Appendix 1

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the low tax borough

Hammersmith & Fulham Council

South Fulham Riverside

Supplementary Planning Document

January 2013

CONTENTS

CHAPTER ONE | Vision

The regenerated South Fulham Riverside area will have moved away from its industrial past and become a new residential mixed use area integrated with employment, community and leisure uses that adopt a waterfront character. The area will have a riverside focus that embraces the river offering leisure, recreational and sporting facilities linked to the river.

The local community will benefit from new and improved connections to the river walkway. The river walkway will be continuous from Broomhouse Dock to Chelsea Harbour with new public spaces for leisure and recreation fronting the river.

There will be a series of high quality buildings linked by well defined spaces to create a safe and secure environment with a distinctive riverside character. Taller buildings are possible in specific locations.

Transportation (public transport and highway capacity) will be improved in the area to accommodate the increase in residential and other uses which will ease congestion at junctions and improve connectivity to transport nodes. The potential to use the river for transport will have been maximised.

A local neighbourhood will have been created with more accessible local facilities. There will be a sustainable and varied mix of uses to support the community and create a sense of place. A much improved public realm with good links to green spaces and community facilities will encourage increased walking and cycling.

Existing open space will be upgraded and new open space and play space created to more adequately serve the local community.

CHAPTER TWO | Introduction

2.1 PURPOSE AND STATUS OF THE DOCUMENT

2.1.1 South Fulham Riverside is one of five regeneration areas identified in the adopted Core Strategy (2011) where a comprehensive approach to regeneration will take place guiding growth and change in the area. This document sets out the Council's vision for the regeneration of the South Fulham Riverside.

This document seeks to draw together the development plan policies and other guidance which are relevant to the regeneration area as identified in the Core Strategy and considers the environmental, social, design and economic objectives which are relevant to the future development of the area. It will not form part of the statutory development plan for the area but provides the more detailed guidance for the regeneration area anticipated in the Core Strategy.

2.1.2 As identified in strategic Policy SFR in the Core Strategy this SPD has been produced to emphasise the potential opportunities for regeneration within the area of the borough formerly designated as the Carnwath Road employment zone until September 2007, together with former Townmead Road/ Imperial Road employment zone land to the east of Wandsworth Bridge Road and provide more detailed guidance. It should be read in conjunction with the saved policies under the, Unitary Development Plan (as amended in 2007 and 2011), The Development Management DPD Submission (July 2012) the London Plan (2011), the Core Strategy (2011) and the Council's adopted Supplementary Planning Documents and Supplementary Guidance on Thames Strategy: Kew to Chelsea.

2.1.3 The primary aim of this SPD is to set out an approach to achieve the vision and deliver the objectives in the Strategic Policy SFR in the Core Strategy. It provides analysis of the area and outlines the key issues affecting the area. It aims to guide the future change including optimising and realising the full potential and benefits of the area, the changed emphasis away from its historic employment use and unlocking unused and under used land. The SPD also provides development and design guidance which should inform any future redevelopment proposals.

These guidelines will be used together with the Core Strategy and other planning policy documents to help ensure a comprehensive approach to regeneration relating to the wider area.

2.1.4 This SPD is a material consideration in the determination of any planning application submitted in the regeneration area.

(See Figure 2.1: Identifies the South Fulham Riverside regeneration boundary)

2.2 PUBLIC CONSULTATION

2.2.1 This section outlines the process regarding involvement of the local community in the preparation of this SPD.

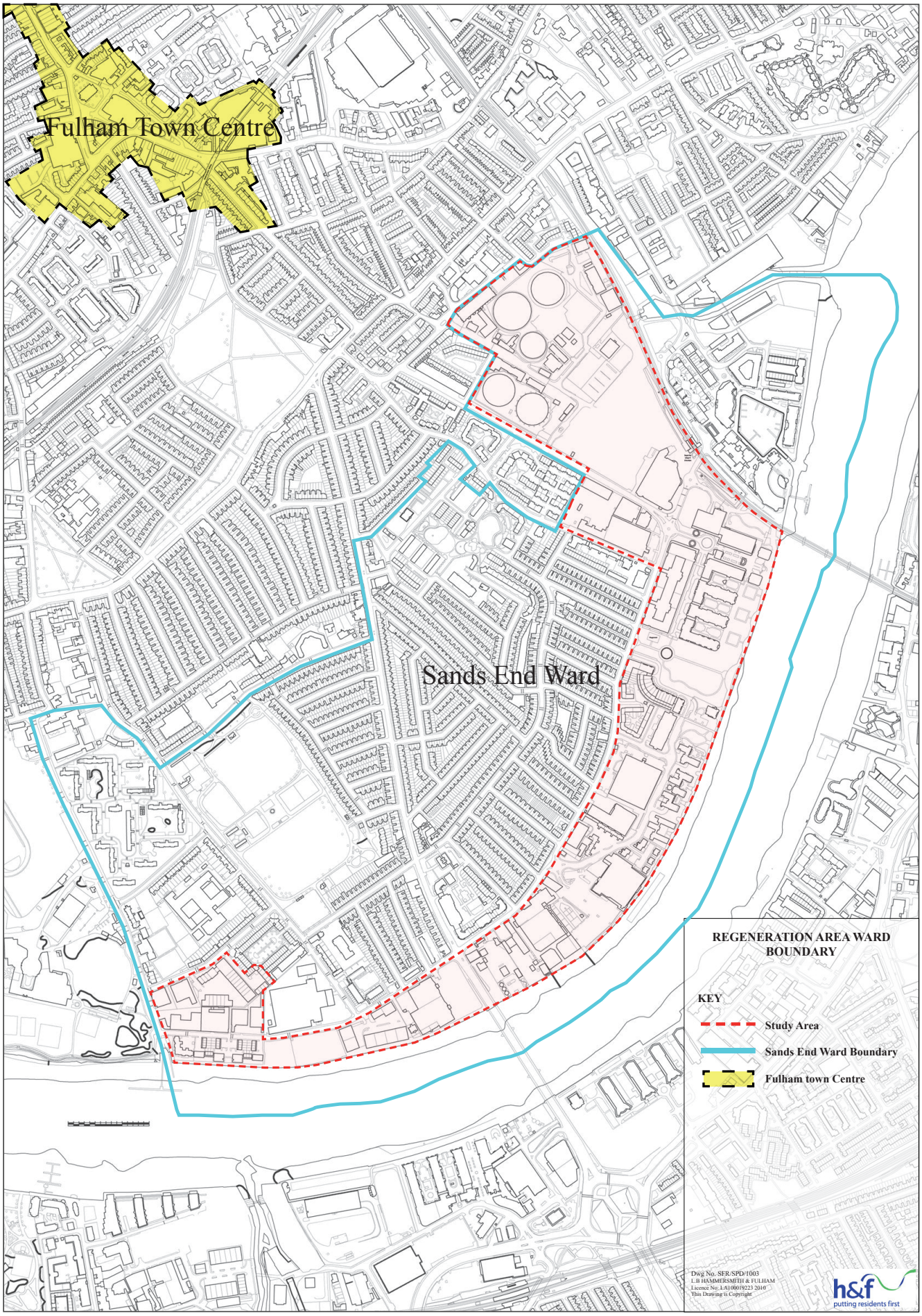
The Council has an adopted LDF Statement of Community Involvement (SCI) that sets out how the council will involve the community in planning matters. It stresses the importance of involving people in the initial stages of the preparation process of draft SPDs to maximise their influence on the planning document.

2.2.2 Core Strategy Consultation

The South Fulham Riverside regeneration area was included within the Draft Core Strategy Options 2009 and Proposed Submission Core Strategy 2010. Comments received in response to these two consultations have informed the SPD.

This draft of the SPD also includes amendments that were made to the Core Strategy following its Examination in Public (EiP) held in April 2011 and changes incorporated prior to its adoption in October 2011.

Figure 2.1 Identifies the South Fulham Riverside regeneration boundary.



2.2.3 Workshops

In order to provide an opportunity for the local community and interest groups to have an early input into the preparation of the draft South Fulham Riverside SPD two workshops were held the first on 27th July 2010 and the second on 28th September 2010. The Princes Foundation was commissioned to facilitate both workshops and produce a summary report detailing the issues discussed at the workshops which were then brought together in a set of emerging design principles.

The workshops were attended by local developers, landowners, local residents, resident groups and local interest groups. The first workshop focussed on mapping the local context and the key opportunities and constraints of the regeneration area.

The second workshop focused on transport and design. The recommendations from the South Fulham Riverside Transport Study and the implications this has for the future development of the regeneration area were discussed and considered. Attendees also considered and put their preferences forward regarding issues related to land use, height, massing, density, connectivity, open space and public realm.

2.2.4 Set of Emerging Design Principles

The outcome from the workshops was summarised by the Princes Foundation as a set of emerging design principles that have informed this SPD and are detailed below.

- **Public Realm and Open Space**
  This item attracted the greatest interest at the workshops. There should be a clear definition between public and private space. There should be a coherent strategy for public realm improvements including street furniture, landscaping and tree planting. All new development should promote access to the Thames River Path. There should be active ground floor frontages to enliven open space. Improve the existing open spaces creating new spaces where appropriate and improving the pedestrian experience between spaces. New development should provide play areas for children.
- **Architecture - Height, Massing and Density**
  New development should respect the residential scale of buildings to the north of the regeneration area with a stepped up approach to building height towards the Thames. Materials used in new developments should reflect the prevailing examples in surrounding areas. Where possible historic buildings should be protected and used within new schemes. New development should adhere to a fine urban grain and promote variety in new buildings whilst ensuring an overall coherence.
- **Land Use**
  A rich variety of land uses throughout the area is welcomed provided they are appropriately located. Retail and high density residential should focus on two key mixed use locations, Fulham Wharf and Imperial Wharf Rail station. Additional commercial space and community facilities should be located on key routes through the area. Any future uses for wharves should be compatible with the surrounding residential community and include mitigation measures to lessen the impact of industrial uses alongside residential dwellings. Affordable housing should be fully integrated in all new developments. The Thames River Path and associated open spaces should become a focus for river based activities.
- **Transport and Connectivity**
  New development should support sustainable transport rather than cars. Large car parks should be located underground. New development should seek to improve the existing cycle and pedestrian network. New development should contribute to a new foot/cycle path to the West London Railway Bridge. Higher density development should focus on Fulham Wharf/Townmead Road and Imperial Wharf Railway station in order to maximise access to public transport. New development should contribute to the required transport infrastructure improvements set out in the transport study.

2.2.5 Public Consultation Draft South Fulham Riverside SPD April 2011

An informal first round of public consultation was undertaken on the first draft of the SPD for 6 weeks from 8th April until 20th May 2011. This consultation exercise was advertised by a public notice in the local press, a newsletter was distributed to residents and businesses within and surrounding the regeneration area and letters were sent to statutory consultees, resident groups and other interest groups. A total of 119 responses were received and changes were incorporated within the draft of the SPD in response to comments received.

2.2.6 Public Consultation Draft South Fulham Riverside SPD March 2012

A second round of (statutory) public consultation on a revised draft (March 2012) took place between 30th March and 11th May 2012. A total of 83 responses were received and the SPD was updated in response to the comments received.

Figure 2.2 Princes Foundation workshop

CHAPTER THREE | Executive Summary

1 - VISION

Sets out the Council's aspirations for the regeneration area.

2 - INTRODUCTION

This section introduces the SPD and sets out the purpose and status of the document. It outlines details and outcomes from two workshops held by the Princes Foundation during the preparation of this SPD attended by local developers/ landowners, local residents, resident groups and local interest groups.

3 - EXECUTIVE SUMMARY

4 - CONTEXTUAL OVERVIEW

Summarises details regarding the socio economic, physical and transport and movement context which provides the evidence base for the proposed interventions. Full details of these sections are included in the appendices.

5 - PLANNING POLICY CONTEXT

Sets out the current planning policy context detailing national, regional and local policy relevant to the regeneration area.

6 - ISSUES AND OBJECTIVES

Summarises the key issues affecting South Fulham Riverside which have informed the key objectives for the area.

7 - AREA PLANNING FRAMEWORK AND LAND USE STRATEGY

This chapter sets out the overarching principles regarding future development in the regeneration area. The key focus is to bring vacant and under used sites back into use by developing a mixed use neighbourhood connected to the river supported by necessary transport interventions to support this growth. The main land use will be medium density residential led mixed use, new small scale commercial in the most accessible areas and retail for day to day needs. Intensification in community uses will be required to support this growth with new open space, children's play space and leisure uses linked to the river.

8 - HOUSING

This chapter sets out the key principles that will guide the new homes in the area in particular tenure mix, unit size mix, housing typologies, residential standards and amenity space

9 - URBAN DESIGN STRATEGY

Outlines guiding principles regarding the future development including the creation of a riverside character, new links to the river walkway, protecting heritage assets, building heights relating to the local context, open space and upgraded public realm.

10 - DEVELOPMENT CAPACITY STUDY

Considers the quantum of land with potential for future redevelopment in the regeneration area (21.8 hectares based on the Strategic Housing Land Availability Assessment (SHLAA)) and tested the maximum development capacity that could be achieved taking into account principles already established regarding urban design, housing and transport capacity. The transport study outcome set the medium density option as the maximum quantum of development possible due to the limited capacity within the transport network and the lack of accessible public transport.

11 - TRANSPORT INTERVENTIONS

Outlines the outcome from the Transport Study and Transport Study Addendum that was commissioned to inform the quantum of additional development that the current infrastructure could support within the regeneration area. Both studies concluded that the growth anticipated in the Medium Density

option could be supported if a number of key transport interventions were made including expansion of the Wandsworth Bridge Road/ Carnwath Road/ Townmead Road junction and a new route through to the Kings Road in the north east of the regeneration area.

12 - SOCIAL INFRASTRUCTURE

Considers the social infrastructure (new schools, health facilities, open space, play space, library and community facilities, police facilities and employment and skills training) required to support the potential increase in homes and jobs.

13 - ENVIRONMENTAL STRATEGY

Outlines requirements relating to climate change mitigation and adaption, air quality, waste, land contamination and construction, water, noise and vibration and ecology.

14 - DELIVERY AND IMPLEMENTATION STRATEGY

A Delivery and Infrastructure Funding Study was undertaken in 2011 which investigated the infrastructure required to support growth of homes and jobs in the area. The infrastructure required to support the anticipated growth is listed in this chapter. Details regarding how developer contributions will be assessed and collected are also detailed.

APPENDIX 1 – SOCIO ECONOMIC CONTEXT

Considers the socio economic context of the area including data on population, ethnicity, deprivation, employment and income, crime, housing and health. The social and community infrastructure has been mapped across the whole of the Sands End ward (that includes the regeneration area) identifying education facilities including schools and nurseries, health facilities, libraries and community halls/centres and shopping areas and highlighting gaps in provision and accessibility.

APPENDIX 2 - PHYSICAL CONTEXT

Details the physical context of the area including the history, heritage and archaeology. Open space and children's play space have been mapped across the area and gaps in accessibility and level of provision considered. Urban design issues considered in the area include infrastructure and connectivity, built form and urban grain, building heights, mass and scale, views and landmarks, these considerations have shaped the content of the urban design strategy (Chapter 9). Existing land use and land with potential for re-development has been considered including possible phasing of re-development. Considerations regarding the potential quantum of development identified has informed the Transport Interventions (Chapter 11) and the Development Capacity Study (Chapter 10)

APPENDIX 3 - TRANSPORT AND MOVEMENT CONTEXT

Highlights the existing highway and public transport networks that are currently a key development constraint to growth in the regeneration area. The section considers the existing context regarding the highway network including stress points, underground, rail, buses, and riverboat, cycling, and walking. This section and the transport study informed the proposed transport interventions in chapter 11.

APPENDIX 4 - THE PRINCES FOUNDATION WORKSHOP CONSULTATION REPORT

Full details of the consultation workshops and their outcome.

APPENDIX 5 - DELIVERY AND INFRASTRUCTURE FUNDING STUDY (DIF)

CHAPTER FOUR | Contextual Overview

4.1 SOCIO ECONOMIC CONTEXT

4.1.1 The South Fulham Riverside regeneration area is located in the southern part of the Sands End ward. This ward provides the social and economic context for the regeneration area (Fig.2.1). Sands End ward is predominantly an area of terraced residential dwellings, as well as a number of post-war housing estates. At the time of the 2001 census about 45% of households in Sands End ward were owner occupiers, which is similar to the borough average but is much lower than the West London average of 60% owner occupation.

Since 2001, there is evidence to indicate that the proportion of houses and flats that are owner occupied may have decreased and the proportion of privately rented dwellings may have increased (H&F Housing Market Assessment: Section 10. Dec 2012).

In addition to significant numbers of private rented dwellings, there are a number of large housing estates in the ward with predominantly social rented accommodation. Almost 35% of the housing stock in Sands End is social rented housing, compared to 33% in the borough as a whole and 21.5% in West London. Of the 16 wards in the borough, Sands End ward ranks 6th in terms of the percentage of social rented housing and in the top half in relation to the number of social rented housing units (1,540).

Sands End ward is relatively deprived compared to other areas of the borough, particularly in relation to 'employment' and 'income'. Sands End ward has the 3rd highest proportion of households with an income of less than £20k pa (CACI Paycheck data 2010).

Despite being a relatively deprived ward, average property prices in the housing market in 2009 was £571,200. This was the fourth highest average property price amongst all H&F wards and 6% higher than the borough average of £540K. Average rentals for a two bedroom flat are £350-500 per week

4.1.2 Sands End has the third highest number of registered businesses in the borough (936) with a relatively large number of employees (6,200) in 2008. Some major employers include Sainsbury, St George, Conrad Hotel, Harbour Club, Laura Ashley and Jane Shilton. There is a high proportion of resident working age population in receipt of any of the key benefits with 14.7% same as the Borough as a whole.

