boards and other temporary or integrated signage. However, overuse, inappropriate siting and outdated information or signage can result in street clutter and be confusing.

TRAFFIC SIGNS AND ROAD MARKINGS

- To prevent the creation of clutter and avoid 'sign fatigue' careful consideration should be given to the sitting of new signs and road markings. The rule of 'Less is More' should be applied.

- The revised Traffic Signs Regulations and General Directions 2016 (TSRGD 2016) relaxes many previous requirements on the use and placing of signs and road markings.

TSRGD 2016. Examples of some of the changes

- *Where previously two terminal signs were needed to show the start of a traffic restriction, only one is now required to be compliant.*

- *Fewer signs now have a statutory requirement that they be lit.*

- *The requirement for a sign and marking to be used together has been removed in some cases. For example the placing of upright parking signs in combination with bay markings is no longer required. In addition, traffic authorities now have the freedom to use alternative methods to create bays and spaces on the carriageway. This may include either colour-contrasting surfacing, or paving in a different pattern or appearance, to distinguish parking areas from the surrounding carriageway.*

- *The requirement to place repeater signs has been removed.*

- All traffic signs and road markings to be designed and lit in accordance with the TSRGD 2016.

- Regardless of compliance with the TSRGD 2016, all highways proposals will also need to be approved by Croydon Highways, whose requirements may be above those imposed by the TSRGD 2016.

- Any enquiries about non-standard traffic sign and markings or the application of the regulations should be directed to *traffic.signs@ dft.gsi.gov.uk.*

TRAFFIC SIGNS

▪ The general guidelines contained in *4.2 Street Furniture* apply.

▪ Preference will be given for traffic signs to be mounted on existing street furniture (including lamp columns) rather than install an additional post.

▪ The *London Local Authorities and Transport for London Act 2013* (section 4), if adopted, enables Local Authorities to affix traffic signs and street lighting to buildings by following a notice procedure rather than having to obtain consent from the building owner.

▪ *London Council's code of practice for affixing traffic signs and street lighting to buildings in London* (2015) explains the legislation and outlines good practice procedures that London authorities should follow to ensure that they fully comply with the legislation.

▪ Traffic signs that sit perpendicular to the highways such as parking and loading restrictions should preferably be fixed on existing structures and buildings.

▪ Where it is necessary to have illuminated signs, consideration should be given to combining signs with lighting columns or to locate signs on an existing illuminated post.
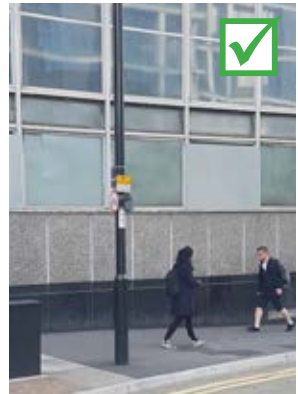
Combining signs - loading and no cycling sign fixed on lamp column

Unnecessary clutter detract from recent improvements

TRAFFIC SIGNALS

▪ The design of junctions should be kept as simple as possible to minimise the number of signals required.

▪ The use of cranked signal poles will be avoided and will only be used as a last resort.

ROAD MARKINGS

▪ Designers should be aware of horizontal and vertical clutter.

▪ For example "Look Both Ways" or "Look Left" and "Look Right" marking at pedestrian crossings is not a requirement and should only be used when traffic is coming in an unexpected direction.

▪ Neither the *Traffic Signs Manual, Chapter 5: Road Markings (DfT, 2003)* nor the *Traffic Signs Regulations and General Directions (Crown, 2016)* prescribe a specific yellow. A muted yellow (also called primrose) is recommended to be used in Conservation Areas or in an area of special character where it fits in with surrounding markings.

▪ Where lines are necessary, they should be the narrowest available under the *TSRGD*.

Far left: Minimum road marking used

Left: coloured red bus lane

▪ Bus and cycle lanes will not be coloured unless a specific risk needs to be highlighted, in which case a coloured bound surface should be used.

Far left: bespoke cycling flag

Left: thermoplastic marking on Artificial Stone Paving peeling away

▪ In paved footways areas where road markings are needed, they should be integral to the paving and not a painted finish.

STREET NAME PLATES

- Preference will be given to street name plates being located on buildings or existing boundary structures. *London Building Acts (Amendment) Act 1939* gives London Councils powers to fix street name plates to buildings without owner consent. Good practice suggest sending a notification letter to property outlining rationale for fixing to property (NB: please note that Network rail structures are exempt from this).

- To aid wayfinding and ensure street name plates are easy to find, they should be located in close proximity to street corners and just above ground floor level.

- Where name plates need to be mounted on posts, with the exception of those located within the Transport for London Road Network, the posts should be RAL 9004 Signal black and not extend above the name plate.

- Traditional die-pressed aluminium plates are preferred above printed aluminium ones. Plastic plates are not acceptable. Cast iron plates are preferred above aluminium ones in Conservation Areas.

- The design of street name plates should consist of black lettering in Helvetica bold (89mm) on a white background. A postal code and/or an indication of building numbers may also be included.

- Historic street name plates (for example pre-1965 Metropolitan Borough name plates) should be preserved.

- Within Conservation Areas, the street name plates can reference the name of the Conservation Area. For these, the design already used in East India Estate and Chatsworth Rd Conservation Areas should be used.

Modern aluminium plate fixed on building just above ground floor level

Printed aluminium plate fixed on black posts, referencing the name of the Conservation Area

Historic cast iron street name plate in Croydon

WAYFINDING

- Chapter *3.2 - General Guidelines* applies.

- Disabled access – consider wheelchair positioning to view a map based sign and the proximity to a busy road.

- All wayfinding signs and fingerposts should be located in a way that does not obstruct the footway. Install fingerpost slats on existing columns where possible to avoid street clutter.

Wayfinding in Croydon

▪ **What?**	**TfL's Legible London**	**TSRGD signage on black metal post***	**Black metal post and slates. White font**
▪ **Where?**	COA & District Centres, included when wayfinding is provided on private developments	Cycle routes Borough-wide	Borough wide outside COA & District Centres
▪ **What?**	**Wooden post and slates. Black font**	**TSRGD signage on wooden post and slates***	
▪ **Where?**			
	Some Parks and Green spaces	Cycle routes in some parks and open spaces	

*TSRGD stands for Traffic Signs Regulations and General Directions

- Historic finger posts and way markers should be retained and restored.

Historic finger posts and way markers should be retained and restored

Historic way marker signs opposite East Croydon station

- *Traffic Signs Regulations and General Directions* (TSRGD) allows bespoke route information to be inserted about the route. For example red numbers indicates a National Cycle route while blue numbers should be used for Regional routes. Other logos can be inserted.

Various TSRGD cycle signs

- Where cycle routes follow pedestrian and equestrian ones, wayfinding information should be combined.

Legible London Minilith (Legible London monolith shown in table)

Legible London indicative process

#	ACTION	OWNER	SCHEME CORDINATOR (Client)	TfL	SCHEME DESIGNERS (SD)	MANUFACTURER
1	Client to notify TfL of interest for a Legible London scheme (LegibleLondon@tfl.gov.uk)		✔	✔		
2	TfL to provide Client with guidance and design standards on the Legible London process.		✔	✔		
3	Client to create plan marking locations and sign types with TfL's assistance (Scoping).		✔	✔		
4	TfL to provide Client with cost estimate based on Scoping (includes estimates for TfL, SD and Manufacturer).		✔	✔		
5	TfL and Client to sign TfL Delivery Agreement.		✔	✔		
6	Client to appoint a SD (wayfinding design company) for larger projects with TfL's input.		✔	✔		
7	SD to prepare resource plan and programme.		✔		✔	
8	SD to refine scoping report into draft Content Schedule (type and location of signs, some directional information).		✔		✔	
9	Client to notify TfL of proposed sign types and numbers.		✔	✔		
10	Client to appoint manufacturer via TfL framework.		✔	✔		✔
11	Manufacturer to prepare resource plan and programme.		✔			✔
12	TfL to provide checklist (Excel format) with 'Legible London unique ID number' for each proposed sign.		✔	✔	✔	
13	SD to complete scheme documents, including checklist, 1:200 and 1:500 location plans for each sign.		✔		✔	
14	Client to complete Task Order form provided by TfL and issue it back with scheme documents to TfL (for record) and manufacturer (instruction to install foundations and produce frames NOT panels yet as the artwork will be finalised later).		✔	✔		✔
15	Manufacturer to apply for work permits. Approximate lead time: 2 weeks from permit request.					✔
16	Manufacturer to install foundations according to Task Order dates and relevant timelines of work permits.					✔
17	SD to review base maps via TfL LLAMA system with Client's input. Submit necessary updates to TfL.		✔	✔	✔	
18	TfL to provide base maps for the map based signs.		✔	✔	✔	
19	SD to provide final Content Schedule document to Client (now includes all directional information).		✔		✔	
20	Manufacturer to produce and install artwork panels and all sign components.					✔
21	Future map updates are optional. Can be either included in the initial purchase package or via new purchase of services.		✔			
22	Maintenance of signage such as cleaning and repair of damaged panels.		✔			

WELCOME SIGNS

WELCOME SIGNS TO NEIGHBOURHOODS

▪ New, high quality welcome signs to specific neighbourhoods /areas are encouraged only when integrated in urban landscape e.g. public art.

Key location information ("Bernard Weatherill House" and "Access Croydon") can be clearly seen on the building itself, limiting the need to provide addtitionnal information

WELCOME SIGNS TO BUILDINGS

▪ The design of buildings should remove the need to provide stand alone welcome signs.

▪ Where an additional welcome sign is necessary it should be either attached to the structure or located in an area where it does not obstruct the footway.

▪ Welcome signs to Croydon Council buildings should follow Croydon's corporate branding.

Corporate signage
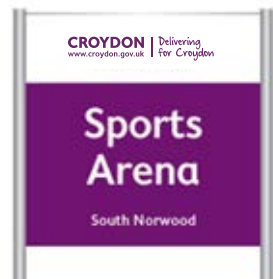
INFORMATION BOARD AND HERITAGE SIGNAGE

▪ Information boards should be coordinated with the style of the surrounding street furniture and where possible fixed on adjacent structures.

▪ Heritage interpretation should be integrated into the public realm, public art or on-site structures (e.g. play equipment) where possible to do so.

▪ Should a palette of heritage plaques and signs be developed for Croydon, all heritage signs should then follow the agreed palette.

ADVERTISING

▪ Free-standing advertising in the public realm should be discouraged.

▪ Preference will be given to integrating signage into premises frontages rather than the use free-standing advertising.

▪ Preference will be given to advertising integrated into bus shelter panels.

▪ The Council will discourage advertising on footways within high footfall areas and in Conservation Areas.

▪ Enforcement will be taken to eliminate 'A' boards in Croydon Opportunity Area, District and Local Centres and in Conservation Areas.

▪ Where "A" boards have been permitted, this should be limited to only 1 per premises and an unobstructed footway width.

▪ "A" boards should be located where they do not block the footway, for example located on a forecourt close to the building line, or within the allocated street furniture zone.

Simple information board attached directly to railings

Oversized A-board blocking the footway

Cluster of A boards
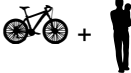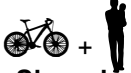
4.4 CYCLING
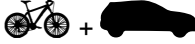
Cycle routes should be seamlessly integrated into the urban fabric and public realm designs.

TfL's London Cycling Design Standards (TfL, 2016) should always be applied unless it conflicts with a recommendation made in this document in which case the latter takes precedence. Consideration should also be given to disabled cyclists (WheelsForWellbeing, 2017).

What ?	Segregated:	Shared, pedestrians priority	Shared, pedestrians priority
	(includes stepped tracks)	-(only where a segregated cycle track is not appropriate)	
Where?	generally in the COA and district centres	**Borough wide**	**Parks and green open spaces**
Demarcation	A combination of texture (ex. row of setts or tactile paving), colour contrast (minimum of 20% luminance difference) and /or level change	No specific cycle route should be suggested as this may suggest cyclists have priority along this path and encourage them to speed up	
Surfacing	Resin bound 6mm gravel SureSet Barley Beach or equivalent Asphalt may be used only where adjoining footway material is also asphalt, in which case an asphalt with a clear binder plus coloured aggregate will be preferred	To match footway	Asphalt (clear binder and coloured aggregate preferred) Resin bound gravel Self-binding surfaces are acceptable only where low cycle traffic is expected/not on a main commuter route

ON CARRIAGEWAY CYCLE ROUTES

	Shared cycle lanes, ASLs and advisory cycle markings	Segregated cycle tracks	
What ?	Shared cycle lanes, ASLs and advisory cycle markings	Segregated cycle tracks	
Where?	Borough wide	COA & district centres	Outside COA & district centres. COA & district centres: only as a temporary solution or to test a permanent solution
Demarcation	White thermoplastic lining.	Profiled granite kerb. Minimum width 200mm, preferred 300mm	Recycled rubber separators or "defenders" laid continuously (Rosehill Highways lane separators or equivalent) Wands might be used in combination with the separators where absolutely necessary to tackle parking or overrun issues (black and white Jislon TSRGD Highway or equivalent)
Surfacing	Asphalt. No surface colour should be applied unless a specific risk needs to be highlighted. In this case an asphalt with a clear binder, coloured aggregate and eventually added pigment will be preferred		

CYCLE SIGNAGE

- General *Guidelines on street furniture (3.2) and traffic signs (3.3)* applies. Signage should not be unnecessarily duplicated and where possible it should be combined with other street furniture. Posts and bollards used to display cycle information should be painted black.

- Simple directional cycle signage (with cycle route number) should be provided.

- Capital bollards by Furnitubes or equivalent with integrated cycle signage will be used to demarcate shared pedestrian/cycle surfaces (also see *Bollards and Guardrail* in chapter *4.2)*. Where existing posts exist in a suitable location, this information may be attached to them in an appropriate size.

Far left: Capital bollard by Furnitubes with integrated cycle signage

Left: oversized signs on new posts should not be used to indicate shared pedestrian / cycle facilities

- Where road markings are necessary on paved or resin bound areas, inset elements will be used instead of thermoplastic lining where possible.

Far left: bespoke cycling flag (Marshalls')

Left: Thermoplastic lining on paving

CYCLE STANDS

▪ Cycle stands should always be located in safe and easily accessible areas.

▪ Sheffield type cycle stands must be used across the Borough. They should be either stainless steel or powdercoated in black RAL 9004 Signal black. If not available choose nearest black.

▪ Consideration should be given to include a tapping rail at either end of a row of Sheffield stands when placed perpendicular to the footway in busy pedestrian environments to help the partially sighted. This is only necessary on the end stands. It is not necessary for cycle stands to have any signage incorporated at each end.

Far left: powder coated black Sheffield cycle stands. End stand has a tapping rail. NB: it is not necessary to include signage

Left: stainless steel Sheffield cycle stands. Stands positioned parallel to the kerb won't need a tapping rail

ACCESSORIES

▪ The provision of accessories supporting cycling will be encouraged in key locations (for example train stations) .

Far left: public bike pump bolted to the ground

Left: repair stand - a robust multifunction amenity providing a selection of tools for minor, on the go cycle repairs. Bolted to the ground

CYCLE CANOPIES AND ENCLOSURES

- All key interchanges should be supported with sufficient cycle parking infrastructure.

- Covered or enclosed cycle parking may be beneficial to provide additional security for longer stay cycle parking at locations such as public transport interchange points, workplaces or high density residential developments. Such measures will be supported.

Left: covered cycle area by East Croydon station

Middle: custom cycle enclosure

Below: Cyclehoop's bike hangar

- Bike storage designed to make use of a parking space should be supported to provide cycle parking to residents of existing terraced housing where space for cycle storage is often in short supply. They should not be used for new developments, which should provide integrated cycle storage.

- Bike storage should be subject to consideration of visual impact on streetscene, particularly in Conservation Areas.

- Cycle storage units, such as lockers and hangers, often exclude disabled cyclists because they are too small to accommodate the dimensions of nonstandard cycles. Specially allocated spaces for nonstandard cycles should be installed within proposed cycle parking facilities.

4.5 TREES AND SOFT LANDSCAPING

Trees and soft landscaping form a fundamental part of Croydon's public realm, enhancing the sense of place and local identity, offering seasonal character, providing habitats for a rich array of urban and suburban wildlife and creating valuable summer shade for the public as well as for adjacent buildings. It is critical that we look after the green spaces, trees and planting that already make up part of Croydon's public realm, and important that we seek to introduce new trees and soft landscape in urban areas.