4.1.3 Educational attainment of pupils in schools is slightly higher compared to the Borough average. There are two primary schools, one referral unit and one secondary school in the Sands End ward as well as two independent schools. In terms of early years education there are two state maintained nursery classes, a nursery in St Thomas's independent school and six private nurseries. The latest Child Sufficiency Assessment (CSA) identified a shortage of places for under 2s across the borough. Within the ward the identified gap in provision is for affordable childcare spaces for parents on a low income wishing to return to work.

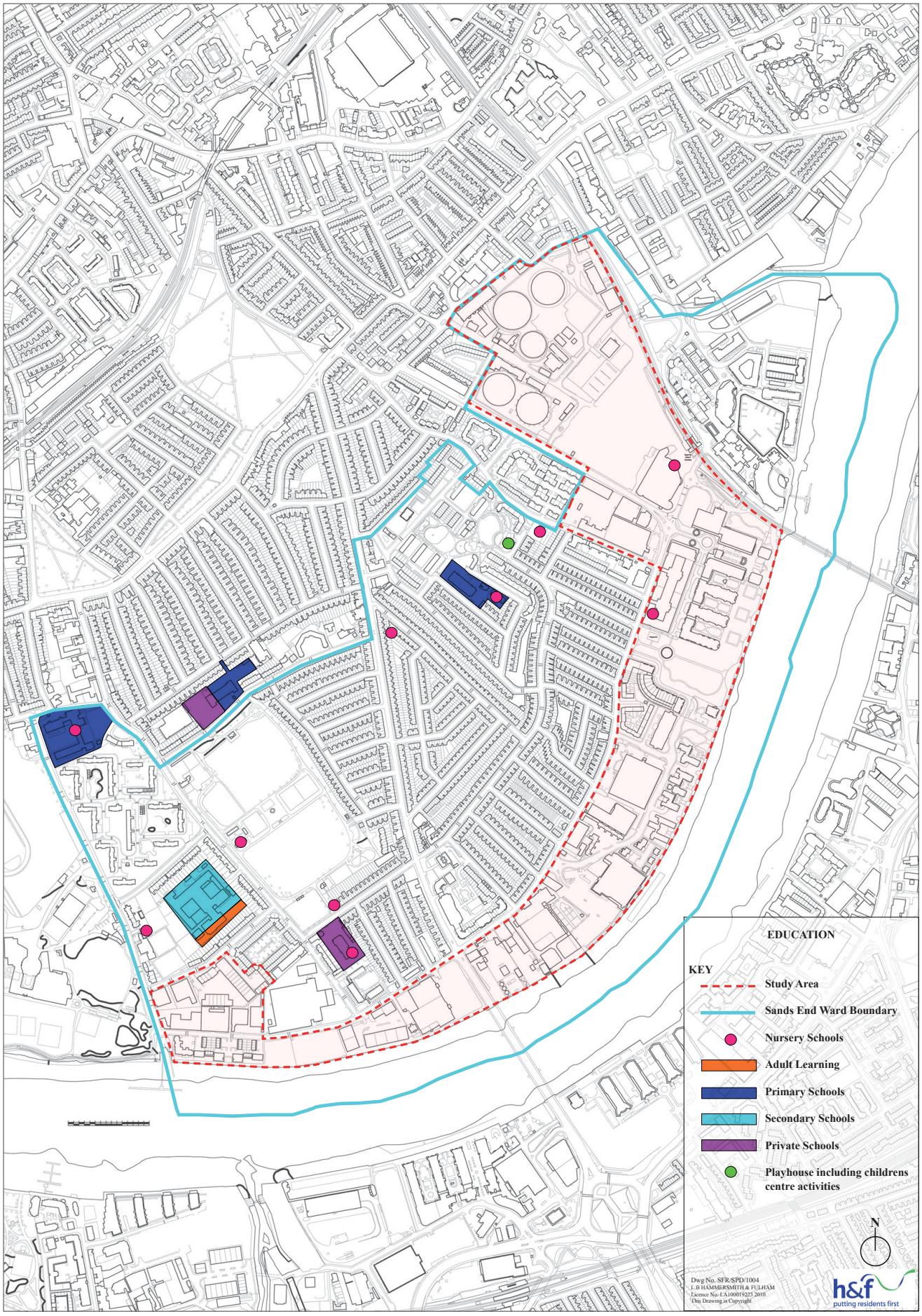
(See Figure 4.1: Location of Schools)

4.1.4 The number of deaths from all causes is lower in Sands End ward than in the Borough as a whole. Sands End ward has a newly refurbished Primary Care Centre (Sands End Clinic) on Wandsworth Bridge Road with additional space for district nurses, school nurses and health visitors.

4.1.5 The Sands End Community centre has now closed and services have been relocated to alternative venues within the ward. Hurlingham and Chelsea School has become a community hub with library services and adult/family learning. There are three youth clubs in the Sands End Ward one at Townmead Youth Club, St Michaels Centre managed by two Fulham churches the other two are commissioned by the Council, a community based project operated by the Harrow Club and a school based project at Hurlingham and Chelsea School. There are numerous community halls in the Sands End Ward.

4.1.6 Regarding access to shopping areas the Borough's Core Strategy aims for residents to be in walking distance of 400 metres from a Town Centre, Key Local Centre, Neighbourhood Parade or Satellite Parade to ensure access to a range of facilities. The far west and far east of the regeneration area fall short of this requirement.

Figure 4.1: Location of Schools



4.2 PHYSICAL CONTEXT

4.2.1 The South Fulham Riverside regeneration area is located in the south of the borough next to the River Thames. It is bounded in the west by Broomhouse Drawdock and the grounds of the Hurlingham Club and in the east by the West London Line embankment and Cremone Railway Bridge. The northern boundary generally follows the line of Carnwath Road and Townmead Road extending along Imperial Road incorporating the National Grid site. The area has a south facing river frontage of 1,700 metres and the sweeping curve of the river is a particularly important feature defining the character of the area.

4.2.2 Historical development of the area

The riverside area was originally part of the Town Meadows in the Fulham area that consisted of open land dissected by creeks and was liable to flooding. The riverside area was gradually developed through the 1890s taking advantage of the river frontage and was a fully developed industrial area by 1916. A ready supply of water and the ease of delivery of raw materials, particularly coal by river and rail made Sands End a convenient industrial location for warehouses, factories, breweries, oil storage, chemical production and power generation. By 1916 extensive residential areas to the north of the study area were also complete occupied by workers in the riverside industries. The land within the study area remained predominantly in industrial use until the 1980s when the decline of traditional industries led to the dereliction and clearance of many riverside sites.

4.2.3 Heritage Assets

The majority of the study area lies within the Sands End Conservation Area, while part of the north east section is included within the Imperial Square & Gasworks Conservation Area. There are a number of listed buildings in the gas works site that are Grade II listed which include No 2 Gasholder, the office building and research labatory of the former Gas Light and Coke Company and Fulham Gas Works War Memorial. The Cremone Bridge, also known as Battersea Railway Bridge was recently listed at Grade II*. The regeneration area also contains a number of buildings on the Local Register of Buildings of Merit (BoM). These are Fulham Wharf warehouse, the electricity substation on Townmead Road, No 7 gasholder on the gas works site, Broomhouse Drawdock and five sets of bollards near Sainsbury's. An evidence base of heritage assets and a full character analysis is contained within Appendix 2.

4.2.4 Archaeology

There are currently two Archaeological Priority Areas (APA) within the study area. At the western end the Broomhouse APA has the potential for discoveries from a medieval possibly Saxon settlement. The gas works site partly lies in the Sandford Manor APA which relates to the curtilage of a medieval manor house. The River Thames, its foreshore and the riverside has significant potential to yield archaeological finds and the site of the former Imperial Gas Works also has significant interest on account of its industrial archaeology. Buildings, places and sites positively identified as having significance in terms of archaeological interest are considered to be heritage assets.

4.2.5 Open Space and Play Space

The study area is in proximity to two large areas of open space, Hurlingham Park (7.9 hectares) to the west and South Park (8.0 hectares) to the north. William Parnell Park (1.03 hectares) is located to the north of the regeneration area, there is also a new riverside park Imperial Wharf Park (2.4 hectares) on Townmead Road that adjoins the Thames Path. There is also a new area of open space on the eastern boundary of the regeneration area Imperial Wharf Railway Parkland (0.2 hectares) as well as Sands Wharf open space (0.2 hectares) next to the riverside and Regent on the River The regeneration area is deficient in access to local parks in the gasworks area and around Carnwath Road. All parks within and around the regeneration area have a publically accessible children's play space. The area is deficient in playgrounds for 0-8 year olds especially around the gas works site and Carnwath Road.

Figure 4.2: Imperial Wharf Park

Figure 4.3: Comleys Wharf

4.2.6 Nature Conservation.

The River Thames (including its foreshore, draw docks and inlets, including Chelsea Creek) is designated as a Nature Conservation Area of Metropolitan Importance however there is limited access to it. The former British Gas Pond at the end of Chelsea Creek, rail side habitats along the West London line and Hurlingham Club Grounds are designated areas of Grade 1 Borough wide importance. South Park is designated as an area of local importance.

4.2.7 Thames Path

The Thames Path is an important feature in the borough and it is a key borough objective to have an uninterrupted path alongside the river. Within the regeneration area there are currently two incomplete sections of the river walk, these occur predominantly where there are safeguarded wharves (Hurlingham, Swedish and Comleys wharves) and adjoining non safeguarded wharves (Whiffin and Albert).

4.2.8 Safeguarded Wharves

Comleys, Swedish and Hurlingham wharves are subject to wharf safeguarding policy in the London Plan which protects these wharves for cargo handling uses. All three wharves are subject to a direction that requires the local planning authority to refer all planning applications to the Mayor of London prior to a decision being taken on them. Of the three safeguarded wharves only one (Comleys Wharf) currently uses the river for freight movements. Swedish Wharf is in use as an oil storage depot but does not currently use the river for transport. Hurlingham Wharf has been vacant since 1997.

4.2.9 Hazardous Substances

There are three sites within the regeneration area identified by the Health and Safety Executive (HSE) as major hazards; these are Swedish Wharf and Fulham North and South Holder Stations, Townmead Road. Whilst they are subject to stringent controls under existing health and safety legislation it is important to control the kinds of development permitted in the vicinity of these installations. Compliance with Council Directive 96/82/EC on the control of major-accident hazards involving dangerous substances is also required.

4.2.10 Infrastructure and Connectivity

Within the study area, existing industrial/ commercial and vacant sites, due to their nature and large footprint, currently prevent physical and visual access to the river from the hinterland creating a largely impermeable barrier to the riverside and Chelsea Creek. Where there are existing connections from the riverside walk to the hinterland these are largely unattractive and not always obvious.

Figure 4.4: Access to the river from Carnwath Road

4.2.11 Built Form and Urban Grain

The area north of the regeneration area is characterised by predominantly two storey terraced housing in long comparatively narrow streets which has created a fine urban grain. This contrasts with the development within the regeneration area where the predominantly commercial development has been characterised by larger building plots with no clear arrangement or street pattern. Appropriate and carefully designed redevelopment of vacant and underused sites could improve connectivity and provide vistas and high quality links that invite pedestrians to access the river walkway.

4.2.12 Building Heights, Mass and Scale

To the west of Wandsworth Bridge Road building heights are significantly lower than those found to the east of the bridge reflecting the amount of vacant and underused land. Commercial buildings are two or three storeys in height, whilst the residential buildings are generally three or four storeys, a notable exception is the Piper Building which is seven storeys high (based on commercial floor to ceiling heights) and forms a significant element of massing in the street scene. To the east of Wandsworth Bridge there are a variety of building heights across the retail, industrial and leisure uses that exist ranging from the single storey Sainsbury's store to the derelict Fulham Wharf buildings that form particularly large elements of massing in the street scene. The residential development Regent on the River is substantial in height and consists of three similar nine/ten storey blocks, this height continues with the riverside blocks of Imperial Wharf which rise to twelve storeys in places. Imperial Square and the buildings at the gas holder's site have a contrasting mass and scale to each other with the two storey cottages on Imperial Square dominated by the bulk and height of the gas holders.

4.2.13 River Edge Definition

An examination of the wider LBHF and Wandsworth riversides reveals a legacy of larger scale buildings that respond successfully in height to the width of the river and create strong edge definition and a comfortable relationship with the riverside walk. Mansion blocks of apartments and wharf buildings have historically lined the rivers edge and lower scale buildings of between 2 and 3 storeys were and still are typical of the hinterland behind them.

6 storey Victorian Mansion Blocks at Hurlingham Court and 8 storey mansions at Rivermead Court are typical of the historic scale of riverside development on the LBHF side. 7 storey Mansions on Lower Richmond Road and 6 Storey Mansions of Kenilworth Mansions, show the same historic pattern on the Wandsworth side of the river with areas of 2/3 storey Victorian development still remaining behind them.

Some modern developments such as the 7 storey apartments at Mendip Court and Prospect Quay have achieved a similar successful response to the scale of the river. There are also many examples of buildings of less than 7 storeys which have achieved a less successful response to the scale of the river and only provide weak definition for the rivers edge.

It is apparent that some buildings which respond well to the scale of the river in terms of height respond better than others of similar height where their roofline and the articulation of their facades creates visual interest and softens the impact of their scale. The size of gaps between buildings and their massing behind the river facade also has an impact on their relationship with definition of the river's edge and their combined mass in views must be considered.

Figure 4.5: Hurlingham Court and Rivermead Court blocks lining the river's edge

4.2.14 Views and Landmarks

The River Thames forms a key part of the character of the study area and views from Wandsworth Bridge up and downstream of the river are important views. The Sands End Conservation Area Character Profile emphasises the importance of views of and along the riverbank and that new development should open up views of the River Thames. Wandsworth Bridge is identified as a landmark within the Conservation Area and the Belvedere Tower in views out of the Conservation Area. Cremone

Bridge is a significant landmark in views along the River Thames. Gasholders and other listed buildings on the former Imperial Gas Works site are landmarks important to the character and appearance of the Imperial Square and Gasworks Conservation Area.

Figure 4.6: National Grid Site

4.2.15 Land Use

Several sites at the east end of the long riverside frontage have been developed either as part of the mixed use residential led Imperial Wharf development which includes a new riverside park or as part of the Regent on the River housing scheme. At the far west of the regeneration area the Petrofina Wharf site was redeveloped for housing in the 1990s. The remaining riverside sites in the central section were formerly primarily in commercial use which reflects their previous employment zone designation. Derelict buildings, vacancy and underuse characterise the area which has led to a neglected run down feel about the area. The gasworks site contains a mixture of commercial offices and various uses associated with the supply and storage of gas and east of Imperial Road much of the land is being developed for a residential led scheme as part of the Imperial Wharf development. The amount of vacant land is high which can be attributed to the changing character of the area from the traditional riverside industrial and warehouse uses to the most recent introduction of residential and leisure uses. Land Use is shown in Figure 4.8

4.2.16 Land with potential for redevelopment

As can be seen from Figure 4.9 the regeneration area consists of many small parcels of land (although there are some larger ones) which equates to relatively fragmented land ownership. The redevelopment of a number of keys sites has been assumed as a basis for the Development Capacity Study, Transport Study, Social Infrastructure and DIF Studies (Chapters 10, 11,

Figure 4.7: Petrofina Wharf

12 and 14). These sites are highlighted in blue, and orange on Figure 4.9 and amount to 21.8 hectares of land. This selection of sites is broadly similar to those included in the Strategic Housing Land Availability Assessment (SHLAA) that was used to inform the Core Strategy although some of these sites within the SHLAA were considered unlikely to come forward for development during the plan period due to significant site constraints. The role of the SPD is not allocating sites for development but to consider where development might be proposed.

The orange land represents four sites that occupy 8.1 hectares of the regeneration area where planning permission has recently been granted and hence redevelopment proposals are well advanced.

The blue land represents sites that occupy the remaining 13.7 hectares. As a result of pre application discussions held with landowners/ developers it is anticipated that these sites could come forward for redevelopment during the 20 year lifespan of this SPD although some have constraints to resolve before they can be developed. Within the Development Capacity Study, Transport Study, Social Infrastructure and DIF Studies (Chapters 10, 11, 12 and 14) these sites have been phased over 0 -10 and 10 -20 to try and more accurately predict the impact of their development on the regeneration area however this is a rough estimate that will need to be regularly reviewed.

It is possible that sites not identified in figure 4.9 may well come forward for redevelopment during the plan period.

(See Figure 4.9: Key sites linked to the Development Capacity Study, Transport Study, Social Infrastructure and DIF Studies (Chapters 10, 11, 12, and 14).

(See Figure 2.18 in Appendix 2 for "Current Use and Ownership of sites in South Fulham Riverside Regeneration Area)

Figure 4.8: Land Use

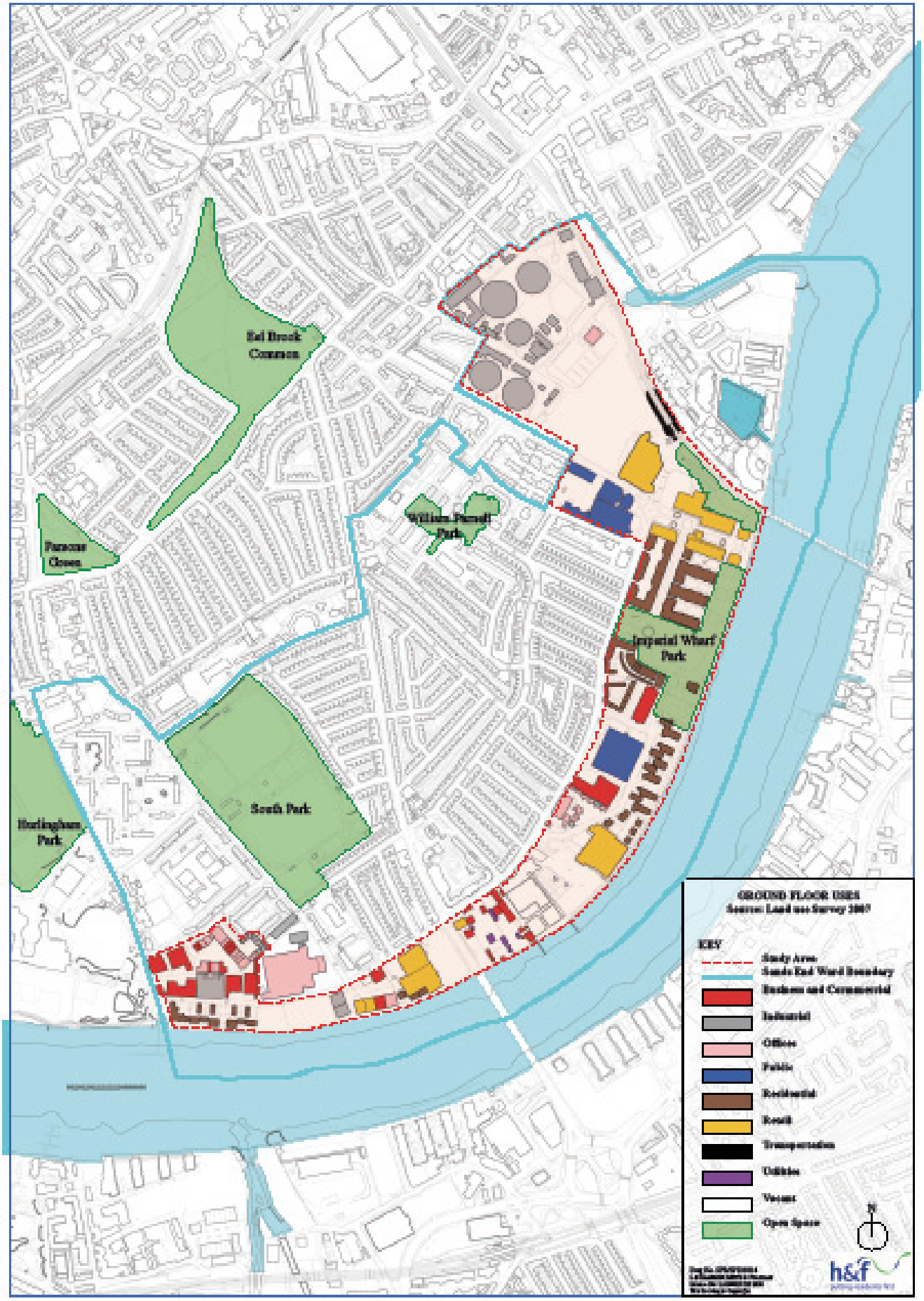


Figure 4.9: Key sites linked to the Development Capacity Study, Transport Study, Social Infrastructure and DIF Studies (Chapters 10, 11, 12, and 14).

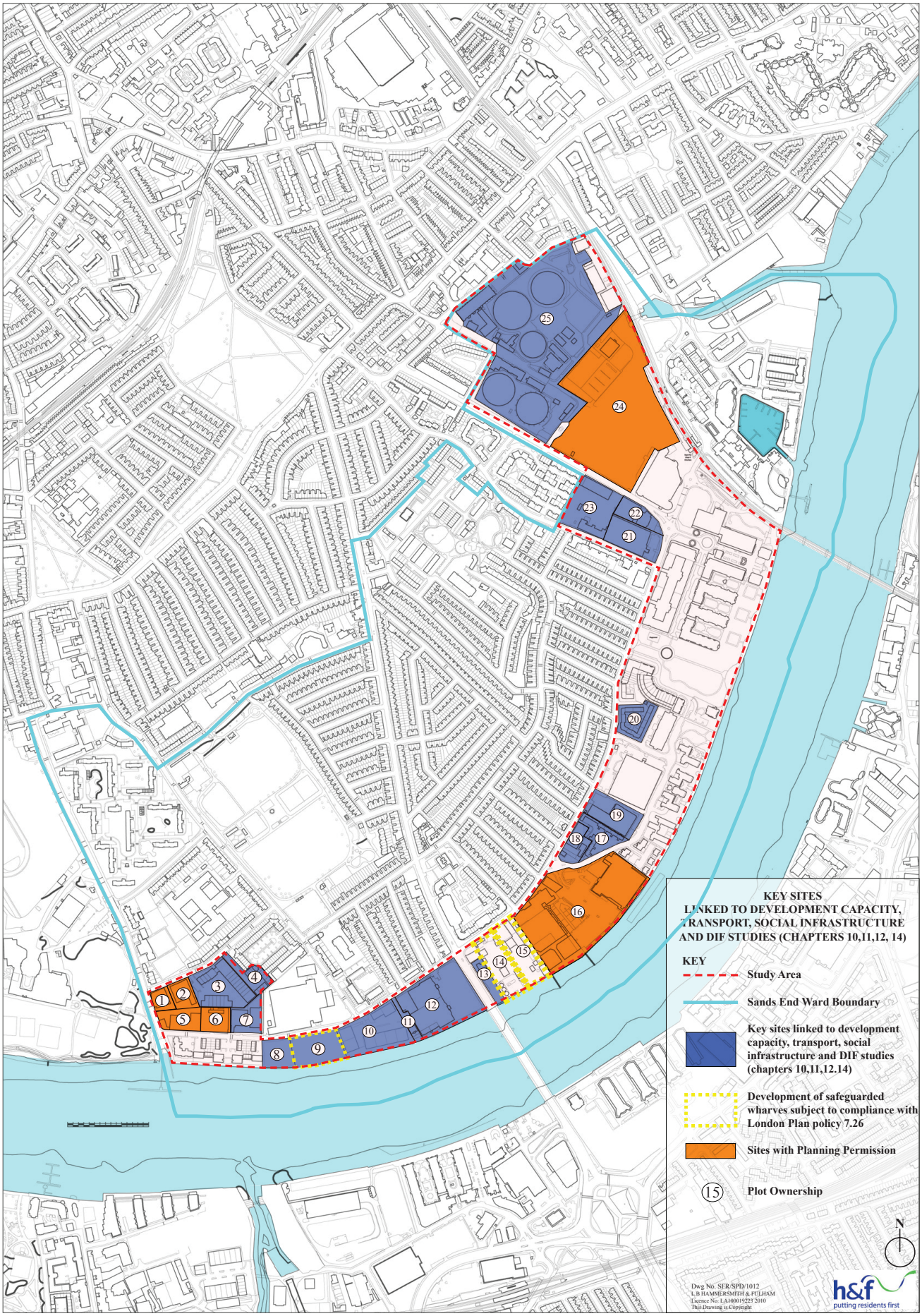


Figure 4.10: Carnwath Road Industrial Estate with the Piper Building behind

Figure 4.11: Comleys & Fulham Wharves

Figure 4.12: Regent on the River

4.3 TRANSPORT AND ACCESSIBILITY CONTEXT

4.3.1 Transport Overview

One of the key development constraints of the area is the existing highway and public transport networks. The area currently has a Public Transport Accessibility Level (PTAL) broadly ranging from 2 to 4 as shown in figure 4.13. There has been significant recent investment in a new rail station (Imperial Wharf) which is served by both TfL Overground and Southern (National Rail) services. Furthermore, there are numerous bus routes serving the area and beyond. Only Wandsworth Bridge provides vehicle and pedestrian access across the River Thames into Wandsworth Borough , consequently highway capacity is limited. Many of the junctions in the area operate close to capacity and rat running is prevalent to avoid delays on the existing Strategic Road Network

Significant funding will be required for any additional connections and improvements to sustainable networks and highway network capacities which will be obtained through redevelopment of the area.

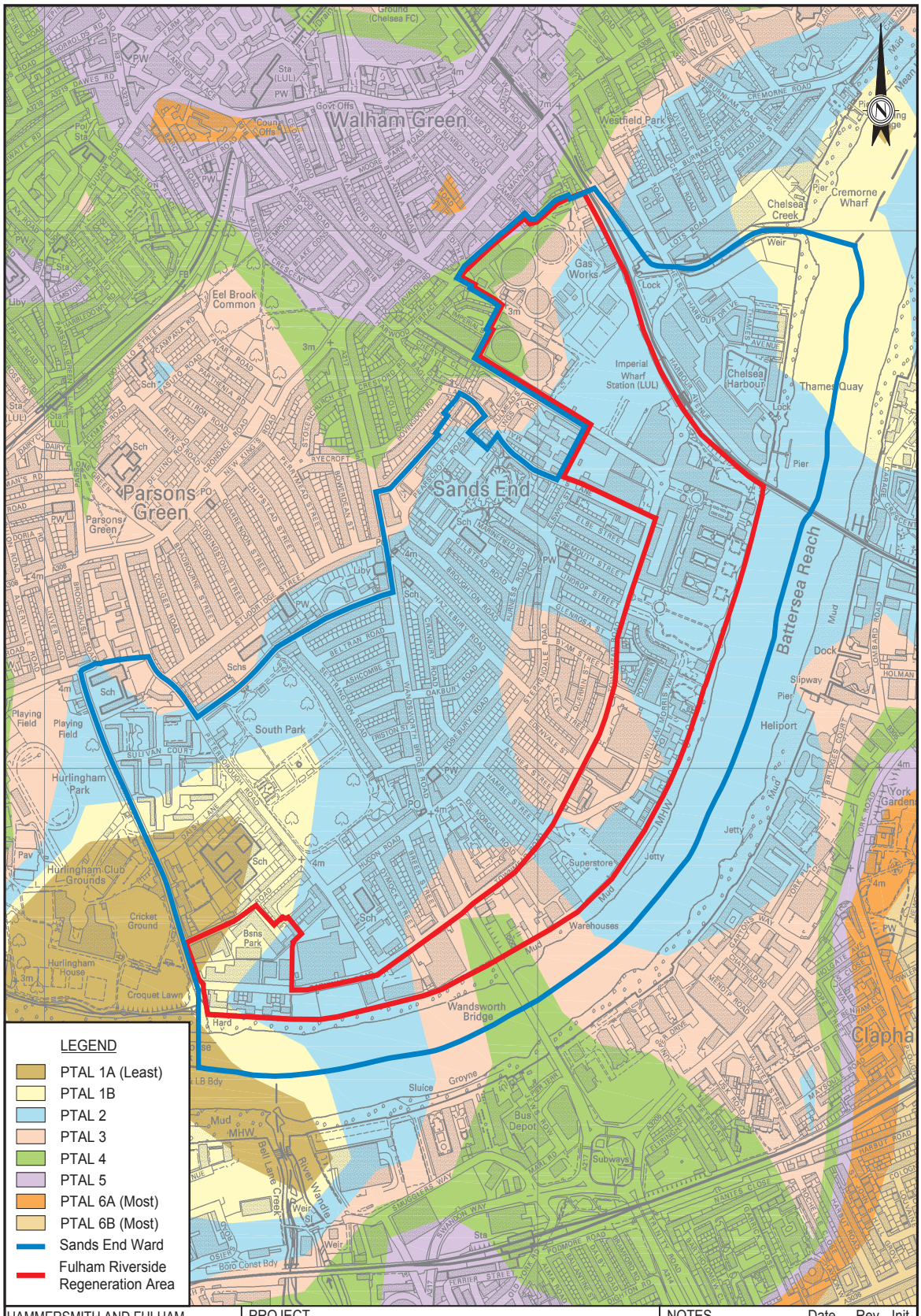
4.3.2 Highway Network

There are two strategic roads that serve the area, Wandsworth Bridge Road and New Kings Road. These routes carry substantial through traffic and are key arteries into and out of Central London. See Figure 3.1 in Appendix 3 which shows the existing traffic flows on the key links for the highway network in and around South Fulham Riverside.

Due to congestion on the strategic road network many motorists use local roads in particular Townmead Road and Imperial Road to the east and Carnwath Road, Broomhouse Lane and Peterborough Road to the west. Townmead Road, Imperial Road, the northern end of Bagley's Lane and Harwood Terrace are currently classified in the UDP as "Local Access Roads" which retain an essential through traffic function in the short to medium term. The key junctions within the study area which are considered to be the principle stress points within the network, are as follows and illustrated in Figure 4.15

- New Kings Road/Wandsworth Bridge Road/ Bagley's Lane/Harwood Road;
- Townmead Road / Carnwath Road / Wandsworth Bridge Road;

Figure 4.13: 2012 Public Transport Accessibility (PTAL))



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Scale	Original Sheet Size
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DWG No.	Revision	Date
18341/35/1	B	AUG.'08

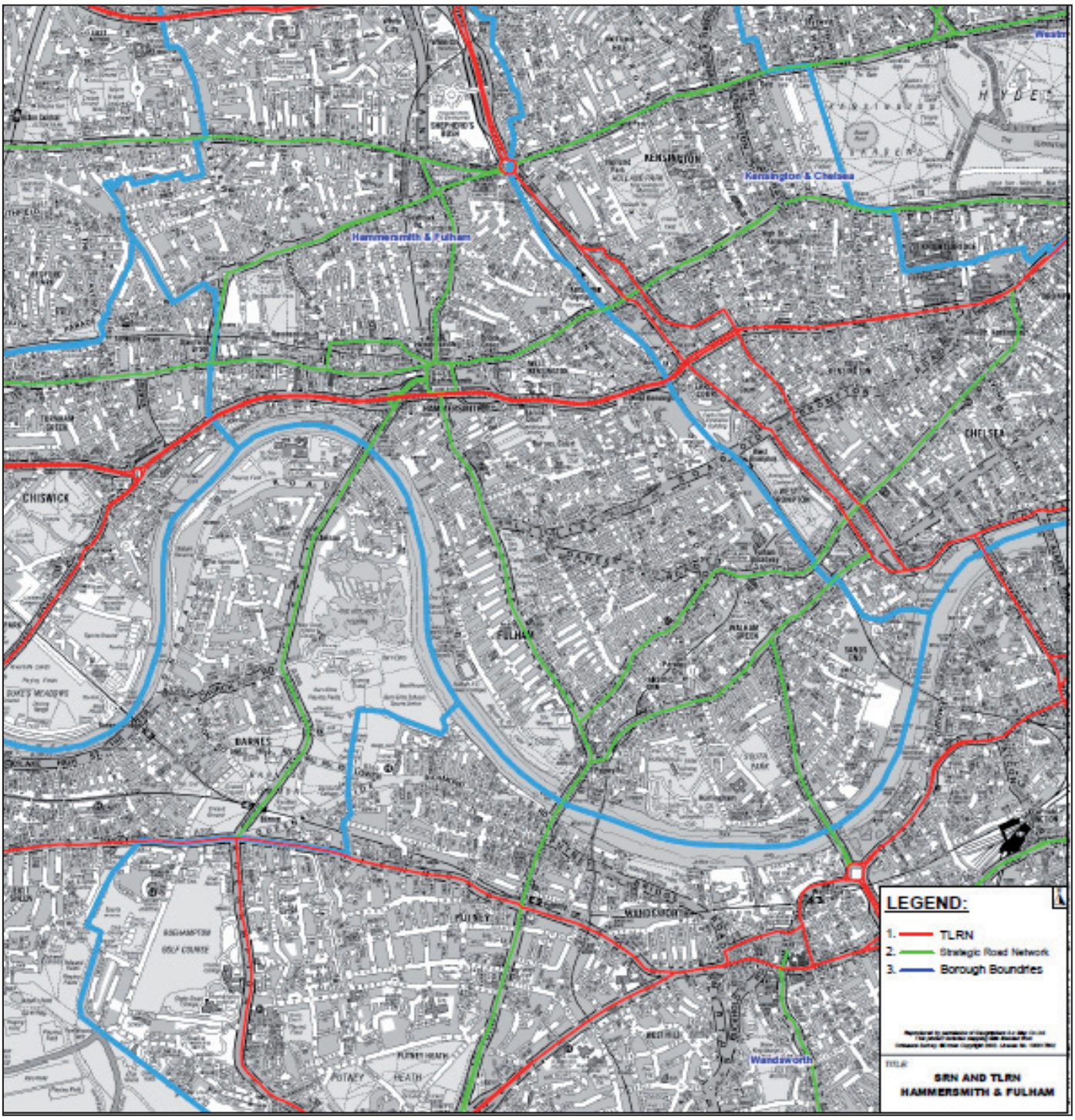
PROJECT

FULHAM RIVERSIDE REGENERATION AREA
PUBLIC TRANSPORT ACCESSIBILITY LEVELS

NOTES	Date	Rev	Init
PTAL updated to 2010	SEP.'10	A	WAS
PTAL updated to 2012	SEP.'12	B	WAS

FS 32265

Figure 4.14: Strategic Road Network



- Peterborough Road/Carnwath Road;
- Edith Row/New Kings Road

See Figure 4.15: Existing stress points on the highway network

4.3.3 Underground

There are no underground stations within the study area. The nearest are Fulham Broadway to the north, Parsons Green to the north-west and Putney Bridge to the west which exceed the 960 metres or 12 minute walk assessment to rail stations as used for the PTAL calculation.

All three stations are served by the District Line (Wimbledon branch). The Wimbledon branch line has a typical peak hour frequency of one train every 4 minutes. The line currently experiences peak time congestion particularly at Fulham Broadway and West Brompton encountering the worst of this congestion during the morning peak. See figures 3.3 and 3.4 in Appendix 3 showing the degree of existing saturation for the Wimbledon Branch Line and the crowding levels on the underground network for the Am busiest peak.