NORBURY

CRYSTAL PALACE

Beulah Road

Pollards Hill

Thornton Heath Pond

THORNTON HEATH

SOUTH NORWOOD

Broad Green

ADDISCOMBE

Shirley

Brighton Road Selsdon Road

Brighton Road Sandersted Road

SELSDON

NEW ADDINGTON

PURLEY

Sandersted

Hamsey Green

COULSDON

KEY

COA, DISTRICT CENTRES & Local centres

Floodzone

Woodland

Farmland

Strategic walks

Viewpoints

LANDSCAPE CHARACTER AREAS

Great Northwood

Heathland

Chalk downlands
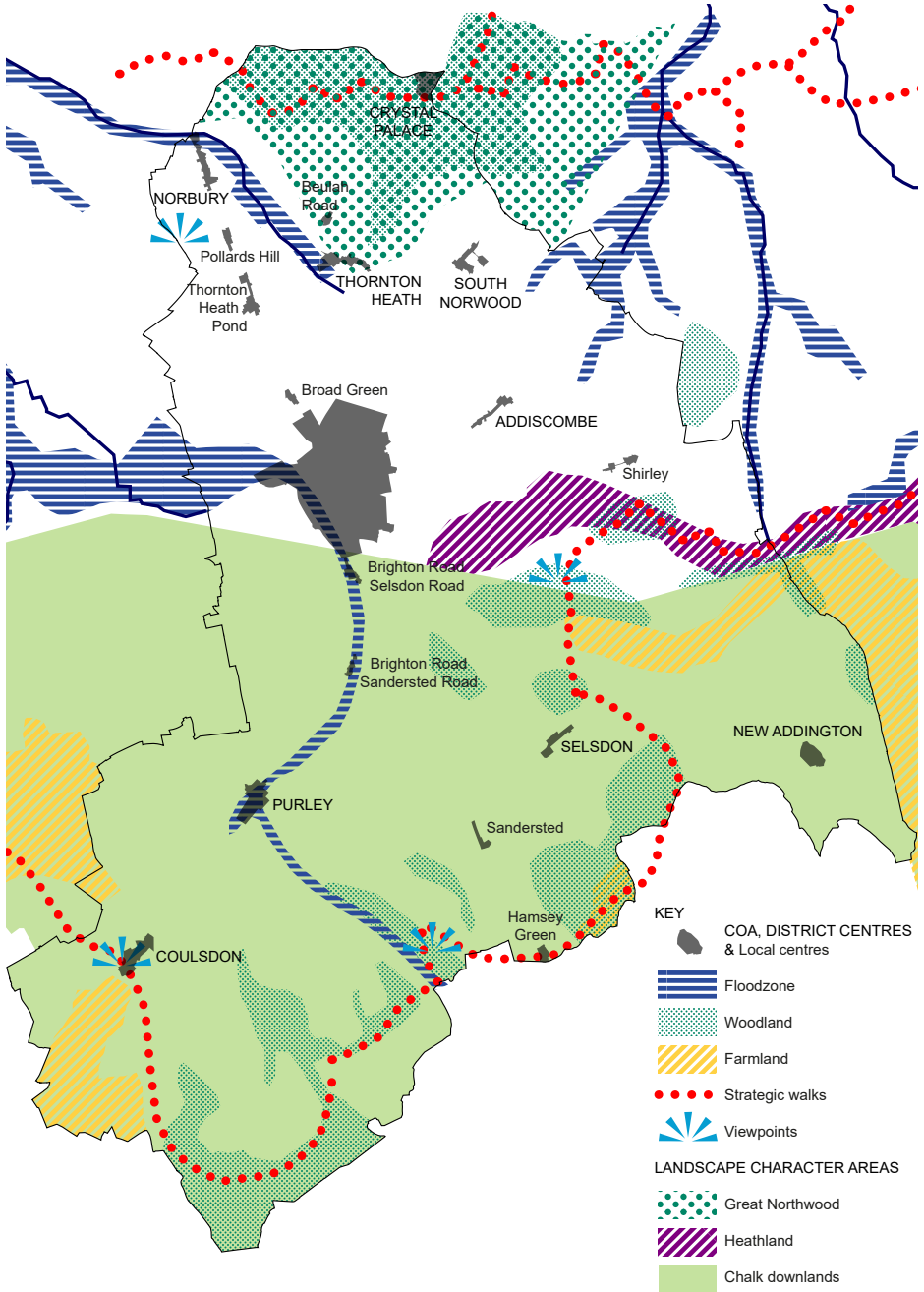
CROYDON NATURAL LANDSCAPES

Schemes should consider as a starting point whether reinforcing the natural landscape is appropriate on any particular project. Croydon character areas are as follows, as defined in the *London Green Grid* policy framework documents.

▪ The *Great Northwood* was a semi natural forest that stretched as far south as Croydon and as far north as Camberwell. Fragments of the wood remain and its memory lingers on in suburban place names such as Norwood. Typical Planting: Oaks, Hornbeams, Hazels.

▪ A *Heathland* ridge made of heath and acid grassland extends into the Downlands area. Typical Planting: Oak, Aspen, Silver birch, Gorse and Heather.

▪ *Chalk Downlands* rolling hills countryside punctuated by river valleys and chalks. Typical Planting: Yews, chalk grasslands and meadow species. Grasslands cover the southern half of the Borough. Ancient woodlands can be found as well including rare yew woodlands.
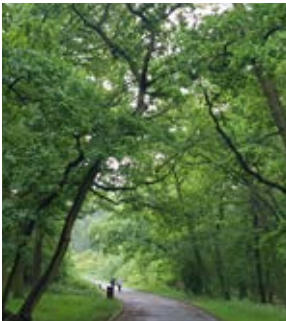
Left: Grangewood Park is a remnant of the Great North Wood, with veteran oak trees and an extensive woodland. The Great Northwood project aims to link remnant sites together, including through street trees

Right: typical heathland species have been brought along Wellesley Road

▪ Further information on Croydon's natural signatures can be found in *The London Landscape Framework* (Natural England, 2011).

▪ Design teams should also refer to the *Croydon Biodiversity Action Plan* once published (draft expected autumn 2018).

SCHEME DESIGN AND EXISTING VEGETATION

▪ Incorporating existing healthy vegetation, natural habitats or other existing landscape features within proposals will give schemes an instant maturity and assist their integration into the local area.

▪ Careful consideration should be given before removing any mature trees. The current version of *British Standard 5837* (British Standard for trees in relation to design, demolition and construction) and *Capital Asset Value for Amenity Trees* (CAVAT) method should be used to grade and value existing tree stock that is considered for removal.

▪ Any queries, works and issues in relation to the protection of private trees, trees under Tree Preservation Orders and trees in Conservation Areas should be directed to Croydon Council Planning Department.

Development proposals should be adapted to retain the most valuable trees

SCHEME DESIGN AND FUTURE MAINTENANCE

▪ Tree and woodlands teams, as well as the ground maintenance team, need to be involved from the early stages of any project where planting is considered on public highway or any other Council land.

▪ The standard of aftercare is a key consideration in determining the types and proportions of any landscape elements proposed. If responsibility for future ownership and maintenance is unclear, it is unrealistic to propose large expanses of new landscape.

▪ Consideration should be given to future maintenance requirements. Accessibility for the maintenance of landscape elements should be considered at the design stage.
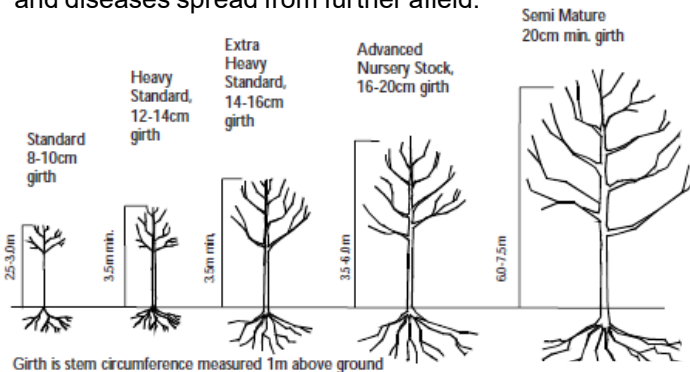
- Consideration should be given at the design stage to the future growth of any trees planted, especially when in proximity to lighting, signage, buildings or other trees.

Soft landscape in urban areas: Queen's Gardens

SPECIES SELECTION AND SOURCING

- Planting schemes containing a variety of species will be encouraged in order to reduce any impact of specific pest and disease.

- Trees should be specified to suit and enhance the character and local distinctiveness of a particular area. Where possible varieties of native species will be planted.

- New trees planted in COA and district and local centres should be semi-mature specimens, 20-25cm girth with a clear stem of 2m. New trees planted in the rest of the Borough can be standard (8cm girth) and upwards.

- Planting larger sizes can help suppress weed growth.

- Where new trees and shrubs are planted, more care is needed in the initial stages of maintenance (especially watering).

- All plant stock should be obtained from UK nurseries. If imported it should have had at least one growing seasons quarantine to avoid pests and diseases spread from further afield.

Semi Mature
20cm min. girth

Tree sizes at planting

Extra
Heavy
Standard,
14-16cm
girth

Advanced
Nursery Stock,
16-20cm girth

Heavy
Standard,
12-14cm
girth

Standard
8-10cm
girth

2.5-3.0m

3.5m min.

3.5m min.

3.5-4.0m

6.0-7.5m

Girth is stem circumference measured 1m above ground

STREET TREE SPECIES

Tree species guidance list. Please note that this list is not exhaustive .

Acer campestre	avoid: ▪ Acer saccharinum as it has brittle branches, vigorous growth and is high maintenance.	✅
Aesculus species	pre-approved species: ▪ Aesculus x carnea Plantierensis ▪ Aesculus flava ▪ Aesculus indica however, avoid: ▪ Aesculus hippocastanum as creates mess and has numerous pest & disease issues.	✅
Ailanthus altissima	has brittle branches and suckering.	❌
Alnus species	creates mess and issues with roots damaging highway infrastructure (particularly A. glutinosa).	❌
Amelanchier arborea Robin Hill		✅
Araucaria araucana	has very brittle limbs, hazardous to climb by rope and harness.	❌
Betula species	pre-approved species: ▪ Betula ermanii ▪ Betula nigra Heritage ▪ Betula utilis	✅
Calocedrus decurrens		✅
Carpinus betulus species	however, avoid: ▪ Carpinus betulus Frans fontaine as relatively short lived. ▪ Carpinus betulus Fastigiata if after a columnar tree as not at all fastigated when mature	✅
Castanea sativa	prone to pest and disease (chestnut blight). Fruit mess.	❌
Fraxinus species	concerns over Chalara fraxinea.	❌
Ginkgo biloba	pre-approved species: ▪ Ginkgo biloba Lakeview ▪ Ginkgo biloba Princeton Sentry avoid: ▪ any female Ginkgo biloba trees as smells when shedding leaves and berries.	✅

Gleditsia triacanthos	safety and maintenance issue. Thornless versions available however prone to wind damage.	❌
Koelreuteria paniculta		✅
Ligustrum japonica		✅
Liquidamber styraciflua Worplesdon		✅
Malus species	creates fruit mess.	❌
Plantanus x hispanica		✅
Poplar species	suckering roots. Common in subsidence claims.	❌
Prunus species	only for wide grass verges. Please utilise less aggressive rootstock where possible as it is a common species for damage to highway infrastructure.	✅
Pyrus calleryana Chanticleer	avoid fruiting variants due to mess.	✅
Robinina species	thorns, suckering causing infrastructure damage and insurance claims, basal growth. Too vigorous growth. Difficult to remove effectively.	❌
Sorbus species	caution over using heavy fruiting varieties due to mess.	✅
Thuja plicata		✅
Tilia species	pre-approved species: ▪ Tilia Americana Redmond preferred due to reduced aphid load/ honeydew and associated issues. avoid: ▪ Tilia tomentosa as flowers area are toxic to bees.	✅
Ulmus lutece	need to be Dutch Elm Disease (DED) resistant.	✅
Zelkova species	prone to major limb failure when mature due to tight branch unions.	❌

TREE PIT DESIGN

	COA District & Local Centres	Borough-wide
Where?		
Surfacing	Resin bound gravel (a mix of grey and buff such as SureSet Norwegian Pearl, DekorGrip Pearl Grey or equivalent in 10mm)	At least 1 metre diameter kept clear around the base of the trunk with a mulch of composted or shredded bark to retain moisture and help suppress weeds. Regularly topped up to a depth of 75mm in the first year of planting
	NB: Tree pit grilles are not acceptable for trees on the public highways maintained by the Council as they cause numerous problems long term	
Tree support	Under-ground guying using bio-degradable materials such as GreenMax's Bio Anchoring or Natural Plastics' keeper system are preferred	Tree staking
	NB: No metal parts to be included in the tree pit 600mm down from the surface as it can cause serious health and safety problems as well as practical issues and increased costs when a tree stump is to be removed	

SOIL

- Plants need to be given enough space, both above and below ground to establish and perform their intended function. The creation of narrow and tapered planting beds that have insufficient soil, food and moisture to support healthy plant growth should be avoided.

Soil volume /root area needed
(source: GreenBlue Urban)

Small trees	Medium trees	Large trees
5-15³	*20-40³*	*>50m³*

Recommended topsoil depth

grass areas	150mm
shrub and whip areas	400mm

Tree pit size

minimum tree pits	1000mm x 1000mm x 1000mm
desirable tree pits	1200mm x 1200mm x 1000mm

- As much as possible, uncompacted soil volume should be created for roots when planting new trees so that they can thrive. All heavy equipment should be kept off tree planting areas. The use of soil cells is encouraged.

- New trees should be planted in tree pits, not tree planters unless it is not technically possible to do otherwise (for example planting on decks).

- Planting requires good quality topsoil. It should comply with the latest version of British Standard 3882 (British Standard for the Specification for topsoil)

- There should be adequate preparation of the subsoil prior to the topsoil being placed. Topsoil may be enriched with soil improvers and composted materials, but the use of non-sustainable resources such as peat should be avoided.

PLANTING

- Ideal tree planting time is between October through to March. Other times of year lead to a significantly higher risk of tree planting failures.

- Roots should be kept covered to avoid desiccation from the wind / sun when awaiting planting.

- Trees need to be planted at the right depth (at the same level than they were in the nursery). If planted incorrectly trees will go into a state of decline but may fail only after the maintenance period has ended.

- The tree and woodlands team should be informed as to when new trees are planted and be given a chance to attend. They should be part of the snagging team and give their sign-off before a scheme is handed over from the contractor to the Council.

MANAGEMENT AND HANDOVER

- Management plans should be prepared to take into account the growth and life expectancy of the planting, including possible replanting, the wear and tear on the hard landscape elements and replacements in the future. This is particularly important where the responsibility will rest with a different party after the works are complete. The management plan should be understood by the recipients prior to the handing over of responsibility.

- Maintenance should be appropriate for the type of planting and habitat which is being created and the desired appearance. Inappropriate maintenance at the wrong time of year can seriously damage or kill planting.

- Regular pruning should be planned in locations

Tree lined urban street - North End

Tree lined suburban street - Webb Estate

where trees interact with signage, street lighting CCTV and furniture.

- All public realm schemes that are being handed over to the Council should include a standard management period by the contractor delivering the work of 3 years for all soft landscaping.

- A planning condition imposing a 5 years minimum maintenance period for all soft landscaping should be given to all public realm schemes that are delivered through the planning system and are to remain in private ownership and management.

- A date for the handover of the soft landscaping needs to be agreed between the project team, the tree and woodlands team, and the ground maintenance team at completion (also see chapter *5.1 Delivery of the public realm*).

4.6 WHEN TO DEPART FROM THE GUIDE?

The default choice on all public realm schemes should always be to chose materials included within the Croydon Public Realm Design Guide (or their equivalent) and follow its design guidelines.

However, there may be cases when it might be acceptable to depart from it with the agreement of the Council's Spatial Planning and Highways' Services.

For example in circumstances including:

- Where there are site specific technical issue;

- Where there is an ambition to use higher quality materials combined with the commitment and resources to manage and maintain it in the long term;

- Where a proposed material is nonstandard, but if damaged can be replaced by a product from the standard PRDG palette;

- Where works are proposed in a particularly sensitive location for example a Conservation Area.

If a project team wants to propose a material that is nonstandard, they should go back to the reasons why the Guide was adopted and be able to make a strong justification for it, for instance:

WILL THE PROPOSAL ENSURE CONSISTENCY?

- Is there an argument why it should not be consistent with the surrounding area and stand apart? In most cases, the answer will be no.