Figure 4.15: Existing stress points on the highway network (size of circle indicates the degree of congestion)

TFL introduced improvements to the Wimbledon branch Line branch in December 2011 which have provided measurable improvements which will be discussed in detail within Chapter 11.

4.3.4 Rail

The opening of the Imperial Wharf West London Line station in 2009 has improved accessibility to the east of the regeneration area with a resulting increase in PTAL levels in proximity to the station due to the decreased distance and increased frequency of rail services . The line is served by London Overground and Southern railway Services to destinations including Clapham Junction, Willesden Junction and Stratford. See figure 3.2 in Appendix 3 for a map showing the existing underground and rail networks to/from the area. Wandsworth Town and Clapham Junction Stations are situated within a 20 minute bus ride from the regeneration area.

4.3.5 Bus Network

There are five daytime bus routes and one night bus that serve the study area, see Figure 3.6 and 3.7 in Appendix 3 showing the bus routes and service frequencies serving South Fulham Riverside. Due to the nature of traffic flow in the area and narrow roads, bus journey times in the area can be adversely affected by congestion.

The majority of bus routes serve the north eastern section of the study area. It should be noted that delays occur at the junction of Wandsworth Bridge Road, Carnwath Road and Townmead Road as well as Bagley's Lane and New Kings Road. Travel data from the area indicates that bus usage is the primary public transport mode as 29% of all trips taken are by bus. Buses are considered a key public transport mode where improvements may bring significant benefits. The Council will work closely with TFL on planning and implementing bus service enhancements within the Study Area.

4.3.6 River Boat

There is an existing river boat service from Chelsea Harbour Pier (eastern boundary of the regeneration area) running to Blackfriars (25 – 40 minute journey time). This operates limited services during the AM and PM peak; see figure 3.8 and 3.9 in Appendix 3 showing the river boat route and service frequency information. Travel data from the area indicate that river boat usage is currently very low with 0.5% modal share usage which may not be helped by the fact that the operators of the riverboat service changed in January 2012 and a new timetable has resulted in a reduced service with only 3 boats in the AM instead of 6 to central London. There is only 1 boat westbound in the AM instead of 4 previously. The new service does not run eastbound in the PM although the PM westbound service is the same.

4.3.7 Cycling

Townmead Road is part of a recommended local route which passes through the Chelsea Harbour barrier which leads into the Royal Borough of Kensington and Chelsea; see figure 3.10 in Appendix 3 showing the cycle routes in and around South Fulham Riverside Townmead Road is not ideal for cyclists due to its narrow width and busy through traffic. Through regeneration of the area, the Council is seeking a continuous riverside walk along the River Thames in South Fulham as part of the Thames National Path which will provide an uninterrupted route for pedestrians and cyclists.

There is also an existing cycle route, on segregated lanes, over Wandsworth Bridge and along Wandsworth Bridge Road, connecting the area to Putney and beyond. Through the regeneration additional formal cycling routes will be secured and existing routes enhanced to encourage more people to cycle in order to achieve the cycling targets set by the Mayor of London. See figure 3.11 in Appendix 3 showing the cycle times to local stations.

The London Cycle Hire Scheme is being expanded into the London Borough of Hammersmith and Fulham which provide additional cycling benefits to the area and aid in securing the proposed enhancements.

4.3.8 Walking

Accessibility is compromised by barriers resulting from major roads, rail transport corridors, the river and land use patterns which serve to reduce connectivity and legibility through the area. The Thames Path, which runs through the study area from Hurlingham Park to Chelsea Creek, is part of the strategic Thames Path National Trail.

At various points the Thames Path is disconnected from the river and varies in quality along the route. Apart from Wandsworth Bridge there are no pedestrian links to or from the south side of the Thames. See Appendix 3.12 showing the walking times to local stations from South Fulham Riverside. The junction at Wandsworth Bridge / Townmead and Carnwath Roads provides a barrier to pedestrians with limited pedestrian priority, compounded by significant volumes of traffic. A high quality public realm in the area is fundamental to encouraging more and longer walking journeys.

CHAPTER FIVE | Planning Policy

Key issues of relevance from a policy analysis are detailed below.

5.1 NATIONAL POLICY

5.1.1 National Planning Policy framework (NPPF)

The Government published a National Planning Policy Framework on the 27th March 2012. It seeks to streamline national planning policy into a consolidated set of priorities to consider when planning for and deciding on new development.

The NPPF is designed to help ensure that planning decisions reflect genuine national objectives, such as the need to safeguard the natural environment, combat climate change, and to support sustainable local growth, while allowing for local authorities and communities to produce their own plans, reflecting the distinctive needs and priorities of different parts of the country. The Framework makes clear that local councils should be positive and proactive in encouraging sustainable growth and addressing barriers to investment. They should set a clear economic vision and strategy for their area based on understanding of business needs across their areas.

5.1.2 National policy statement (NPS) Waste water

This NPS sets out Government policy for the provision major waste water infrastructure. It will be used by the decision maker as the primary basis for deciding development consent applications for waste water developments that fall within the definition of Nationally Significant Infrastructure Projects (NSIP) as defined in the Planning Act 2008.

5.2 REGIONAL POLICY

5.2.1 The key principles and policies encapsulated in the London Plan of relevance to the Study Area are as follows: -

PLACE-SHAPING
Chapter 7 of the London Plan is particularly relevant to the study area. It includes policies on how people use the places they live work and visit and focuses on the function of neighbourhoods, design, local character and specifically the blue ribbon network.

Policy 7.1 (Building London's neighbourhoods and communities) states that development should be designed so that the layout, tenure, mix of uses interface with surrounding land will improve people's access to social and community infrastructure (including green spaces), the Blue Ribbon Network, local shops, employment opportunities, commercial services and public transport.

Policy 7.2 (An inclusive environment). The Mayor will require all new development in London to achieve the highest standards of accessible and inclusive design.

Policy 7.4 (Local Character) Development should have regard to the form, function and structure of an area, place or street and the scale, mass and orientation of surrounding buildings. It should improve an area's visual or physical connection with natural features.

Policy 7.5 (Public Realm) Developments should make the public realm comprehensible at a human scale, using gateways, focal points and landmarks to help people find their way.

Policy 7.7 (Location and design of tall and large buildings) Tall and large buildings should be part of a plan-led approach to changing or developing an area by the identification of appropriate, sensitive and inappropriate locations, and should not have an unacceptably harmful impact on their surroundings.

HOUSING
Policy 3.3 (Increasing housing supply) replicates the stance of previous London Plan policy 3A.2 by encouraging mixed use development of surplus commercial capacity. The target for Hammersmith and Fulham is now 615 homes per annum.

Policy 3.4 (Optimising Housing Potential) seeks to optimise housing in accordance with local context and density parameters within table 3.2 of the London Plan.

LOSS OF INDUSTRIAL PREMISES
Policy 4.4 (Managing industrial land and premises) adopts a more rigorous approach to industrial land management to ensure sufficient stock of industrial land and premises is available to meet future needs. It states that the mayor will work with boroughs to plan, monitor and manage the release of surplus industrial land to help meet strategic and local requirements for a mix

of other uses such as housing and, in appropriate locations, to provide social infrastructure and to contribute to town centre renewal.

Hammersmith and Fulham is identified as within the "restricted transfer" of industrial land in map 4.1 of the London Plan.

BLUE RIBBON POLICIES
Policy 7.24 (Blue Ribbon Network) states that the Blue Ribbon Network should contribute to the overall quality and sustainability of London by prioritising uses of the water space and land alongside it for water related purposes, in particular for passenger and freight transport. Regard should be paid to the emerging Thames River Basin Management Plan.

Policy 7.25 (Increasing the use of the Blue Ribbon Network for passengers and tourism) is relevant regarding the use of the Blue Ribbon Network for passenger and tourist river services.

Policy 7.26 (Increasing the use of the Blue Ribbon Network for freight transport) is particularly relevant to the study area due to the presence of 3 safeguarded wharves. In this policy the Mayor seeks to increase the use of the Blue Ribbon Network to transport freight. The policy also states that the redevelopment of safeguarded wharves for other land uses should only be accepted if the wharf is no longer viable or capable of being made viable for water-borne freight handling, (the criteria for assessing the viability of Wharves are set out in paragraph 7.77). The policy goes on to state that development proposals that are adjacent or opposite safeguarded wharves should be designed to minimise the potential for conflicts of use and disturbance.

The Mayor has stated in Para 7.76 that the safeguarding of wharves will be reviewed and updated approximately every 5 years. On 7th October 2012 the Mayor commenced consultation on the results of the latest Safeguarded Wharves Review.

On 24th April 2012 the Secretary of State for Communities and Local Government (DCLG) served a Safeguarding Direction on Hurlingham and Whiffin Wharves preventing the granting of planning permission on these sites without specific authorisation from DCLG. This direction will be reviewed in March 2013.

5.2.2 Mayor's Housing SPG (November 2012)

The Mayor published the Housing SPG in November 2012 which sets out guidance to supplement policies in the London Plan (2011)

5.3 LOCAL POLICY

5.3.1 Core Strategy (adopted October 2011)

REGENERATION AREA POLICY
Core Strategy Strategic Policy SFR for South Fulham Riverside is as follows:

Development in the area will be expected to take place on the following basis:

- Most development sites should be developed for predominantly residential purposes and contribute to the South Fulham Riverside target of 2,200 additional dwellings by 2032;
- 40% of new housing should be affordable with an emphasis on forms of intermediate housing in accordance with Strategic Policy H2;
- Employment based uses that are compatible with residential use will be required in the most accessible parts of the area, particularly in the vicinity of Imperial Wharf Station; The Core Strategy has an indicative new jobs target of 300 – 500 new jobs
- River related uses will be encouraged where they are compatible with the objectives of the policy;
- The riverside should be opened up to public use with continuation of the Thames Path National Trail (riverside walk) and provision of open spaces and leisure uses that create interest and activity, and opportunities taken for educational and leisure use of the river; and
- Improvements to existing major retail stores in the area and their surface level car parks will be encouraged to secure visual improvements and better permeability through to the River Thames, where this would form part of comprehensive mixed use regeneration. No new additional major stores should be constructed, but new shopping for day to day needs and other uses to create activity can be provided.

On the riverside, especially, a very high standard of urban design will be necessary, together with linkages to the river and riverside walk. In some locations higher buildings may be considered, if it can be demonstrated that a taller building would be a key design element in a master plan for regeneration and that it would have a positive relationship to the riverside. All new development should create a high quality urban environment and accord with the urban design principles of the Borough-wide Strategic Policy on the Built Environment – BE1.

All developments must be acceptable in terms of their transport impact and will be expected to contribute to any necessary improvements to public transport accessibility and highway capacity in the area. The extension of the river bus service will be encouraged if feasible.

HOUSING
Policy H1 (Housing supply) states that the council will work with partner organisations and landowners to exceed the London Plan target of 615 additional dwellings a year up to 2021 and continue to seek at least 615 additional dwellings a year up to 2031. This policy outlines the methods by which new homes will be achieved and of relevance to the study area is the objective to develop windfall sites and change the use of buildings where land and premises are shown to be surplus to the requirements of other land uses.

Policy H3 (Housing quality and density) states that the council will expect all housing development to respect the local setting and context, provide a high quality residential environment, be well designed and energy efficient.

LOCAL ECONOMY AND EMPLOYMENT
Policy LE1 (Local Economy and Employment) seeks to retain premises capable of providing continued accommodation for local services or significant employment unless for example, it can be satisfactorily demonstrated that the property is no longer required for employment purposes.

RIVER THAMES AND GRAND UNION CANAL
Policy RTC1 (River Thames and Grand Union Canal) states that the council will work with partner organisations and landowners to enhance and increase access to, as well as use of, the waterways in the borough. The policy indicates that there will be a planning framework for South Fulham Riverside Regeneration Area and that there will be a presumption against tall buildings along the waterways. However, the policy does indicate that tall buildings may be appropriate in limited parts of South Fulham Riverside Regeneration Area if it can be demonstrated that a tall building would be a key design element in a master plan for regeneration and that it would have a positive relationship to the riverside.

BUILT ENVIRONMENT
Policy BE1 (Built Environment) states that all development in the borough, including in the regeneration areas should create a high quality urban environment that respects and enhances its townscape context and heritage assets. There should be an approach to accessible and inclusive design that considers how good design, quality public realm, landscaping and land use can be integrated to help regenerate places. The policy reiterates the presumption against tall buildings except in limited parts of South Fulham Riverside Regeneration Area.

TRANSPORT
Policy T1 (Transport) states that the council will work with strategic partners to improve transportation provision and accessibility in the borough. The policy seeks increased use of the Thames and the Grand Union Canal for passenger services and freight use where this is compatible with the capacity of the connecting road network. The policy also seeks to increase the opportunities for walking, for example extending the Thames Path National Trail.

5.3.2 Unitary Development Plan (as amended in 2007 and 2011)

The study area is designated as falling within the Thames Policy Area (EN31X). Much of the study area is located within the Sands End Conservation Area (EN2) and part is located within the Imperial Square and Gasworks Conservation Area (EN2). Parts of the study area fall within one of two Archaeological Priority Areas (APA). The UDP transport policy TN31 safeguards the three wharf sites for their continued use for transhipment of freight including waste. This policy is in line with the London Plan policy and the Safeguarding Directions.

BIODIVERSITY AND NATURE CONSERVATION
The Thames and its foreshore are a major wildlife habitat, distinct in character and extent from other nature conservation areas. The river is a nature conservation area of metropolitan importance and as such is subject to the criteria put forward in UDP policy EN27. EN27 states that such areas will be protected from development likely to cause demonstrable harm to their wildlife value.

ARCHAEOLOGY
A large area between Sulivan Road and the River Thames at the western end of the study area is designated as an Archaeological Priority Area as defined by the UDP. This location was a medieval and possible Saxon settlement. Part of Sandford Manor Archaeological Priority Area is located in the north east corner of the study area. Policy EN7 (Nationally and Locally important Archaeological remains) is therefore applicable in these areas and the need to preserve them is recognised as a material consideration when determining planning applications.

The UDP will cease to exist when the Development Management Development Plan Document (DPD) and Planning Guidance SPD are adopted in summer 2013.

5.3.3 Supplementary Planning Guidance (SPG)

The Thames Strategy – Kew to Chelsea is an adopted SPG (July 2002) which seeks, amongst other things, the retention of freight handling facilities and safeguarded wharves to encourage freight movement by river.

Sands End Conservation Area Character Profile (1997) and Imperial Square and Gasworks Conservation Area Character Profile (2005) are both adopted SPGs.

Also of relevance is adopted Supplementary Planning Document (SPD) "Access for All (2006) which provides guidance on making the environment accessible to disabled people.

5.4 EMERGING POLICY

Given that the South Fulham area is likely to be regenerated over the course of a number of years, it is considered pertinent to bear in mind within this consultation draft SPD, emerging policy which is likely to come forward in the next 12 months and which could in time have a significant bearing on developments taking place within the regeneration area. More detail will be provided in the final SPD to reference all the relevant adopted policies.

DEVELOPMENT MANAGEMENT DEVELOPMENT PLAN DOCUMENT (DPD)
The emerging Development Management DPD sets out proposed development management policies to be used in determining individual planning applications in conjunction with the policies included in the adopted Core Strategy. It is anticipated that this DPD will be adopted in summer 2013.

PLANNING GUIDANCE SPD
The Planning Guidance SPD supports the Core Strategy and Development Management DPD and covers a variety of topics including residential standards, design and heritage and environmental pollution. It will replace any existing UDP SPDs and SPGs when it is adopted at the same time as the Development Management DPD anticipated in summer 2013.