WILL THE PROPOSAL SECURE QUALITY?

- Will the quality be as good or higher than by using one of the standard materials?

WILL THE PROPOSAL SIMPLIFY MAINTENANCE?

- Will it make the maintenance more costly or difficult? Will there be a long lead time if a replacement needs to be ordered? Can the term contractor maintain it or will a separate maintenance agreement be needed?

- Could it be repaired by using a standard material even if it is nonstandard? For example, when paving an area using a mix of standard and nonstandard slabs to create interest and a nonstandard slab was to break, could it be replaced by a standard one without affecting the overall scheme?

- Can it be dealt with as an art installation and should only be removed not replaced if damaged or replaced by a standard element? See chapter on art.

WILL THE PROPOSAL FACILITATE DISCHARGE OF PLANNING CONDITIONS?

- Could departing from the Guide on this particular occasion compromise the use of the guide in the future?

WILL THE PROPOSAL PROCURE STANDARD RATES WITH TERM CONTRACTOR?

- Will the Council's appointed term contractor be installing or repairing the item? If yes, what is the impact on the cost?

5.0
THE LIFE OF THE PUBLIC REALM

To help ensure that new public realm in Croydon is well delivered and cared for, the following chapter establishes a series of processes for the delivery, management and maintenance of the public realm.

5.1 DELIVERY OF THE PUBLIC REALM

Investments in the public realm can be initiated by Croydon Council as well as public and private sector partners.

It can be done through a specific project or part of the "business as usual" renewal of the public realm.

When creating a new area of public realm or improving an existing one, it should be clear from the outset whether it is to be adopted by Croydon Council or privately maintained.

The following chapter lists the various ways the public realm gets renewed.

HOW IS PUBLIC REALM CREATED?

	1. A private developer creates a new piece of public realm and retains its ownership and management once completed.	2. A private developer creates a new piece of public realm and hands it over to Croydon Highway Authority when completed.
Croydon Spatial Planning & Strategic Transport	Key consultees as part of the planning application process.	Key consultees as part of the planning application process.
Design proposals to conform to this Guide	Yes. Specifications can be upgraded if appropriate and long term maintenance guaranteed.	Yes
Croydon Highway Authority	Separate engagement needed. Private developer to enter a section 33 Agreement* with Croydon Highway Authority. *(Local Gvt Miscellaneous Provisions Act 1982)*	Separate engagement needed. Private developer to enter a section 38 Agreement *with Croydon Highway Authority. *(Highways Act 1980)*
Formal handover needed	No	Yes
Commuted sums	No	Yes. Part of the section 38 agreement.

Ruskin Square was delivered by private developers Stanhope who retain management

**refer to Council's guidanace contained in ' Specification for Road and sewer works in new streets by Section 38/33 agreements'

3	4	5
A private developer is given authority to do work on public highways and hand it back once work has been completed.	**Croydon Council deliver a scheme internally.**	**'Business as usual' renewal of the public realm.**
Key consultees as part of the planning application process.	Key consultees through project if not fully embedded in project team.	Consult if guidance is needed.
Yes	Yes	Yes
Separate engagement needed. Private developer to enter a section 278 Agreement** with Croydon Highway Authority. *(Highways Act 1980)*	Key consultees through project if not fully embedded in project team.	Usually leading the works. However this also applies to any utility companies carrying out work in the borough.
Yes	Yes (from project team to Croydon Highway Authority)	No
Yes. Part of the section 278 agreement.	To be calculated to inform future maintenance discussions.	No

Queens Gardens will be handed back to Croydon Council after having been relandscaped by HUB.

**section 278 Agreements are also used when a developer pays for alterations to existing public realm but these are not delivered by him

Cherry Orchard /Addiscombe Roads improvements are being delivered by the Council Streets team

Croydon's public realm first and foremost evolves through business as usual minor changes. The combined and incremental impact on the borough's public realm is significant. It is therefore key that the actors of this renewal know and follow this Guide

- The table on the previous pages is a summary of the broad scenarios that can occur. In practice, further scenarios are possible, including those that are a combination of the scenarios represented.

- In particular, ownership, maintenance and management do not always go hand in hand. There are often formal or informal agreements put in place for:

  - private parties to manage publicly owned land; for example a Business Improvement District (BID) organisation might manage and/or maintain an area of public highway that it is in their interest to maintain above the standard of the Council.

  - the Highways Authority might informally maintain a piece of private land; for example when a private forecourt has been integrated within the public realm.

- Distinction should also be made as to whether an area of public realm is part of the Public Highway authority or part of Croydon Council assets.

- Finally, if an area of public realm is to be maintained by the Council it is important to understand which team within the Council (and associated contractor if relevant) will be maintaining it.

Some of the term contractors and Public Private Partnership agreements (PPP) in place at the time of publishing:

Cleaning and Waste	Veolia
Ground maintenance	Idverde
Highways	FM Conway
Lighting	Skanska
Play areas	FM Conway
Play areas (visual inspections)	Idverde
Trees	City Suburban

GOVERNANCE (PROJECTS DELIVERED BY THE COUNCIL ONLY)

Project concept and initiation

Project teams should consult with the Project Assurance team to ensure Projects are set in accordance to the Corporate Programme Office methodology and use its standard document templates for reporting. Additional reporting might be required to meet funder(s)' requirements.

Business case	PID	EqIA	XXX ....

↓

Design and construction (project delivery)

Ongoing reporting (fill Project Management documents)	monthly Board meetings and sign off or as required by project governance
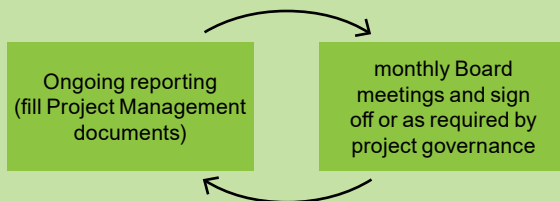
In addition to the ongoing reporting and meetings highlighted in the table to the right, the following may be required:
- Traffic Management Advisory Committee (TMAC);
- Cabinet approval;
- Statutory or other public consultations;
- Procurement (design team and/or contractor).

↓

Defect period (closeout and handover)

Practical completion → Maintenance by the Contractor → Handover to Croydon "Business as Usual" teams

The Handover process is key to the long term success of a project. The following pages detail this crucial step further.

↓

In Use
Ongoing management and maintenance by LBC's Streets service

HANDOVER (ALL PUBLIC REALM THAT WILL BE MAINTAINED AND/OR OWNED BY THE LOCAL HIGHWAY AUTHORITY IRRESPECTIVE OF WHO IS DELIVERING IT)

The handover process is key to the long term success of a project. It needs to be planned for from the onset of a project.

EARLY STAGES AND DESIGN

RIBA stages

- Teams in LBC's Streets service who will ultimately maintain the public realm should be involved from the earliest stages of a project.

- This should include the highway team and any other team(s) who will be responsible for some of the maintenance of the finished product (for example the Trees team for street trees).

- Checklist(s) of documents and requirements that will be requested at practical completion will be provided by LBC's Streets service on request. This request should be done at RIBA stage 3 or before.

Stage 0
Strategic
Definition
Stage 1
Preparation
and Brief

Stage 4
Technical
Design
Stage 3
Developed
Design
Stage 2
Concept
Design
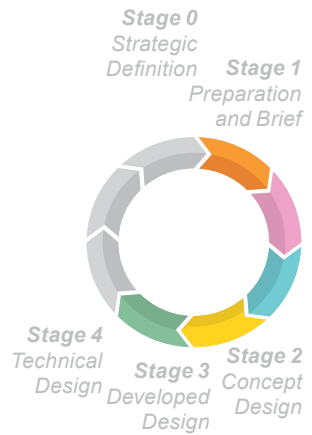
CONSTRUCTION

- For projects delivered by the Council, the project site will be regularly inspected throughout the construction stage.

- The Project Team should ensure that the relevant Council's services are consulted when any changes are made on site to previously agreed proposals.

Stage 5
Construction

120
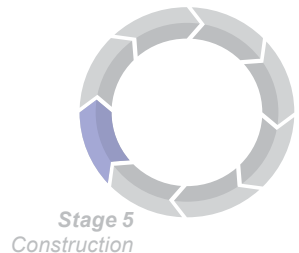
PRACTICAL COMPLETION

- The checklist(s) of requirements provided will be used to assess the scheme to ensure it is fit for purpose for handover.