(Local Development Framework Designations are identified in Figure 5.1 and Figure 5.2)

Figure 5.1: Local Development Framework Proposals Map - Transport

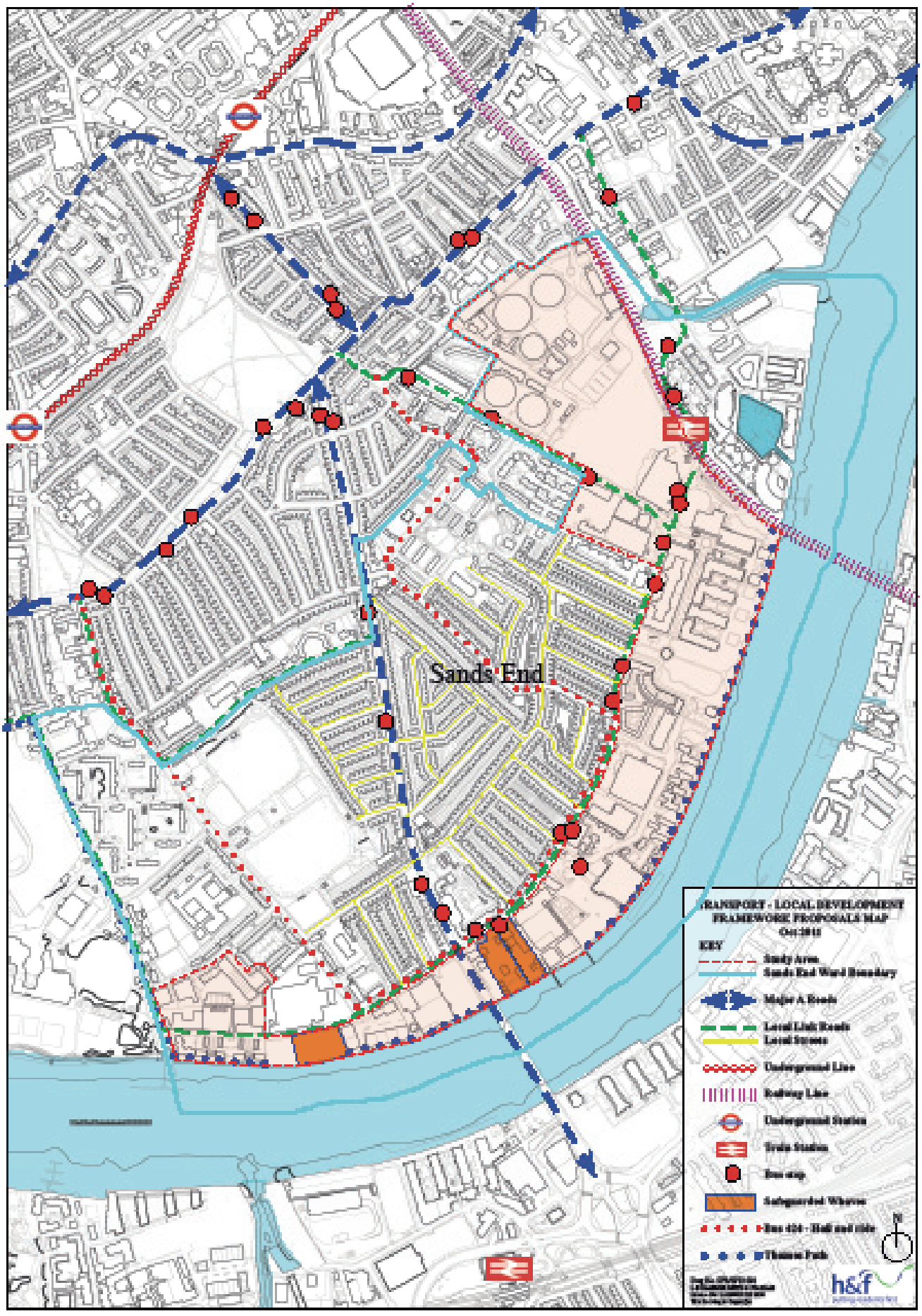
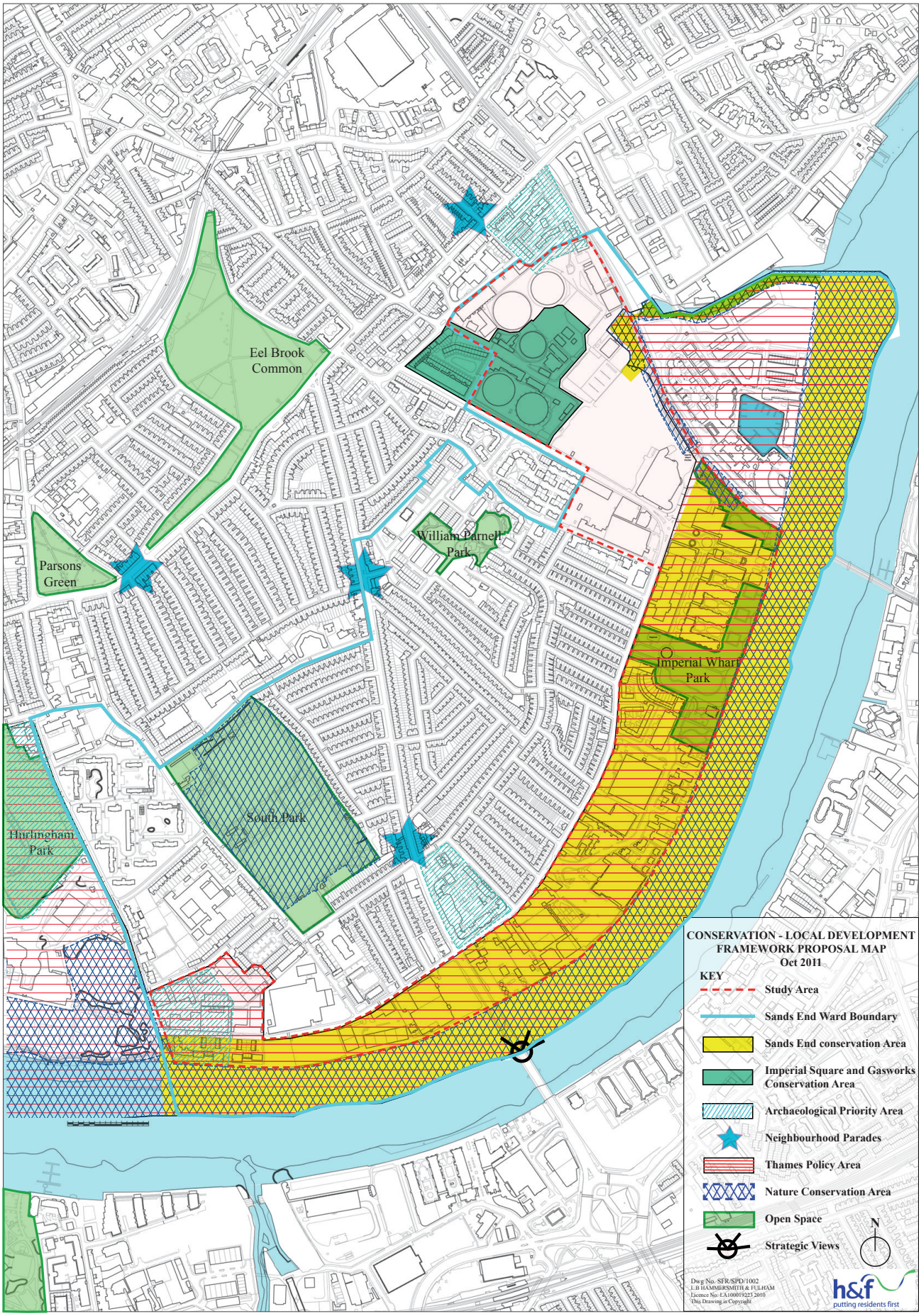


Figure 5.2: Local Development Framework Proposals Map - Conservation



CHAPTER SIX | Issues and Objectives

Figure 6.1: Key issues facing South Fulham Riverside

Key Issues Facing South Fulham Riverside

USE OF THE RIVER

- Due to lack of recent development especially on the protected wharf sites there are gaps in the riverside walk
- Historic employment uses present blank facades to the river
- Redevelopment of vacant sites provides the opportunity to utilise fully the river frontage
- Redevelopment provides an opportunity to focus on the use of the river for leisure and recreation

TRANSPORT

- Existing junctions are reaching capacity requiring improvement and upgrading to accommodate growth
- Transport accessibility in the area is relatively poor ranging from PTAL 2-4
- The new railway station opened at Imperial Wharf has improved accessibility to the east of the area
- Buses connect residents to underground and over ground stations. There is scope to enhance this service
- Improvements to walking and cycling routes are required

PROTECTED WHARVES

- Three wharves are safeguarded for cargo handling under a Direction from the Mayor of London
- Sites alongside the protected wharves require design measures which ensure conflicts between users do not arise.

VACANT /UNDERUTILISED SITES

- Previous employment zone designation of the area ceased in 2007 enabling a mixed approach to the development of vacant and underutilised sites
- Many sites are underutilised and some buildings are in poor condition requiring redevelopment.

HOUSING

- Removal of the employment designation provides the opportunity for residential led mixed use development.

COMMUNITY FACILITIES

- The local shopping/choice is limited especially west of Carnwath Road and on Imperial Road with Fulham town centre some distance away. Redevelopment provides opportunities for mixed use development to service the local community including retail for day to day needs
- Schools have some capacity to accommodate growth on existing sites supported by capital investment
- Closure of Sands End Community Centre will require relocation of key services
- The regeneration area has an inadequate number of affordable childcare places

ENVIRONMENTAL ISSUES

- Located within Flood Risk Zone 3 hence has a high probability of flooding
- Contaminated land from former industrial uses will require remediation

BUILT FORM

- Larger urban grain fronting the river provides poor connectivity to the river that can be remedied through redevelopment of these sites
- Non active frontages to river and public realm can be rectified through redevelopment
- As limited heritage assets remain it will be important to conserve and incorporate these into redevelopment proposals

OPEN SPACE

- South Park and Hurlingham Park both offer a range of sports facilities
- New park at Imperial Wharf opened in 2009 however there is still a shortage of access to open space in the west of the regeneration (Carnwath Road) and around the gas works site (Imperial Road)
- Lack of play facilities

KEY OBJECTIVES

Considering the key issues identified in Figure 6.1 affecting the South Fulham Riverside Regeneration area alongside the outcome from the public consultation workshops emerge the following Key Objectives for the regeneration area.

- To bring vacant and underused sites into use for residential-led mixed use development optimising regeneration opportunities and providing a choice of housing options
- Identify capacity limitations in the highway network and public transportation system and the required strategic transport infrastructure improvements to address these and thereby optimise the regeneration potential of the area
- To promote high quality urban design and enhance the public realm
- To improve connectivity to the river through new access points and complete unfinished sections of the riverside walk
- Increase the use of the river and riverside for leisure, transport and educational uses.
- Ensure the social infrastructure including community facilities in the area and physical infrastructure such as parks are adequate to accommodate the needs arising from growth in new homes.
- To protect and enhance biodiversity and nature conservation
- To preserve and enhance heritage assets.

CHAPTER SEVEN | Area Planning Framework and Land Use Strategy

7.1 AREA PLANNING FRAMEWORK

KEY PRINCIPLES

All key principles below support the objectives in the Core Strategy 2011, Strategic Policy for South Fulham Riverside.

- Bring vacant land back into use and develop under utilised sites. (potential 21.8 hectares) to deliver objectives in Core Strategy Strategic Policy H1 Housing Supply.
- Deliver a mixed use residential neighbourhood of an additional 2,200 new homes and 300-500 additional jobs (as stated in the Core Strategy (2011) whilst optimising site development opportunities and the range of housing provided.
- Provide new community facilities at Fulham Wharf and Hurlingham and Chelsea School in line with Core Strategy Strategic Policy CFI, Supporting Community Facilities and Services.
- Undertake a series of transport improvements including highway infrastructure and public transport improvements to accommodate the planned growth
- Reconnect the hinterland with the river through new connections, improved public realm and completion of the river walk
- Provide new public green space and, along the riverside in particular, a series of public/event spaces in line with Core Strategy Strategic Policy OS1 Improving and Protecting Parks and Open Spaces.
- Open up the riverside and river for water based uses
- New development to provide high quality, accessible and inclusive urban design in line with Core Strategy Strategic Policy BE1 Built Environment.
- Retain areas of significant existing employment or seek replacement opportunities in redevelopment schemes including for small businesses in accordance with Core Strategy Strategic Policy LE1 Local Economy and Employment.
- Focus for additional growth in job opportunities to be primarily in the east

The Development Capacity Study (Chapter 10) will consider how to accommodate growth in new homes and jobs over the SPD time period of 20 years. The outcome of the South Fulham Riverside Transport Study and Transport Study Addendum will also impact on the scale of growth that can be supported in new homes and jobs.

It will also assess compliance with the London Plan requirements regarding open space provision and the Mayor's SPG "Shaping Neighbourhoods: Play and Informal Recreation SPG September 2012 on children's play space. New public open space will be sought as well as a series of event spaces opening onto the river walkway focussed in areas which currently have limited access to existing open space. Amenity space will be integrated within new residential developments. Additional play space will be required within new developments (public and private).

The Development Capacity Study assumes that residential led mixed use development can be delivered in the regeneration area on vacant and underused land which is significant within the area. It identifies a range of options regarding the quantum of new homes and commercial space that can be accommodated and the potential scale and massing required to deliver this growth. The assumed quantum's of additional retail, office, leisure and commercial space are relatively small scale and will be integrated within residential led mixed use developments where the public accessibility is greatest, to provide active frontages and provide community uses where required.

With the closure of the Sands End Community Centre it is planned that community facilities could be relocated to Fulham Wharf/Sainsbury's and/or Hurlingham and Chelsea School.

The population growth envisaged and the demand this will place on community infrastructure has been assessed in detail in the DIF Study.

Any retail will be for day to day needs only and commercial space located in the most accessible parts of the regeneration area.

In terms of highway infrastructure and public transport the South Fulham Riverside Transport Study (2010) and Transport Study Report Addendum (2012) recommends a number of key transport interventions. Two key interventions

involve the expansion of the junction at Carnwath Road/ Townmead Road and Wandsworth Bridge Road, junction improvements around the National Grid site on Imperial Road and links to Kings Road.

Enhancement of key bus routes is also required in order to connect residents with tube and train stations.

The new mixed use residential development will connect with the predominantly residential hinterland providing new opportunities to connect through to the river. Improved connectivity through to the river, links to the river walk and upgraded public realm are key elements of the area planning framework

Core Strategy supporting text to Strategic Policy SFR advises that the council will promote the consolidation of wharf capacity onto fewer and better located wharf sites while acknowledging that any proposals for non-river use on the safeguarded wharf sites will need to be supported by viability assessments in accordance with London Plan Policy 7.26. Swedish, Comleys and Hurlingham continue to be safeguarded for cargo handling purposes in the Mayors consultation document published on 7th October 2011 setting out the results of a review of the safeguarding of wharves on London's waterways.

(Figure 7.1 demonstrates the development concepts key to delivering the vision for South Fulham Riverside)

7.2 LAND USE STRATEGY

KEY PRINCIPLES

- Optimisation of land use through residential led mixed use within the regeneration area (medium density).
- Retail to serve local need and other uses to create activity are encouraged to provide active frontages especially along the riverside
- Commercial to meet primarily local need in the most accessible areas
- Community uses to support growth in residential
- Leisure uses encouraged that link to the river
- New public green space, additional play space and public/event spaces on the river
- Retain areas of significant existing employment or seek replacement opportunities in redevelopment schemes including for small businesses.

7.2.1 Overview

The land use strategy for the area is governed by two key policy changes.

• The area was previously designated within the Council's UDP as an employment zone. This was removed in 2007 to enable greater flexibility and a mixed use approach.

• The area is one of the five regeneration areas identified in the Core Strategy with the opportunity to accommodate growth in housing and smaller growth in employment.

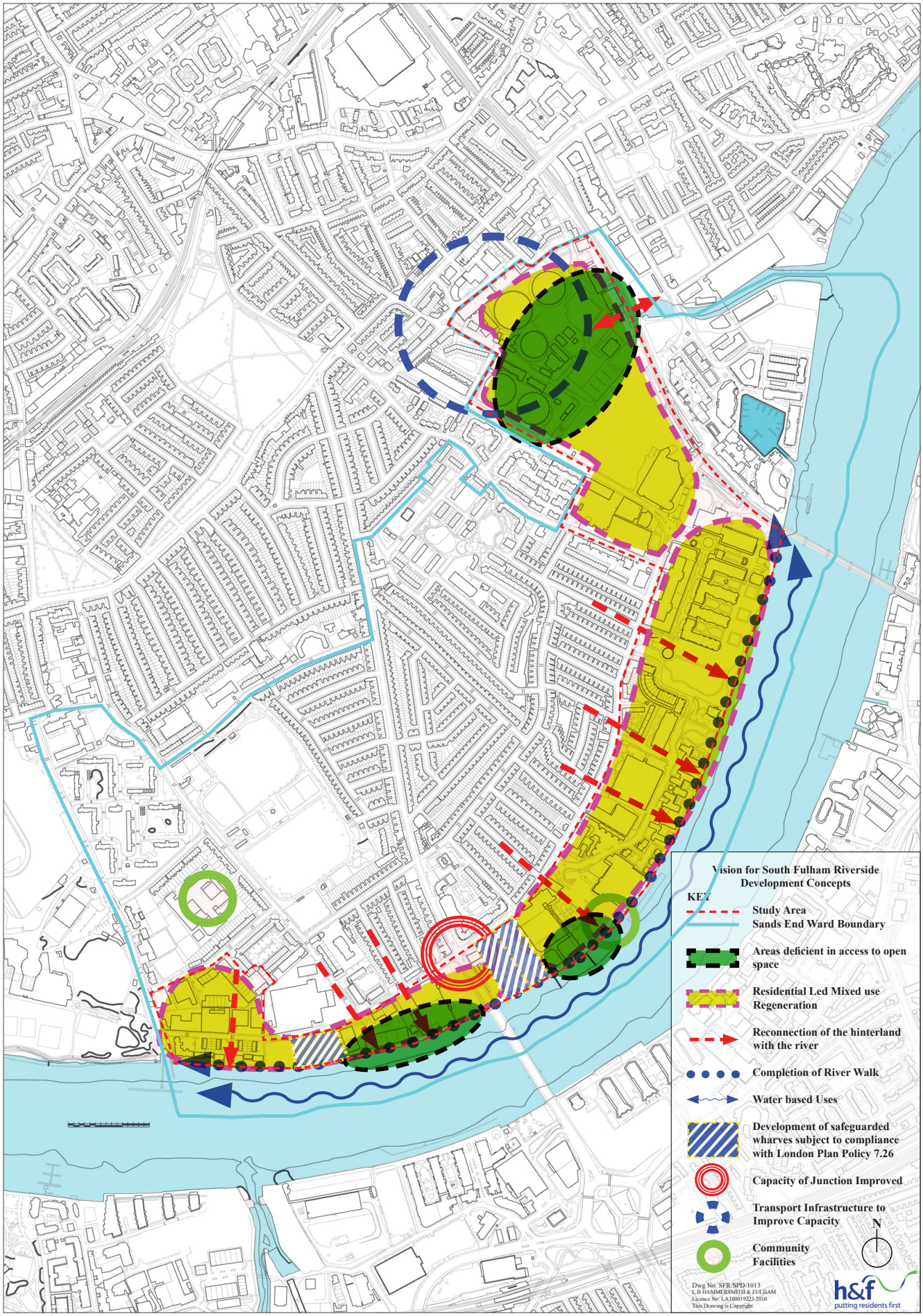
The Core Strategy identifies mixed use housing led development as the predominant land use for this regeneration area. This land use proposal is predicated on the improvements taking place to the transport infrastructure.

7.2.2 Land Use Strategy

This section illustrates where growth and change will take place in the South Fulham Riverside Regeneration Area.

The land use strategy for the area is based on the change of use of the majority of sites in the area, from commercial/light industrial to residential led mixed use development. This will include the replacement of commercial/retail and its integration with residential development so as to

Figure 7.1 Demonstrates the development concepts key to delivering the vision for South Fulham Riverside



retain employment in the area and the provision of accommodation for small businesses.

The growth assumptions within the Core Strategy (2011) include an additional 300 – 500 jobs in the regeneration area. Recent planning permissions granted at Sainsbury's/Fulham Wharf and Chelsea Creek include proposals for retail/commercial use which will significantly contribute towards replacement / additional jobs. However, in order to maintain the existing job opportunities in the area it will be important to assess any potential loss of employment space on sites that come forward for redevelopment and consider its appropriate reprovision including any locations where any shortfall could be relocated. The Council considers that suitable locations for new/ replacement commercial space that could be provided alongside residential are in the east of the regeneration area and sites close to the Wandsworth Bridge Road / Carnwath Road / Townmead Road junction.

On the river frontage, uses will be encouraged to provide a link with the river. Residential uses will be supplemented at ground floor level by small scale retail, café/restaurant, office and leisure uses that are linked to the river and/or provide active frontages to the roads in the regeneration area. This regeneration should ensure the replacement of existing employment provision as a minimum unless there are demonstrably greater benefits for regeneration of not doing so.

Key community uses will be focussed around the Sainsbury's/Fulham Wharf and Chelsea and Hurlingham School.

Retail to accommodate for day to day needs will be located in areas where access to local shops is limited. The previous Key Local Shopping Centre at Wandsworth Bridge Road South has been re-designated under the Core Strategy (2011) as a neighbourhood parade which is intended to provide a wide range of key local services to residents.

Public open space is required with notable deficiency in the east of the regeneration area.

7.2.3 Housing

The Core Strategy (2011) highlights the need for new homes in the South Fulham Riverside Regeneration Area and limited employment as the area is not accessible for significant new employment.

There is a limited amount of existing housing in the regeneration area predominantly due to its previous inclusion in an employment zone although this position has started to change more recently. The area to the north of the regeneration area however is predominantly residential two storey terraced housing with a number of flatted post war residential estates.

The key strand in the Land Use strategy is the growth in housing mixed with some commercial to provide a vibrant liveable residential area. This will be predominantly at mid density levels and higher densities in areas where public transport accessibility is highest. A range of housing typologies will be supported including modern mansion blocks (1/2/3 bed apartments) and some maisonettes up to 7 storeys with some taller blocks. Some terraced housing at low to medium density will also be supported.

New housing should provide a range and diversity of housing tenure and types providing a range of ownership options in line with policy.

There could be potential for the provision of new permanent residential moorings on the river to assist in meeting housing need and adding vitality to this part of river and riverside. Any proposals will be considered in line with the policy criteria detailed in Policy F3 of the Submission Development Management DPD and will also need to take into account the policy guidance and the requirements of the PLA and Environment Agency.

7.2.4 Social and Community Facilities

- **Community Facilities**

  To support the growth in new homes it is essential that adequate social and community infrastructure is provided to ensure there are sufficient facilities to support the population and that a sense of community can be maintained (Chapter 12 Social Infrastructure). The closure of the Sands End Community Centre which served the Sands End ward which includes the regeneration area has provided an opportunity to create new community facilities particularly at Hurlingham and Chelsea Secondary School to serve the existing residents north of the regeneration area and the new community created within the regeneration area. Shared facilities across all age ranges at the school and co-location of community facilities is encouraged in the Core Strategy 2011 Strategic Policy CFI where opportunities arise. The Fulham Wharf/ Sainsbury's site provides an opportunity to create further

new community facilities; it has the benefit of a riverside location, and is easily accessible by all the community in the Sands End ward. The recent planning approval for Fulham Wharf/Sainsbury's includes a crèche, training centre and gym.

- **Open Space, Leisure and Sport**

  There are many sports clubs and facilities in the local area although the majority are privately run. The master plan for South Park identifies opportunities to improve sports facilities. Use of the river for water sports facilities is also encouraged. The area within the South Fulham Riverside Regeneration Area with least accessibility to public open space is in the east of the regeneration area. It is therefore anticipated that a new area of public open space could be provided here. All green spaces throughout the area should incorporate native species planting elements that attract insects/ birds and bat roosting boxes. Improvements to public realm are required and new links to be provided between the hinterland and river. Completion of the riverside walk will be sought in all riverside developments, including a link under Wandsworth Bridge.

  As prioritised in the Princes Foundation report (which details feedback from local residents and amenity groups regarding their priorities for the area) a series of public/event spaces are proposed along the river integrated with new residential led developments as they come forward. The recently approved Sainsbury's/Fulham Wharf planning application includes, a public square fronting the river. Integrated within new residential uses will be small areas of hard and soft landscaping incorporating children's play facilities. Play areas for 0-8 years and 8 plus years are required. Leisure and other uses to create activity on the river frontage that are linked to the river are encouraged.

- **Schools and Health**

  The increase in children is likely to require two extra forms of entry at primary school and an additional form of entry at secondary school which can be accommodated either through the expansion of existing schools or new provision. Additional nursery provision however would be required to accommodate the needs of parents with children under 2 years old and affordable spaces for parents on low incomes. A new secondary school, Chelsea Academy has recently opened, in the Lots Road area of RBKC although close to the regeneration area the current admissions criteria will exclude the majority of children in LBHF.

  The Primary Care Trust has a new expanded and improved health centre on Wandsworth Bridge Road (Sands End Clinic) serving the regeneration area. Further ongoing analysis of population growth and corresponding demand will be required to assess whether additional provision may be required.

7.2.5 Retail

The regeneration area is a significant walking distance from Fulham Town Centre although buses do provide links.

The shopping area closest to the regeneration area is Wandsworth Bridge Road South, however this has been identified in the "West London Retail Needs, May 2010 as falling short in meeting the needs of local residents. Council shopping policies will aim to sustain and improve the variety of goods in neighbourhood parades such as Wandsworth Bridge Road South.

The Sainsbury's retail store on Townmead Road provides for local needs and there is no need for an additional large store in the regeneration area. In line with Strategic Policy South Fulham Riverside within the Core Strategy (2011) there is a need to seek improvements to the appearance and permeability of existing major retail stores as part of comprehensive mixed use regeneration in the area.

The far west and east of the regeneration area are not within a 400m catchment area of a Town Centre, Key Local Centre, Neighbourhood Parade or Satellite Parade and hence facilities for day to day needs could be provided in these localities if considered viable. New retail could be integrated into residential led mixed use schemes to provide active frontages and local shopping for day to day needs. In addition there could be a small grouping of retail units focussed around the new Imperial Wharf train station. New cafes, bars and restaurants are encouraged to bring vitality to the river.

7.2.6 Business/Commerce

The land use policy changes in the regeneration area have led to the de-designation of employment zones and the identification of mixed use housing led regeneration.

However there are a number of premises capable of providing continued accommodation for significant employment and the Council will seek their retention in accordance with Core Strategy Policy LE1.

The council will expect new or replacement employment opportunities to be provided as part of mixed use schemes and integrated into residential communities adding vitality at ground floor level. Those proposals that are for business/ employment uses only are most likely to be acceptable in the most accessible parts of the area particularly in the vicinity of Imperial Wharf Station. A secondary location for employment uses is around the junction with Wandsworth Bridge Road usually as part of mixed use development with residential.

Core Strategy (2011) Borough Wide Strategic Policy - LE1 requires that accommodation is made available for all sizes of business including small and medium sized businesses. This will be especially important where existing small business complexes may be lost as a result of development proposals. Replacement business accommodation should provide for an appropriate mix of smaller units based on an assessment of demand in the area and existing occupation of premises.

As the transport network is relatively crowded and the PTAL for the area relatively low as each site comes forward for redevelopment it will be important that a Transport Assessment considers the impact of any proposed use on the transport network's capacity.

7.2.7 Wharf Use

Of the three safeguarded wharves identified in the London Plan, only one (Comleys Wharf) uses the river for freight movements. Cemex the owner of Comleys Wharf has recently received planning permission for the erection of a replacement concrete plant which will increase its use of the river. Swedish Wharf is in use as an oil storage depot but does not currently use the river for transport. Hurlingham Wharf has been vacant since 1997. London Plan policies protect these wharves for cargo handing uses.

The Mayor of London published on 7th October 2011 a consultation document setting out the results of a review of the safeguarding of wharves on London's waterways. This review updates the 2005 London Plan Implementation Report on safeguarded wharves; it considers the long term water freight trade forecasts and associated wharf capacity requirements and distribution to 2031. There are 10 safeguarded wharves in the west sub region which includes the three safeguarded wharves in this Borough.

Within the draft review it is proposed that all 10 safeguarded wharves are retained, with non-operational wharves reactivated to meet projected demand for construction and waste transhipment to 2031.

The Core Strategy (paragraph 7.140) however indicates that the council

"will promote the consolidation of wharf capacity onto fewer and better located wharf sites where road access to the strategic road network can be improved"

It will be the responsibility of the developers of the affected safeguarded wharves to justify the viability of any proposed scheme for the consolidation of replacement capacity onto an alternative site. Alternatively London Plan Policy 7.26 Ba states "The redevelopment of safeguarded wharves for other land uses should only be accepted if the wharf is no longer viable or capable of being made viable for waterborne freight handling (criteria for assessing the viability of wharves are set out in paragraph 7.77)".

Any proposal to consider the potential dual use of safeguarded wharves, integrating other compatible uses with the river related cargo handling use where capacity can be maintained will need to comply with London Plan Policy 7.26 "Increasing the Use of the Blue Ribbon Network for Freight Transport.

Sites identified with the potential for development alongside or opposite safeguarded wharves (see Figure 4.9) should be designed to minimise the potential for conflicts of use and disturbance in line with London Plan Policy 7.26c.

7.2.8 Thames Tideway Sewer Tunnel

The Thames Tunnel project will comprise a storage and transfer waste water tunnel from west to east London the purpose of which is to reduce the volume and frequency of foul sewage being discharged into the Thames. The London Plan (2011) Policy 5.14 states that "The development of the Thames Tideway Sewer Tunnels to address London's combined sewer overflows should be supported in principle" by relevant Boroughs. The Council's Core Strategy (2011) adds that "the council will work with Thames Water and other stakeholders to ensure that the pollution of the

Thames from sewage is reduced in accordance with the EU Urban Waste Directive".

Thames Water in the second phase of consultation switched one of their three preferred main drive sites from Barn Elms Playing Fields in Wandsworth to Carnwath Road in the South Fulham Riverside regeneration area. The Carnwath Road site was confirmed as a main drive shaft site in the recent Section 48 (of the Planning Act 2008) publicity of the Thames Tunnel. Affected sites that are likely to be required to accommodate the drive site are Whiffin Wharf, Hurlingham Wharf and Carnwath Rd Industrial Estate (sites 8,9 and 10 identified on Figure 4.9).It is currently anticipated that if chosen these sites would be in use by Thames Water until 2022 however the current proposal also involves siting a permanent access building and air shaft on the eastern part of Whiffin Wharf (site 8).

In March 2012 Parliament approved the Waste Water National Policy Statement which established the need for the proposed Thames Tideway Tunnel, which is now a designated Nationally Significant Infrastructure Project (NSIP) under the Planning Act 2008

On 24th April 2012 the Secretary of State for Communities and Local Government (DCLG) served a Safeguarding Direction on sites 8, 9 and 10. The Council cannot grant planning permissions on these sites without specific authorisation from DCLG. The Direction will be reviewed in March 2013.

On 21st December 2012 DCLG served a Safeguarding Direction for all Tunnel Alignments that form part of the Thames Tideway Tunnel (TTT). This Directive remains in force until 31st March 2013.

CHAPTER EIGHT | Housing

KEY PRINCIPLES

- Core Strategy Strategic Objective 8.4 is to increase the supply and choice of high quality housing and ensure that new housing meets local needs and aspirations particularly the need for affordable home ownership and for homes for families.
- Core Strategy Policy H2 requires that 40% of residential units on sites with the capacity for 10 or more self contained units should be affordable subject to viability and in accordance with strategic policy H2.
- Intermediate Housing will be expected to cover a range of intermediate products including shared equity, key worker, discounted market sale/rent and shared ownership affordable to a range of household incomes.
- New housing should aim to meet the preferred mix of units outlined in Policy DM A3 of the Development Management Development Plan Document (DPD) Submission July 2012.
- Market housing should provide a range of unit sizes with special consideration given to the provision of larger family units (3 bedrooms or more).
- Building types should include 1/2/3 bed apartments, some maisonettes and 3, 4 and 4 plus bed town houses.
- All new housing should comply with the standards set out in the London Plan (2011) and The Mayor's Housing SPG (November 2012).
- All new housing should be built to Lifetime Homes standards with 10% to be wheelchair accessible or easily adaptable for residents that are wheelchair users.
- The Core Strategy H3 requires gardens and shared amenity space to be included within development proposals. New communal children's play space is required in new residential development that provides family accommodation.

8.1. OVERVIEW

As new residential development is the major land use in the South Fulham Riverside Regeneration Area, there is an opportunity to build a substantial quantity of new housing in high quality residential areas, providing for a mixed and balanced socially inclusive community. This should happen in ways that extend the housing opportunities in the locality with a good range of affordable homes; helping to overcome social and economic polarisation, and increasing social mobility.

New homes should meet the Decent Neighbourhood principles outlined in the Core Strategy. They should achieve high quality design and environmental standards and be provided in well laid out permeable neighbourhoods, with supporting amenities and open space that are well connected to transport routes and local facilities. The new housing needs to respond to the local context especially its riverside frontage.

The approach to housing in London is set out in London Plan (2011) policies 3.5, 3.8, 3.9, 3.10, 3.11, 3.12, 3.13 and 3.14, and in the Housing Supplementary Planning Guidance (November 2012). Local policy is in the H&F's Core Strategy (2011) and Proposed Submission Development Management DPD.

8.2 SOUTH FULHAM RIVERSIDE LOCAL CONTEXT

The regeneration area is characterised by a mixture of land uses including business and commercial, industrial, office, retail, vacant land and a relatively limited amount of housing. Key housing developments on Carnwath Road are Broomhouse Dock and Petrofina Wharf, on Townmead Road/Imperial Road, Regent on the River and Imperial Wharf. Watermeadow Court is a Borough owned affordable rented estate that is currently being decanted due to the poor quality of the accommodation.

The Sands End ward is characterised by predominantly terraced residential streets with a number of large mono tenure (social rented) housing estates.

The tenure mix in the Sands End ward is 34.7% social rented, 45.1% owner occupied and 20.3% private rented (2001 Census).

8.3 MIXED AND BALANCED COMMUNITIES

The Core Strategy aims to increase the supply and choice of high quality housing and to ensure that new housing meets local needs and aspirations, particularly the need for affordable home ownership and for homes for families. Core Strategy policy H2 aims to achieve more mixed and balanced communities and to reduce social and economic polarisation by improving the mix of affordable housing in the borough.

It is important that new housing development in South Fulham Riverside regeneration area increases the number and proportion of intermediate dwellings affordable to middle income earners, in order to create a more mixed and balanced community in Sands End. As outlined in Section 4.1 and Appendix 1 of this SPD, there are high levels of deprivation, of economic and social polarisation and high proportions of rented housing in Sands End ward. The council will encourage the provision of a variety of intermediate housing products that will assist people who cannot afford market housing to buy and which will reduce the existing tenure imbalance.

8.4 HOUSING STRATEGY FOR SOUTH FULHAM RIVERSIDE REGENERATION AREA

LBHF's Core Strategy (2011) has an indicative target of 2,200 additional homes for South Fulham Riverside by 2032. This indicative target was based on the Strategic Housing Land Availability Assessment (SHLAA) October 2010 which identified 21.4 hectares of land with potential for residential development. Based on densities of between 350 and 550 habitable rooms per hectare it was estimated that the 21.4 hectares of land could accommodate 3,857 residential units. A further assessment was then made regarding the probability of sites coming forward for development within the plan period which equated to the indicative target of 2,200 homes.

Due to the large number of sites within the regeneration that are engaged in pre application discussions it is possible that the majority of sites identified within the SHLAA could potentially come forward for redevelopment during the plan period which could deliver 3,857 homes. In order to ensure that adequate transport capacity and social infrastructure is considered to accommodate this potential growth the Development Capacity Study (Chapter 10), Transport Studies (Chapter 11) Social Infrastructure (Chapter 12) and Delivery and Infrastructure Funding Study (DIF) (Chapter 14) have all modelled a figure of circa 4,000 new homes.

The development capacity of the area is primarily restricted by the transport capacity. Further details regarding the outcome from the Transport Study and Transport Study Addendum can be found in Chapter 11. A number of transport interventions are proposed that will improve the capacity of the area. With these in place the Transport Study supports maximum development at an average of 550 habitable rooms per hectare. The Development Capacity Study will assess whether these aspirations are achievable. (See Chapter 10)

AFFORDABLE HOUSING

The London Plan Policy 3.11 on affordability seeks to maximise affordable housing provision within London, and ensure an average of at least 13,200 more affordable homes per year within the plan period. The Council's Core Strategy (2011) states that 40% of residential units on sites of more than 10 self contained units should be affordable in accordance with strategic policy H2.

As sites come forward for development the Council will consider the appropriate mix of housing taking into account the need to achieve mixed and balanced communities, site constraints and financial viability. The intermediate housing will be expected to cover a range of intermediate products including shared equity, key worker, discounted market sale/rent and shared ownership and be affordable to a range of household incomes.

Policy DM A3, Housing Mix of the Development Management Development Plan Document (DPD) Submission July 2012 provides details of the preferred mix of units that new housing should aim to meet.