- LBC's Streets service, after having inspected the works, will provide a written list of any apparent remedial works required to be carried out. Any issue rising from a Stage 3 Safety Audit will need to be adressed at this stage.

- Once the remedial works have been carried out, LBC's Streets service will issue a certificate of practical completion.

- The package of documents requested by the checklist(s) will be provided at this point.

- At practical completion a date will be agreed with all relevant teams in LBC's Streets service (highways, trees, etc.) to handover the scheme.

DEFECT CORRECTION PERIOD

- The defect correction period to be provided by the project contractor is shown in the table below.

carriageway	minimum 5 years
soft landscaping	minimum 3 years
metal work (drainage, street furniture)	minimum 2 years
all other highway	minimum 1 year

- For projects delivered by third parties, reference should be made to the specific agreement, which states how any construction defects should be addressed for the whole of the defect correction period.

- For projects delivered by the Council, a handover between the project team and LBC's Streets service will be agreed usually 1 year after practical completion/at the end of the defect period for the highway works. This means that there will be a period of 1 year for metalwork and 2 years for soft landscaping when LBC's Streets service will manage the project contractor who is still responsible for any repair work.

- There might be some overlap with day to day maintenance, and coordination with the relevant teams in LBC's Streets service will be needed (and their associated term contractors) .

HANDOVER

- On the date agreed at completion, the documents requested on the checklist(s) will be re-issued, together with any updates/additional documents that might have been produced during the defect period (for example Stage 4 Safety Audit).

- LBC's Streets service will give the final sign-off and issue a final certificate.

IN USE

- LBC's Streets service is now in charge of the day to day maintenance.

5.2 WHOLE LIFE COSTING

Whole Life costing is "the systematic consideration of all relevant costs and revenues associated with the ownership of an asset." (*National Platform for the Built Environment*)

It provides a tool to quantitatively assess and compare design proposals in order to identify the most economically advantageous option over a defined period. However, only options which meet the performance requirements for the asset should be considered.

WHAT SHOULD IT TAKE INTO ACCOUNT?

As the definition states, a Whole Life costing exercise needs to be systematic, and it is important that all costs and revenues, direct or indirect are taken into account for all options that are being compared. This include:

THE OBVIOUS:

1. initial investment capital.

2. maintenance - if a scheme with a high investment capital is being compared to a "do nothing" option, one should not forget to take into account the higher cost likely to be associated with reactive maintenance for this latter option. Unplanned and unexpected maintenance costs amount to a large portion of all money spent on public realm.

DIRECT REVENUES:

3. parking revenue (gain or loss).

4. street trading licenses.

INDIRECT REVENUES

5. increased business premises occupancy following a High Street regeneration project, leading to increased business rates collection.

6. increased house price (and therefore stamp duty) for houses located along tree lined streets.

REDUCED COSTS (DIRECT OR INDIRECT) ON THE HIGHWAY AUTHORITY AND OTHER SERVICES:

7. reduced cost associated with flooding risk if new asset provides SUDS.

8. reduced cost on policing if antisocial behaviours (including flytipping) are being tackled as part of the proposals.

9. reduced cost on health services where proposals encourage more people to walk, cycle, reduce the likelihood of accidents and improve air quality.

Please note that the list opposite is in no way exhaustive, and only aims to highlight the number and complexity of the parameters that need to be taken into account when carrying a meaningful Whole Life costing exercise.

HOW LONG DOES WHOLE LIFE MEAN?

Although in theory this should be calculated for the lifetime of the asset (until the asset is disposed of), for simplicity this will be done over a 10 year period to align with a commuted sums calculation.

COMMUTED SUMS

Croydon Council publishes a list of standard costs to calculate commuted sums associated with Highway Agreements. The latest version was published in 2014 (*Specification for Road and sewer works in new streets by Section 38/33 agreements*) and is due to be updated.

This is an extremely simplified way to approximate the costs associated with maintenance. It allows for a consistent, inexpensive and quick way to provide a cost for any given scheme.

A commuted sums calculation will be required for all public realm projects to be managed by the Highway Authority. This will be used by Croydon Council Streets' service to inform maintenance budget conversation.

However, due to the simplified approach to commuted sums, this should not be used to inform design decisions, as it does not provide a systematic review of all costs and revenues associated with a given scheme.

LONDON BOROUGH OF CROYDON

SPECIFICATION FOR ROAD

AND SEWER WORKS

IN NEW STREETS

BY SECTION 38/33

AGREEMENTS

2014

DEVELOPMENT & ENVIRONMENT
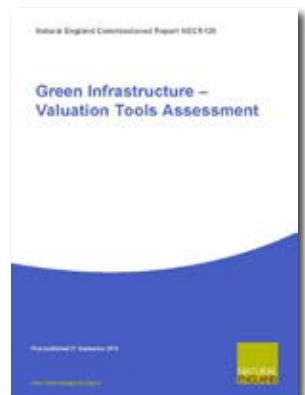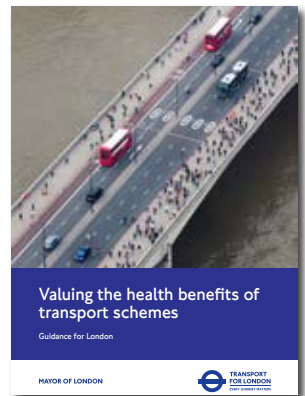BERNARD WEATHERILL HOUSE

CALCULATING WHOLE LIFE COSTING

Whole Life costing will not be systematically requested for public realm projects due to the likely difficulty, cost and time that would be associated with producing accurate and meaningful figures.

Should a project team be required or choose to do a Whole Life costing exercise, then it should be careful to include all costs and benefits and caveat it appropriately.

In addition to the list published by the Council of standard costs to calculate commuted sums, various tools exist to monetise the indirect revenues associated with public realm improvement schemes and might be helpful to inform a Whole Life costing exercise, for example:

▪ (TfL, 2015) *Valuing the health benefits of transport schemes - monetises the revenues / health benefits of public realm schemes*

▪ *Health Economic Assessment Tool for Walking and Cycling (HEAT)* - monetises the benefit from the deaths prevented in the population as a result of increases in physical activity (World Health Organization).

▪ The *Sickness Absence Reduction Too*l (SART) - monetises the benefits from lower levels of sickness absence from work as a result of increases in physical activity

▪ Various research papers have been written and tools developed to assess the value of street trees and other green infrastructure. Some focus solely on their direct value (cost of planting and maintenance), others try and take into account the associated ecosystem value as well as the economic impact on house value and high street spending. The paper *Green Infrastructure - Valuation Tools Assessment (Natural England, 2013)* reviews several of these tools.

Valuing the health benefits of transport schemes
Guidance for London

MAYOR OF LONDON   TRANSPORT FOR LONDON

Natural England Commissioned Report NECR128

Green Infrastructure –
Valuation Tools Assessment

5.3 MANAGEMENT AND MAINTENANCE

The management and maintenance of Croydon's public realm is fundamental to its success. Consideration of future management and maintenance should be at the heart of all public realm projects. This helps engender and communicate a sense of civic pride and belonging.

GENERAL GUIDELINES

- All schemes to be maintained by Croydon Highway Authority will need to be designed so that they are suitable for its established management and maintenance regime.

- For any proposals including an amount of soft landscaping, a Management Plan will need to be provided to ensure correct establishment of the planting.

- Consideration should be given to the opportunity schemes provide to make future savings on maintenance and management costs.

- Consideration should be given to storage of materials for future repair and replacement works.

- Opportunities should be explored for including in schemes income-generating activities that could supplement management and maintenance budgets.

- For schemes in Croydon Opportunity Area, Local and District Centres, a stepped change in the quality of public realm will be matched by an enhanced and dedicated management and maintenance processes that will ensure that the highest standards are met and maintained.

DESIGNED TO LAST

- Materials and construction methods should be designed to ensure durability and ease of cleaning.

- Costs of management and maintenance regimes need to be understood and secured in advance of new schemes being implemented.

- The teams responsible for management and

maintenance of public realm are integral to the design of any new scheme.

- Durability, longevity and future management and maintenance should be a fundamental consideration in specification of all materials.

- Consideration should be given to the maintenance and management of highways, footways and carriageways in all seasons and weather conditions.

- Management of vegetation for ecological / sustainability purposes as well as resourcing, including grass cutting, weeding and planting should be considered as part of the design process.