MARKET HOUSING

The Council's Core Strategy has a strategic objective that relates to the need to increase the supply and choice of housing, with a particular emphasis on the need for family sized housing.

The London Strategic Housing Market Assessment 2008 shows the market housing demand to be 39% 1 bed, 47% 2 beds and 14% 3 beds. The Council will therefore expect to see a mix of unit sizes, with a significant quantum of larger family units.

Any application will be expected to provide a range of unit sizes within the market housing provision and special consideration should be given to the provision of larger family units (3 bedrooms or more).

8.5 HOUSING TYPOLOGIES

The transport capacity is one of the key drivers restricting the density of new housing in the regeneration area. With a number of transport interventions we can achieve an average density within the regeneration area of 550 habitable rooms per hectare on new and redeveloped sites.

The Council's Core Strategy (2011) defines Decent Neighbourhoods as types of residential developments that are predominantly low or medium rise. (3-6 storeys) consisting of houses and small scale developments of flats and maisonettes, modern form of traditional mansion block, with gardens and shared amenity space in street based layouts. Also it refers to well designed buildings with active streets that respect their surroundings.

The Urban Design Strategy Chapter 9 proposes west of Wandsworth Bridge that building heights would generally be appropriate at 4 to 7 storeys with additional height in specific places but not above 10 storeys.

East of Wandsworth Bridge Road it anticipates 3 to 7 storeys are generally appropriate with some higher buildings. The area west of Imperial Road is likely to be more suitable for lower rise buildings, including houses. Higher buildings could be accommodated on the Fulham Wharf/ Sainsbury's site and Chelsea Creek/National Grid sites on Imperial Road.

Building types include 1/2/3 bed apartments, some maisonettes and 3, 4 and 4 plus bed town houses. There could be potential for the provision of new permanent residential moorings on the river to assist in meeting housing needs.

Within the Core Strategy (2011) strategic policy for the South Fulham Riverside Area states that in some locations higher buildings may be considered, if it can be demonstrated that a taller building would be a key design element in a master plan for regeneration and that it would have a positive relationship to the riverside. Further details are provided in 9.6

8.6 RESIDENTIAL STANDARDS

The London Plan emphasises the quality of new homes and includes minimum space and design standards for all new housing detailed in Policy 3.5 and Table 3.3 within The London Plan (2011) which provides minimum space standards for all new homes and is shown in Table 8.1

The Mayor has published Housing Supplementary Planning Guidance (November 2012) which sets out guidance to supplement the housing policies in the London Plan 2011.

As detailed in strategic policy H4 Core Strategy all new build housing should be built to "Lifetime Homes" standards, with 10% to be wheelchair accessible or easily adaptable for residents that are wheelchair users. Further advice on achieving Lifetime Homes standards is set out in the Council's "Access for All" SPD which will be superseded by the Planning Guidance SPD in 2013.

8.7 AMENITY SPACE

Draft Planning Guidance Supplementary Planning Document states that "all new dwellings should have access to an area of amenity space, appropriate to the type of housing being provided. Every new family dwelling should have access to amenity or garden space of not less than 36 square metres. Dwellings with accommodation at ground floor level should have at least one area of private open space with direct access to it from the dwelling. For family dwellings on upper floors this space may be provided either as a balcony or terrace and/or communally within the building's cartilage".

Regarding space standards the Mayor's Housing Supplementary Planning Guidance (2012) standard 4.10.1 sets out a requirement for a minimum of 5sq.m of private outdoor space that should be provided for each 1-2 person dwelling and an extra 1sq.m should be provided for each additional occupant. The Council's Core Strategy (2011) Policy H3 requires gardens and shared amenity space to be included within development proposals.

Table 8.1

	Dwelling Type (bedroom. persons)	Essential GIA (sqm)
Flats	1p	37
	1b2p	50
	2b3p	61
	2B4P	70
	3B4P	74
	3B4P	86
	3B6P	95
	4B5P	90
	4B6P	99
Two Storey houses	2B4P	83
	3B4P	87
	3B5P	96
	4B5P	100
	4B6P	107
Three storey houses	3B5P	102
	4B5P	106
	4B6P	113

Source: *The London Plan (2011) Table 3.3 Minimum space standards for new development.*

New communal children's play space will normally be required in new residential development that provides family accommodation, Policy DM E2 Development Management Development Plan Document (DPD) Submission July 2012. Open spaces and play spaces must be accessible, inclusive, well related to buildings and users, safe, secure and capable of being well maintained.

Children's play space should cater for the different needs of all children, including children in younger age groups, older children and disabled children. Policy 3.6 in The London Plan (2011) supports this approach linking provision to expected child population generated by the scheme and an assessment of future needs.

CHAPTER NINE | Urban Design Strategy

9.1 CONTEXT

9.1.1 Policy Background

The riverside is the unifying element connecting the individual sites in the regeneration area. The importance, prominence and sensitivity of the riverside is reflected in the level of policy statements contained in the London Plan, The Thames Strategy – Kew to Chelsea, and the Councils Unitary Development Plan. Each of the policy statements requires the highest quality of design, but also a connected and permeable townscape which recognises the riverside as a recreational resource.

9.1.2 Potential for change

The areas industrial base once occupied the entire riverfront. Upon its decline it left vacant and derelict sites and an inaccessible riverfront. Since the industrial decline, there have been significant new developments, mainly residential-led, on several of the underused riverside sites. These have created opportunities to open up the riverside for new uses and new facilities, and recognised the amenity value of the river.

There is already considerable momentum for change which will bring an improved riverside environment. The momentum must be sustained as considerable potential for further change remains. A new wave of regeneration could bring substantial new benefits and begin the process of transformation on several key sites

The opportunity to bring a new urban form to the riverside is recognised. Careful thought now needs to be given to the way in which this regeneration can be turned to the benefit of the riverside, the local townscape, the local community and those using the riverside.

9.2 OPPORTUNITIES AND CONSTRAINTS

9.2.1 The Riverside

The riverside is a much valued amenity resource with enormous potential. The area is emerging as a significant regeneration opportunity. There are considerable benefits to be derived from an attractive riverside location. The key objective is to ensure that the redevelopment of individual sites combines to create a new and attractive quarter.

9.2.2 The Pattern of Development

The boundaries of the regeneration area are strong. The riverside and river wall provide a clear definition, and would remain so. Townmead Road and Carnwath Road are the main access spine routes and similarly, provide a strong definition. However these routes also bring a degree of severance.

The area was shaped by its industrial heritage and layout and this pattern remains apparent today. The existing urban form separates much of the riverside from the hinterland, and without positive intervention, the danger of isolating communities both new and existing is the most probable outcome. Successive phases of piecemeal redevelopment could leave the area disjointed and unattractive.

In this respect, it will be important to avoid inward looking development. Development should draw on the character of the hinterland where perimeter blocks predominate with a clear separation between the active/public fronts of buildings and the private rears containing amenity space for residents.

Any scheme for an individual site must have regard to its setting and context in order to avoid an unconnected series of disparate components. The aim of the plan is to provide a strong and sustainable urban structure.

Figure 9.1: Ensure the re-development of individual sites combines to create a new attractive quarter.

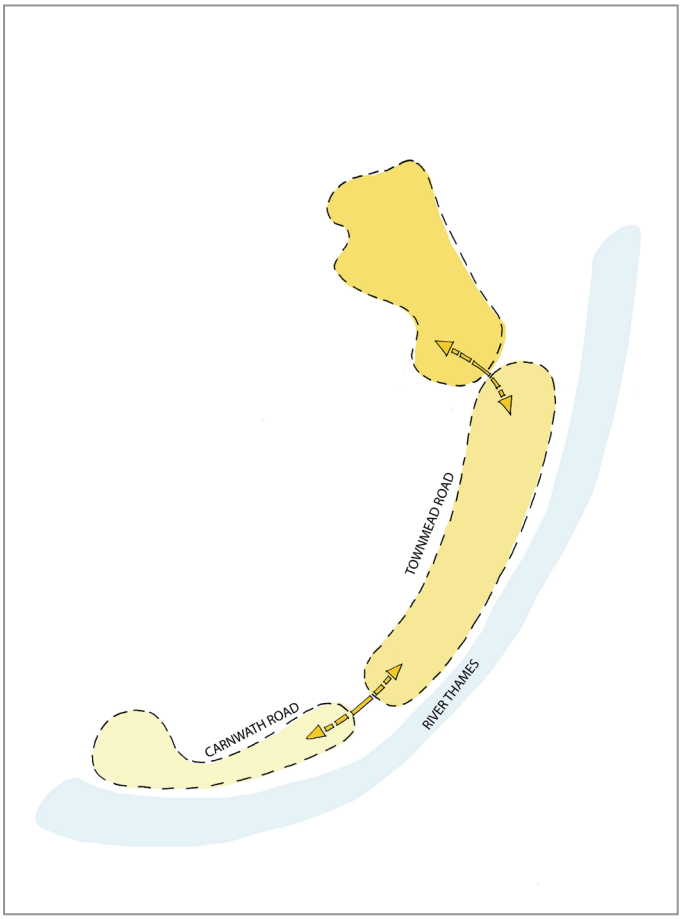


Figure 9.2: The riverside is a much valued amenity resource with enormous potential

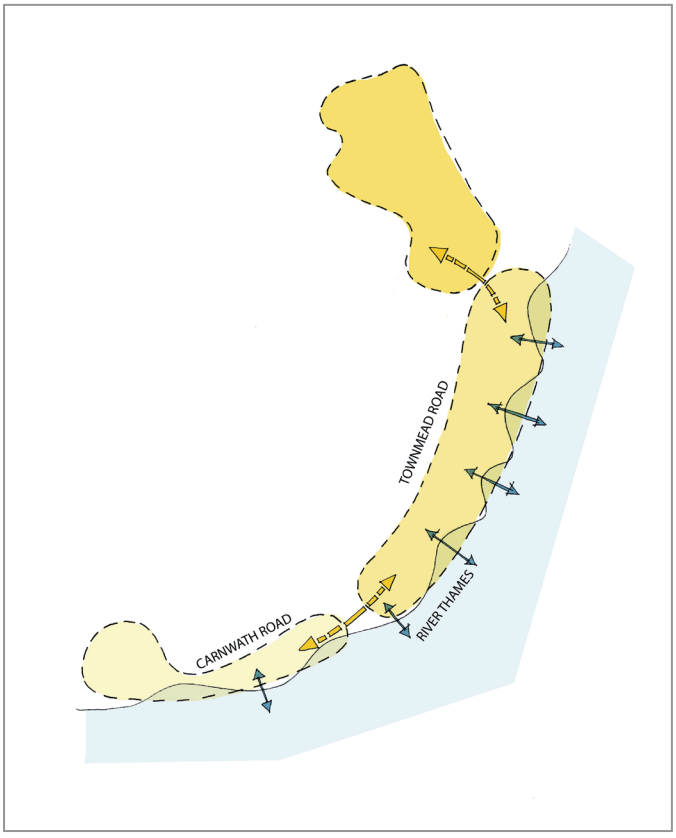
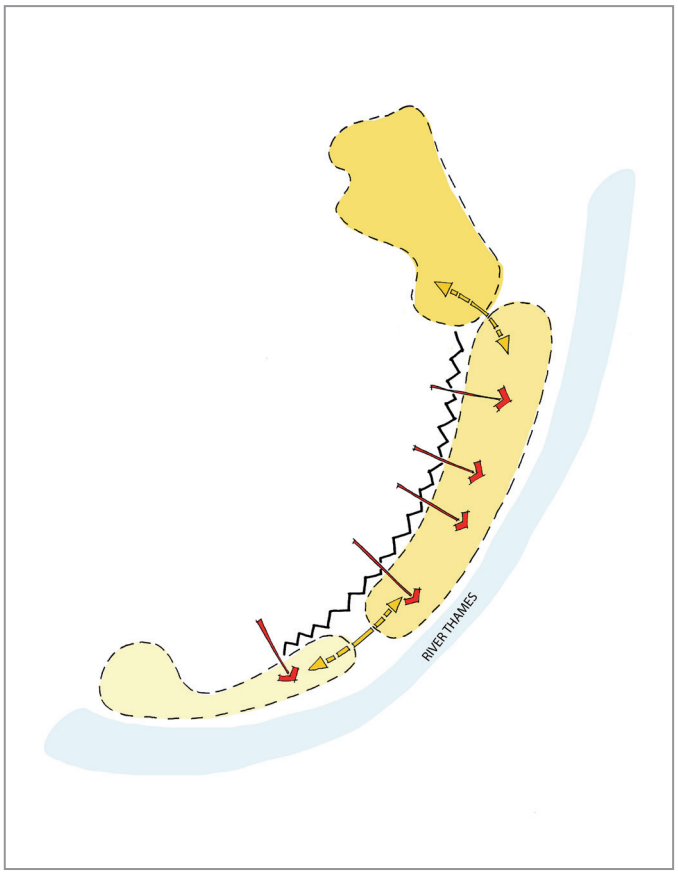


Figure 9.3: Without positive intervention the danger of isolating communities both new and existing is the most probable outcome



9.3 KEY URBAN DESIGN PRINCIPLES

The Core Strategy 2011 includes design guidance that should inform any future redevelopment proposals in the regeneration area. These policies should be considered alongside design guidance in the saved policies under the Unitary Development Plan (as amended 2007 and 2011), the London Plan 2011 and the Development Management DPD Submission July 12.

In order to develop a strong urban structure, development should aspire to the following key urban design principles.

Development:

- Any proposal in the area must respect the architectural and historic context and conserve and enhance the character and appearance of the area. Development proposals should be designed to create a coherent and integrated place and thereby contribute to the development of a sense of place for the whole of South Fulham riverside.
- The River Thames is London's defining heritage asset and all development should demonstrate how it contributes to conserving and enhancing the strategic importance of the Thames.
- Heritage assets should be retained and re-used in any scheme and special regard paid to enhancing their setting.
- The architectural character of new development should enhance the appearance of the area and complement the riverside setting. Brick is the predominant building material however some building typologies will lend themselves to other materials. Development should be of the highest urban design quality and in responding to the setting designers will be encouraged to be imaginative and innovative.
- Massing, form and design of new development should respect the scale of the existing townscape especially the residential scale of buildings to the north and west of the regeneration area.
- Generally building heights of 4/5/6 and 7 storeys, with reduced massing at upper levels, could be satisfactorily accommodated throughout the area. Two key focal points at Fulham Wharf and Imperial Wharf/Chelsea Harbour could accommodate increased massing and height. West of Wandsworth Bridge, building heights would generally be appropriate at 4 to 7 storeys. Additional height could be accommodated in specific places, but should not exceed 10 storeys. East of Wandsworth Bridge Road, 3 to 7 storeys would be generally appropriate with some higher buildings at key locations.
- Building height can be increased towards the riverfront where buildings need to be of a scale to give appropriate definition and presence to the riverside.
- Development must provide for a high level of connectivity, permeability, legibility and accessibility for all users. New developments will need to provide direct access to the riverside through continuation of existing streets where possible.
- The layout of new development should be of a fine grain supported by defined active edges at ground floor level of an appropriate scale. The most appropriate built form is outward looking perimeter blocks which provide permeability and an attractive urban structure.
- Development should provide a mix of uses to create a vibrant and attractive environment particularly at ground floor level. Public uses at key nodes and interfaces between adjoining sites would help to connect individual sites and assist in breaking down single use character.
- The riverside walk should be consolidated and strengthened as a route and recreational resource. A new link at Chelsea Creek could improve permeability to Kings Road and Fulham Town Centre. There is potential for an additional pedestrian bridge across the Thames.

- New development should improve the existing network of open spaces, create new spaces and improve the pedestrian experience between spaces. The riverside in particular can accommodate a variety of spaces that will provide vitality and interest to the riverfront. A high quality of public realm and spaces should be provided appropriate to the intensity of the use.
- All new development should seek to provide play space for children.
- All new development should provide a clear definition between public and private space

Figure 9.4: Active frontages at Accordia, Cambridge (David Millington Photography Ltd)

Figure 9.5: Barking Central. High quality soft and hard landscaping in new town square adjacent to new public routes (Steven Davies)

Figure 9.6: High quality public realm at City Point, Brighton (Olli Hellman)

9.4 SPATIAL FRAMEWORK

9.4 1 Creation of Sense of Place

South Fulham is the most "urban" stretch, in terms of scale and character, of the Boroughs riverside. It should therefore be encouraged to evolve as a high quality urban quarter at a scale that respects the existing townscape, especially to the north and west of the regeneration area, whilst achieving a scale sufficient to give appropriate definition and presence to the riverside. The development framework should promote a high degree of legibility to assist in the understanding of the new urban form and the creation of a sense of place. In providing attractive buildings and spaces, it will be important that the interface between the two is meaningful and a series of hard built edges create well-defined routes and spaces.

The morphology of past industrial uses of large disconnected impenetrable sites is no longer relevant. Permeability, both visual and physical is essential for the success of the area. This should be based on a richer, finer-grained urban pattern where each site contributes a range of building typologies to add interest and avoid the over-reliance on bulky large-footprint buildings.

The built form on the riverside should provide a clear edge to the riverside walk and address the river. Similarly, the built form along both Carnwath and Townmead Roads needs to be mindful of the existing residential development along these routes and respect their more domestic scale.

9.4.2 Connections and Routes

The historic street pattern in the neighbourhood, based on rectangular street blocks, breaks down at the riverfront. South Fulham Riverside is severed from the surrounding streets. Regeneration provides the opportunity for better integration. New routes should be seen as continuation of surrounding streets and would thereby relate to established movement patterns and desire lines. Such routes would also provide visual permeability and connection to the riverside and riverside walk. With such legible connections to the river side, the role of the river as a focus for the local community can be enhanced. In creating a route network places should have well defined routes, spaces and entrances that provide for convenient movement without compromising security

Each development should identify key spaces and nodes where routes intersect or are prominent. It would be appropriate to locate public uses at these points. On some sites, where appropriate, these locations could possibly accommodate taller elements to act as visual signals in the townscape (subject to Key Principles on building heights).