- Tree maintenance including thinning and periodic replacement should be considered as part of the design process.

- The type of impact absorbing surface in play areas should take account of maintenance requirements. Loose fill material should be used only where daily maintenance is available.

- Measures that reduce litter, and ease litter removal, including removal of chewing gum, should be considered as part of the design process.

- Minimising the potential for unauthorized graffiti, flytipping, vermin, illegal advertising including A-boards and flyposting should be considered as part of the design process.

- Natural surveillance, reducing the need for CCTV and an open, diverse and unintimidating public realm, should be promoted through the design of the scheme.

SHARED RESPONSIBILITIES

- Schemes promoted by the Council on private land will be required to establish their own maintenance management regimes that meet necessary minimum standards.

- Opportunities for community and third party funding, management and maintenance of spaces should be explored.

- Wherever possible, cohesive public realm schemes will be delivered and can include extension to private forecourts if authorized by the land owner. The Council will maintain the public realm management for a year, after that maintenance responsibilities will be entrusted to the land owner (unless confirmed otherwise).

- Future running costs of activities and uses envisaged to enliven and activate the public realm such as markets, cafes, street performance stages etc. Potential funding mechanisms should be considered.

MAINTENANCE ROUTINE

- Future maintenance of street signs including cleaning, repair and replacement, either due to damage or to keep information up to date.

- Special consideration should be given to how materials will withstand regular cleaning and periodic deep cleaning.

- When power washing is applied on paving, the process should include reinstatement of joints if required.

- Consideration should be given to any scheduled and likely future streetworks.

- Future re-application and changes to road markings should be considered.

6.0
APPENDIX
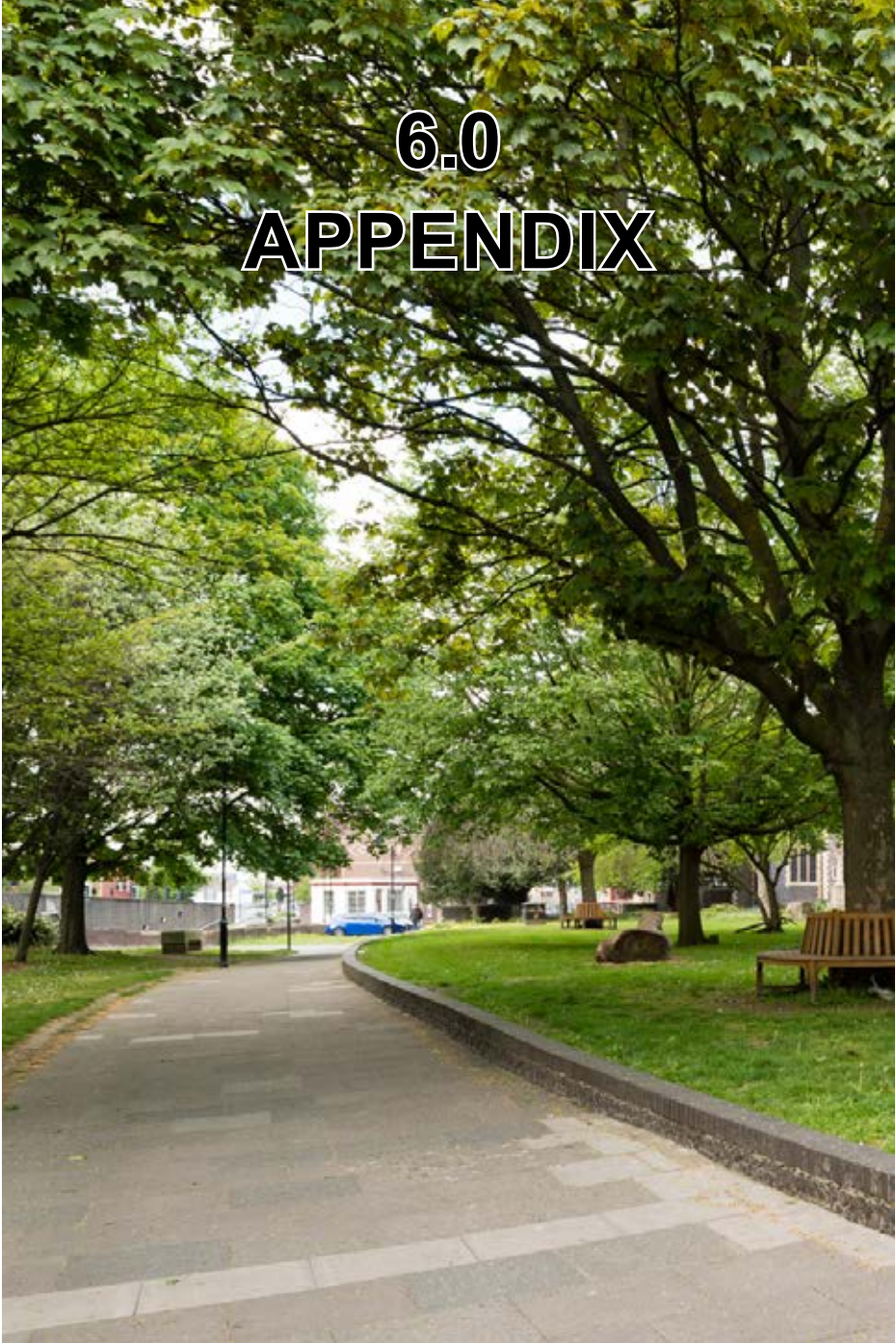
6.1 KEY REFERENCES

As mentioned in the introduction, this Guide is a supplementary document to the relevant British standards, national and regional policies and the Croydon Local Plan, which all still apply. The following documents have been used in the making of this Guide and constitute useful further reading. When refering to external guidance, always refer to the most up-to-date version equivalent of the guidance stated, where it exists.

GENERAL

- *(LBC, 2018) Croydon Local Plan*
- *(TfL, 2017) Streetscape Guidance*
- *(Greater London Authority, 2015) The London Plan*
- *(Homes and Communities Agency, 2013) Urban Design Compendium*
- *(Vernon and co, 2009) Landscape Architect's Pocket Book*
- *(DfT, 2007) Manual for Streets*
- *(Historic England, 2018) Streets of All*
- *(LBC) Conservation Area Appraisals and Management Plans*
- *(LBC) Conservation Area General Guidance*

2.0   DESIGN GUIDELINES

2.1   Principles
- *(GLA, 2018) Mayor's Transport Strategy*
- *(TfL, 2017) Guide to the Healthy Streets Indicators*
- *(TfL, 2017) Small Change, Big Impact*
- *(Roads Task Force, 2013) The vision and directions for London's streets and roads*

2.4   Sustainability
- *(CIRIA, 2017) Guidance on the construction of SUDS*
- *(TfL, 2016) SUDS in London - a Guide*
- *(2015) London Boroughs of Wandsworth, Merton, Sutton and Croydon Strategic Flood Risk Assessment (SFRA)*
- *(Local United, 2011) Community led Reuse of Resources*
- *(Defra, 2011) Guidance on applying the Waste Hierarchy*
- *(LBC, 2011) London Borough of Croydon Surface Water Management Plan (SWMP)*
- *(Crown, 2010) Flood and Water Management Act 2010*

2.9   Counter terrorism
- *(DfT, 2017) Mitigating security vulnerabilities outside railway bus and coach stations*
- *(DfT+CPNI, 2017) Traffic Advisory Leaflet 01/11 - Vehicle Security Barriers within the Streetscape*
- *(CPNI, 2014) Integrated Security Guide - A Public Realm Design Guide for Hostile Vehicle Mitigation*
- *(HO, 2012) Protecting Crowded Places*

3.0   ROAD GEOMETRY

3.1   Pedestrians
- *(CIHT, 2018) Inclusive and Accessible Places - Reviewing Shared Space*
- *(TfL, 2017) Accessible Bus Stop Guidance*
- *(DfT, 2011) Local Transport Note 1/11 Shared Space*
- *(British Standard, 2009) BS 8300:2009 Design of buildings and their approaches to meet the needs of disabled people - Code of practice*
- *(TfL, 2010) Pedestrian Comfort Guidance for London*
- *(Crown, 2010) Equality Act 2010*
- *(UCL for The Guide Dogs for the Blind, 2009) Effective Kerb Heights for Blind and Partially Sighted People*
- *(DfT, 2002) Inclusive Mobility*
- *(Crown, 1995) Disability Discrimination Act 1995*

3.2   Cyclists
- *(LBC, 2018) Croydon's Cycling Strategy 2018-23*
- *(Wheels for Wellbeing, 2017) A Guide to Inclusive Cycling*
- *(TfL, 2014) London Cycle Design Standards*

4.0   PALETTE OF MATERIALS

4.1   Surface material
- *(DfT, 2007) Guidance on the use of Tactile Paving Surfaces*

4.2   Street furniture
- *(DfT, 2018) Grants to provide residential on-street chargepoints for plug-in electric vehicles - Guidance for Local Authorities*
- *(Defra, 2017) UK plan for tackling roadside nitrogen dioxide concentrations*

- *(GLA, 2015) An Ultra Low Emission Vehicle Delivery Plan for London - Cleaner vehicles for a cleaner city*

4.3   Signage and wayfinding
- *(DfT, various revision dates for various chapters) Traffic Signs Manual*
- *(Crown, 2016) Traffic Signs Regulations and General Directions 2016*
- *(Crown, 2013) London Local Authorities and Transport for London Act 2013*
- *(Sustrans, 2013) Cycle Network Signing - Technical Information Note No. 5*
- *(DfT, 2016) Circular 01/2016 The Traffic Signs Regulations and General Directions 2016*
- *(London Council, 2015) Code of practice for affixing traffic signs and street lighting to buildings in London*
- *(DfT,2008), Traffic Sign Manual, Chapter 3: Regulatory Signs*
- *(TfL, 2005) Improving Walkability*
- *(DfT,2003), Traffic Sign Manual, Chapter 5: Road Markings*

4.4   Cycling
- *(Sustrans, 2012) Cycle Path Surface options*
- *Mayor's Transport Strategy (2018)*

4.5   Trees and soft landscaping
- *(LBC, draft expected 2018) Croydon Biodiversity action plan.*
- *(British Standard, 2015) BS 3882:2015 Specification for topsoil*
- *(British Standard, 2014) BS 8545:2014 Trees: from nursery to independence in the landscape. Recommendations*
- *(British Standards, 2012) BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations*
- *(GLA, 2012) The All London Green Grid Area 7 - London's Downlands.*
- *(Natural England, 2011) London's Natural Signatures: The London landscape Framework.*
- *(British Standard, 2010) BS 3998:2010 Tree work. Recommendations*
- *(NJUG, 2007) Volume 4 - NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees*
- *(DCLG, 2006) Tree roots in the built environment*
- *(British Standards, 1989) BS 4428:1989 Code of practice for general landscape operations (excluding hard surfaces)*

5.0   THE LIFE OF THE PUBLIC REALM

5.1   Delivery of public realm
- *(LBC, 2014) Specification for road and sewer works in new streets by section 38/33 agreements*

5.2 Whole Life Costing
- *(TfL, 2015) Valuing the health benefits of transport schemes*
- *(LBC, 2014) Specification for Road and sewer works in new streets by Section 38/33 agreements*
- *(Natural England, 2013) Green Infrastructure - Valuation Tools Assessment*

5.3 Management and maintenance of public realm
- *(UK Roads Liaison Group, 2016) Well Managed Highway Infrastructure, A code of Practice*

6.2 GLOSSARY

ASL: Advanced stop line
BID: Business Improvement District
CAVAT: Capital Asset Value for Amenity Trees
CIHT: Chartered Institution of Highways & Transportation
CNPI: Centre for Protection of National Infrastructure
COA: Croydon Opportunity Area
CTSA: Counter Terrorism Security Adviser
DFT: Department for Transport
GLA: Greater London Authority
HEAT: Health Economic Assessment Tool for Walking and Cycling
HO: Home Office
HVM: Hostile Vehicle Mitigation
LASC: Local Area of Specific Character
LBC: London Borough of Croydon
LLFA: Lead Local Flood Authority
NJUG: National Joint Utilities Group
PFI: Private Finance Initiative
PPP: Public Private Partnership
RIBA: Royal Institute Of British Architects
PRDG: Public Realm Design Guide
SART: Sickness Absence Reduction Tool
SFRA: Strategic Flood Risk Assessment
SUDS: Sustainable Drainage System
TFL: Transport for London
TLRN: Transport for London Road Network
TSRGD: Traffic Signs Regulations and General Directions

6.3 PHOTO CREDITS

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1.0 Introduction	▪ Cover photo - Caithness Walk ▪ Temporary Crazy Golf in Exchange Square	▪ Restaurants spilling on pavement on South End	
2.0 Design Guidelines			
2.1 Principles	▪ Sustainable - Caithness Walk ▪ Maintained to high standards - Dingwall Roundabout ▪ Safe and welcoming - Jubilee Bridge ▪ Wellesley Road - before and after	▪ Attractive - South End, opposite Swan and Sugar Loaf ▪ Place Specific - view towards St Michael Church from West Croydon	
2.2 Sustainability	▪ St John's Memorial Garden		
2.3 Activating the public realm	▪ Temporary Crazy Golf on Caithness Walk ▪ Wandle Park Opening Day		
2.4 Public realm 'in waiting' and meanwhile uses	▪ Development Sites ▪ Construction Sites, BoxPark		
2.5 Play	▪ Informal play elements along Caithness Walk ▪ Play opportunity in St John Memorial Garden		
2.6 Public Art	▪ Mural at Jubilee bridge ▪ Broad Green bell ▪ Sustrans' Portrait bench on Charles' Street	▪ Peeping through St Michael's Church's rose window, West Croydon ▪ Wall art by Ruskin Parade, Selsdon Road ▪ Bespoke pavers by the Tree House in South End	

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▪ Market Day along New Addington's Central Parade	
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▪ Window into the past, Thornton Heath ▪ Three dimensional art along Surrey Street ▪ Conditioning units along Surrey Street ▪ Memorial on Surrey Street ▪ Hand made clay plate along Wellesley Road ▪ Engraved granite block in South Norwood ▪ Bespoke seating on Dingwall roundabout ▪ 2011 Riots anniversary ▪ Year of the bus 2014	▪ ©Philip Dennis - involving the community in Thornton Heath ▪ ©UAU - temporary interactive light installation along St George's Walk ▪ ©Ruth Ward - Bespoke street furniture - College Square

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2.7 Counter terrorism			
3.0 Road Geometry	▪ Park Lane Crossing		
3.1 Pedestrians			
3.2 Cyclists			
3.3 Parking			
4.0 Palette of Materials		▪ Cover photo - West Croydon circus	
4.1 Surface Materials	▪ Asphalt Surfaces, carriageway only, London Road ▪ Resin Bound Gravel, tree surround	▪ Surface drainage	
4.2 Street Furniture		▪ Telephone Kiosk in South End, before	
4.3 Signage and Wayfinding	▪ Tfl's Legible London ▪ Broad Green bell	▪ Welcome sign in South End	
4.4 Cycling	▪ Croydon Cycle Hub at east Croydon station		
4.5 Trees and Soft Landscaping	▪ Park Lane crossing		
5.0 the Life of the Public realm	▪ Cover photo - Broad Green bell		
6.0 Key references	▪ Cover photo - St John's Memorial garden		

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▪ Thornton Heath library ▪ Crossing over Brighton Road ▪ Dropped kerb on Mint Walk ▪ Lansdowne Road	▪ Unknown - Guide dog opposite East Croydon station ▪ Unknown - New Street, Brighton.
▪ Crossing over Roman Way	
▪ Cars parked on London Road	
▪ Lansdowne Road, various ▪ Dropped kerbs, various	
▪ Asphalt Surfaces, footways and carriageways ▪ Resin Bound Gravel - Cycle Paths ▪ Kerbs, various ▪ Inspection and utility covers, various	▪ Unknown - Asphalt Surfaces, on footway segregated cycle tracks ▪ Sustrans - Asphalt Surfaces, cycle path ▪ Unknown - self-binding gravel
▪ General Guidelines, various ▪ Lighting, Oak column on Woodcote Village Green ▪ Bus Shelters, various ▪ Telephone Kiosk in South End, after	
▪ Combining signs ▪ Unnecessary clutter ▪ Road markings, various ▪ Street name plates, various ▪ Advertising, various	
▪ Cycle signage, various ▪ Cycle stands, various	▪ Unknown, various on footway and off road cycle routes
▪ Grangewood Park ▪ Queen's Gardens	