The unifying elements connecting the sites within the regeneration area are the river and Townmead and Carnwath Roads. The townscape potential of these linkages should be maximised. The provision of a connected riverside walk is a long-standing objective of the Council. A connected walkway should open to a series of public spaces along its length to provide relief from the built frontage and to accommodate the active uses to provide interest to the linear space. Tree planting would be encouraged to provide a green chain linking sites and spaces throughout the area.

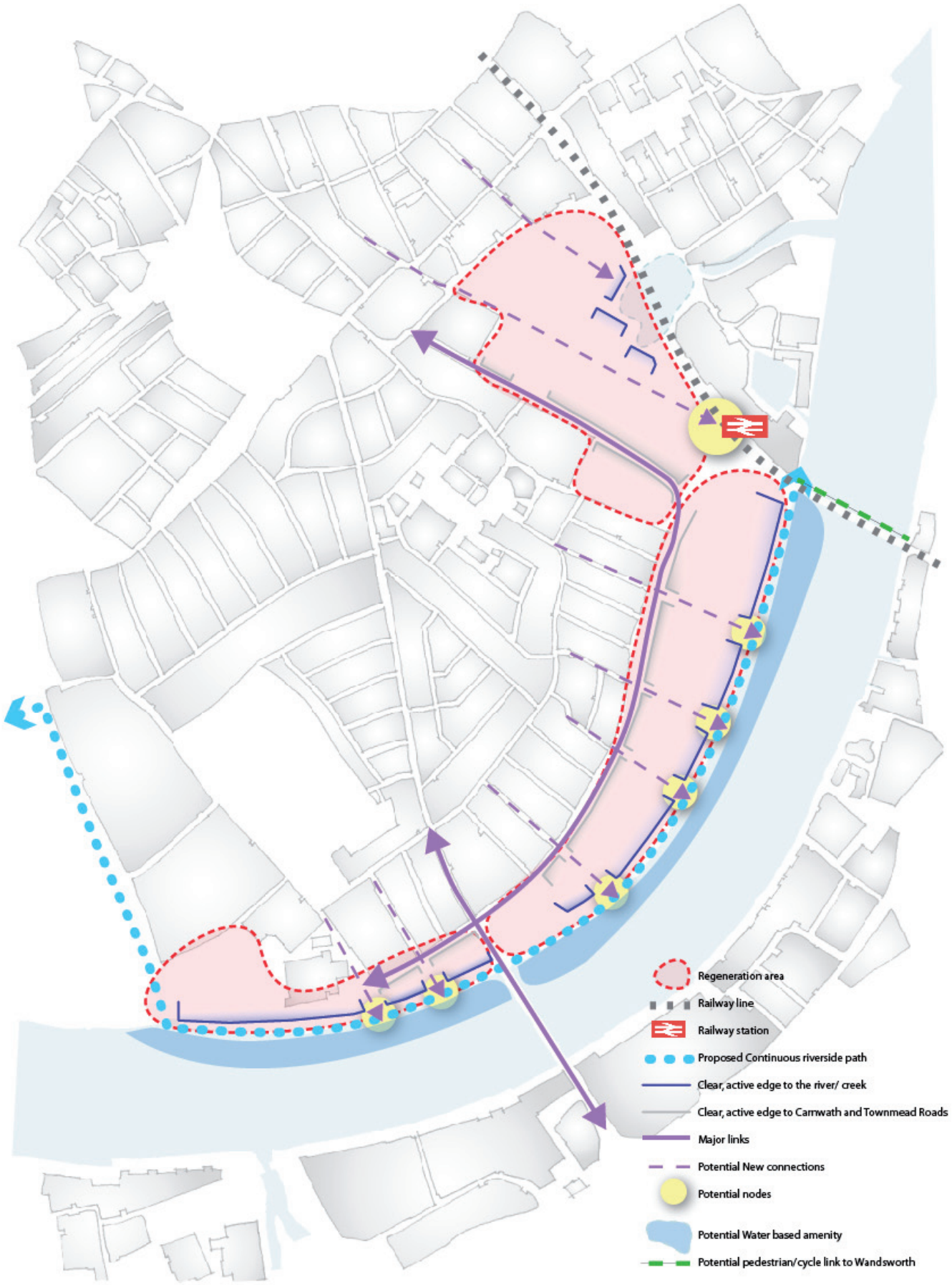
Townmead and Carnwath Roads could be redesigned as impressive and contemporary streets and a focus for new and existing communities. Active frontages are necessary to animate the street.

Our proposals remain conceptual and flexible, deliberately so. However the spatial framework provides a design philosophy and background for site specific proposals to adopt.

(See Figure 9.8 Spatial Plan)

Figure 9.7:New Public Space outside Bluefin Building Bankside (Steve Davies)

Figure 9.8: Spatial Plan



9.5 PROTECTING HERITAGE

9.5.1 Sands End Conservation Area

A substantial part of the regeneration area lies within the Sands End Conservation Area. The Conservation Area was designated in 1991 "because of the importance of protecting the riverside from unsympathetic development." [Conservation area character profile]. The character profile identifies eight opportunity sites within the designated area where visual improvements are desirable and could be achieved through redevelopment or refurbishment. Upon designation it was recognised that significant parts of the area would be redeveloped.

Part of the Imperial Square and Gasworks Conservation Area also lies within the regeneration area. There is a rich history of industrial archaeology on the Gas Works site which includes statutory and locally listed buildings. The Conservation Area character profile identifies those buildings and structures which make a positive contribution to the character and appearance of the Conservation Area as well as opportunity sites for infill and redevelopment.

Designation ensures that any proposal respects its setting and the architectural and historic context of the wider area. Conservation Areas are heritage assets and the underlying conservation principle of preservation or enhancement of character and appearance of the Conservation Area applies.

9.5.2 Protecting Heritage Assets

The heritage assets within the framework area, described in Chapter 4 of this report, serve as a reminder and memory of the area's historic past, and can add to the richness and diversity of the built form. It is essential that these assets are retained and reused in any scheme.

The area has already supported the successful conversion of part of the Fulham Power station building. The former Fulham Wharf building, despite its derelict condition, is a much-valued and prominent elevation in the local street scene; it should be preserved. Similarly, there are several river related artefacts along the river frontage which should be preserved and included in any public realm improvement schemes relating to new proposals. In addition to protecting the heritage assets in the framework area, special regard should be paid to enhancing their setting such that they are better revealed. The townscape in the framework area will change significantly. The heritage assets can provide a focus and catalyst for the regeneration, and inspire the new urban form and designs.

Figure 9.9: Fulham Wharf, Building of Merit

9.6 MASSING URBAN FORM

9.6.1 Massing form and design

The massing, form and design of all new development should reflect the role of the riverside in this part of the Borough and London as a whole. To some extent, increased height and massing could be satisfactorily accommodated along this stretch of the South Fulham Riverside given the scale of the Thames which provides the setting.

It would need to be urban in character and scale in order to maximise the potential of the area. In achieving this objective it would need to be mindful of surrounding development and respect the scale of the existing townscape surrounding the framework area.

South Fulham is characterised by low rise residential streets and in places, higher density mansion block development. There is also a historic relationship with the river which could be represented in any new development.

Development should be of the highest urban design quality. The highest standards of design will be a fundamental objective. In responding to the setting and context of the site, developers and designers will be encouraged to be imaginative

and innovative. Urban quality will need to be sustained by high quality urban management.

Development should be designed to create a coherent and integrated place and thereby, contribute to the development of a sense of place for the whole of South Fulham Riverside. The regeneration area should develop as a place with its own character and identity.

Figure 9.10: Converted warehouses at Shad Thames

The architectural style of new development should enhance the character and appearance of the area and compliment the riverside setting while providing higher density living (such examples can be found in other riparian parts of London such as Shad Thames and Butlers Wharf).

Figure 9.11: Historic townscape at Shad Thames (Photograph by Adrian Welch)

Figure 9.12: Stepped massing at Butlers Wharf

Figure 9.13: Stepped massing at Royal Arsenal Riverside (Olli Hellman)

Figure 9.14: Stepped massing at Gunwharf Quays, Portsmouth (Olli Hellman)

The Townmead Road interface with the framework area is predominantly two storeys composed of either terraces addressing the street or the paired flank ends of adjacent terraces. The traditional rectangular urban street block found in this part of the neighbourhood is of a consistent form and scale. The Carnwath Road interface, on the other hand, is more fragmented in form, alignment and scale. All new developments should respect the residential scale of buildings to the north of the framework area with a "stepped massing" to building heights, which have the potential to increase as they move away from the domestic scale of the existing housing towards the riverfront where the buildings would need to be of a scale which gives appropriate definition and presence to the riverside.

Figure 9.15: Edwardian housing at Townmead Road

Figure 9.16: 1970's housing estate at Carnwarth Road

Figure 9.17: Royal Arsenal Riverside (Photograph by (Olli Hellman)

Figure 19.18: Adelaide Wharf (Photograph by Olli Hellman)

9.6.2 Riverside development

The most appropriate form for the riverside development to take would be one which aligns with the riverside to give definition and a legible edge, rather than the form seen in some recent developments of blocks arranged perpendicular to the riverside which apart from allowing views from the apartments to the river, does little for the townscape of the riverside. This has resulted in a new and varied scale for the riverside but a lack of definition for the river edge. It appears that some height can be satisfactorily accommodated in response to the scale of the Thames, however, height and massing must be carefully balanced with block alignment to create successful edge definition.

All new buildings along the riverfront will benefit from views of the river. They should equally respond to the visually prominent location by providing a distinctive and interesting riverside frontage of high design quality. The riverside buildings should address the Thames Path and provide active ground floor uses which enhance overlooking of the riverside walkway. These buildings provide enhanced opportunities for river-based uses.

9.6.3 Key focal points and tall buildings

The townscape analysis of the framework area suggests that South Fulham Riverside has two key focal points - one at Fulham Wharf, where the supermarket provides a draw and focus of activity, and the other at Imperial Wharf/Chelsea Harbour based around the new development, park and station. These areas, in view of the townscape significance could accommodate increased massing and height.

The Imperial Wharf station location already supports development of an increased massing and height and this could be consolidated. At Fulham Wharf, it would be appropriate to accommodate increased massing and height which is related more to the attraction and activity generated by the supermarket, the provision of increased connectivity and the provision of new riverside spaces. Fulham Wharf would thereby become a point of townscape focus. It is in these locations where proposals for tall buildings could be considered. Any proposals for tall buildings in these locations would provide a positive statement in the regeneration area and are unlikely to cause harm to the heritage assets or their setting. Proposals for tall buildings would need to be accompanied by the appropriate townscape justification in accordance with the English Heritage / CABE guidance, and comprehensive impact studies. The designs would need to be appropriate in terms of proportion, silhouette and architectural quality.

Elsewhere in the framework area, the general scale, height, and massing should have a closer relationship to the existing townscape. There is a variation in building height in the area, and it would be appropriate for new development to adopt a similar variety of scale. Following the analysis of the existing building heights it is considered that a general building height of 4/5/6and 7 storeys, with reduced massing at the upper levels, could be satisfactorily accommodated throughout the area. Buildings of this scale would relate well to the built form. West of Wandsworth Bridge, building heights would generally be appropriate at 4 to 7 storeys. Additional height could be accommodated in specific places, but should not exceed 10 storeys. East of Wandsworth Bridge Road, 3 to 7 storeys would be generally appropriate with some higher buildings at key locations. The area west of Imperial Road is likely to be more suitable for lower rise buildings, which could include a range of typologies, including houses. Higher buildings could be accommodated at the Fulham Wharf site and the Chelsea Creek/National Grid sites on Imperial Road.

9.6.4 Fine grain development

Proposals should seek to provide a range of building typologies and forms. Any new developments should continue the existing fine urban grain of the area and promote variety in new buildings whilst ensuring an overall coherence. A "warehouse" style design and massing, with distinctive but simple facades, is traditionally associated with waterside development and would be appropriate here. However, it is considered that architectural styles should be varied, but all related to context. In some locations the context is looser than in others. A fine grain development layout, related to the human scale is more important than any particular architectural style.

The fine grain development needs to be supported by defined active edges at ground floor level of an appropriate scale. Residential development occupying the ground floor of buildings should have direct access to the new street, such that the space is overlooked and animated by a series of front doors.

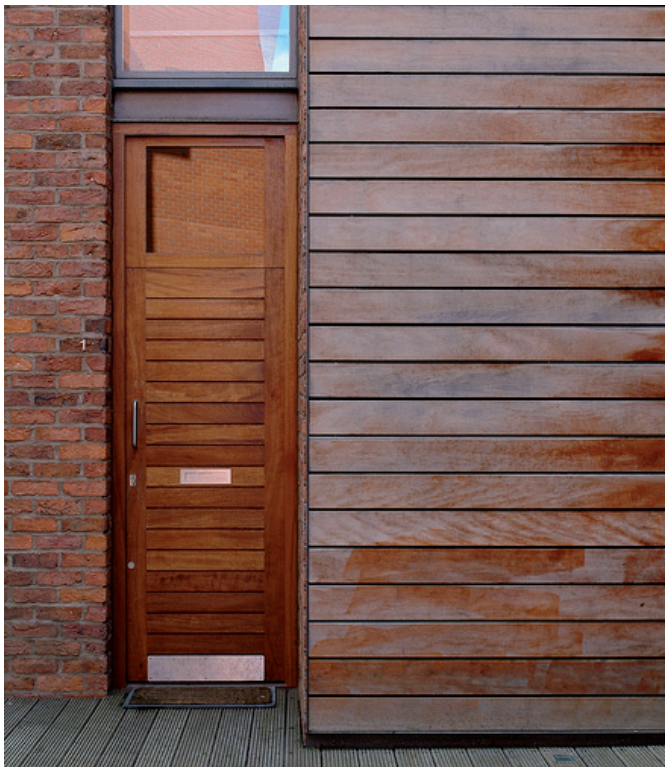
Threshold spaces along the edge of buildings should also reflect the fine grain and should be subdivided to relate to individual ground floor units. Communal spaces for residents around the public edges of buildings are discouraged as they prevent the development of fine grain character. Communal or private garden spaces which are purely for residents of the block should be placed at the rear of the buildings.

It is accepted that residential developments need to have a degree of privacy at ground floor level and could include green buffer threshold spaces which would also contribute to the street scene. Typically such spaces should be narrow with low walls/railings or fences which is typical of the local urban character.

9.6.5 Materials

Brick is the predominant building material in the area. The use of brick for the new development would be the most appropriate and obvious choice. However, there will be some building typologies which lend themselves to other materials, and the introduction of new materials is not precluded. Parts of the riverside may benefit from materials which give a lighter less solid appearance and which might benefit from the reflections from the water.

Figure 19.19: Old Haymarket, Liverpool



9.6.6 The Role and context of the site

The built form which would be most appropriate to the framework area is one of outward looking perimeter blocks which would combine to give a new permeable and attractive urban structure to this part of the Borough (see figure 9.21). All new developments would need to demonstrate that the design is a result of a carefully considered analysis of the role of the site and context, and that they satisfy the principal conservation test of enhancement of the character and appearance of the area.

Figure 9.20: Traditional materials at Gunwharf Quays, Portsmouth (Olli Hellman)

Figure 9.21: The external face of a perimeter block at Mastmaker Road, London (Steven Davies)

Figure 9.22: Inside the perimeter block at City Point, Brighton (Olli Hellman)

Figure 9.23: Inside the perimeter block at Bagleys Lane, South Fulham (Yvette Ruggins)

Figure 9.24: Inside the perimeter block at St Andrews, Bromley-By-Bow (A&M Photography)

9.7 CONNECTIVITY & PERMEABILITY

9.7.1 Riverside Walk

The riverside walk connects the sites within the framework area. It is therefore essential to consolidate and strengthen the riverside walk as a route and recreational resource, completing it where necessary and where possible. The aim will be to create a revitalised vibrant riverside edge. The unifying character of the linear route is vital and to this extent, the detailed design of the route should be carried out to Streetsmart [The Councils street design guidance] standards.

9.7.2 Visual permeability

A key objective for the new urban form is to reconnect the hinterland, comprising the residential neighbourhood within the Sands End ward, to the river. This involves promoting access through new developments, and where possible introducing direct access to the riverside from Townmead and Carnwath Roads. Visual permeability is also important from these roads. The view of the riverside from Broomhouse Lane to Broomhouse Dock, and the more recent view through Imperial Wharf Park are two of the limited visual connections available at present. The benefit of such views establishing a sense of location and place is apparent. Visual permeability to the river is maximised where the new routes are formed as a continuation of existing streets. Access to the riverside from the streets to the west of Wandsworth Bridge such as Peterborough Road, Dymock Street and Breer Street would be best achieved through direct continuation of the existing streets, which would also enable longer vistas to the riverside to be opened up.

9.7.3 New links

Improved permeability at the northern end of the framework area where the existing railway viaduct has a significant visual presence, but also severs links to the adjoining development, will be important on the Stephendale to Imperial Road link. There currently exists a link at the riverside walk through an arch to Chelsea Harbour, and an additional access point is available through the viaduct at Imperial Wharf station to Chelsea Harbour. A further link could be made at Chelsea Creek where the water course runs beneath the viaduct. This would link any future development on this site to the riverside via an enhanced Creekside route formed as part of the proposed public realm improvements of the Lots Road development master plan. Development on this site should also provide improved links with a new attractive and safe pedestrian route to Kings Road and onto Fulham Town Centre.

(see Figure 9.25: Connectivity and Permeability)

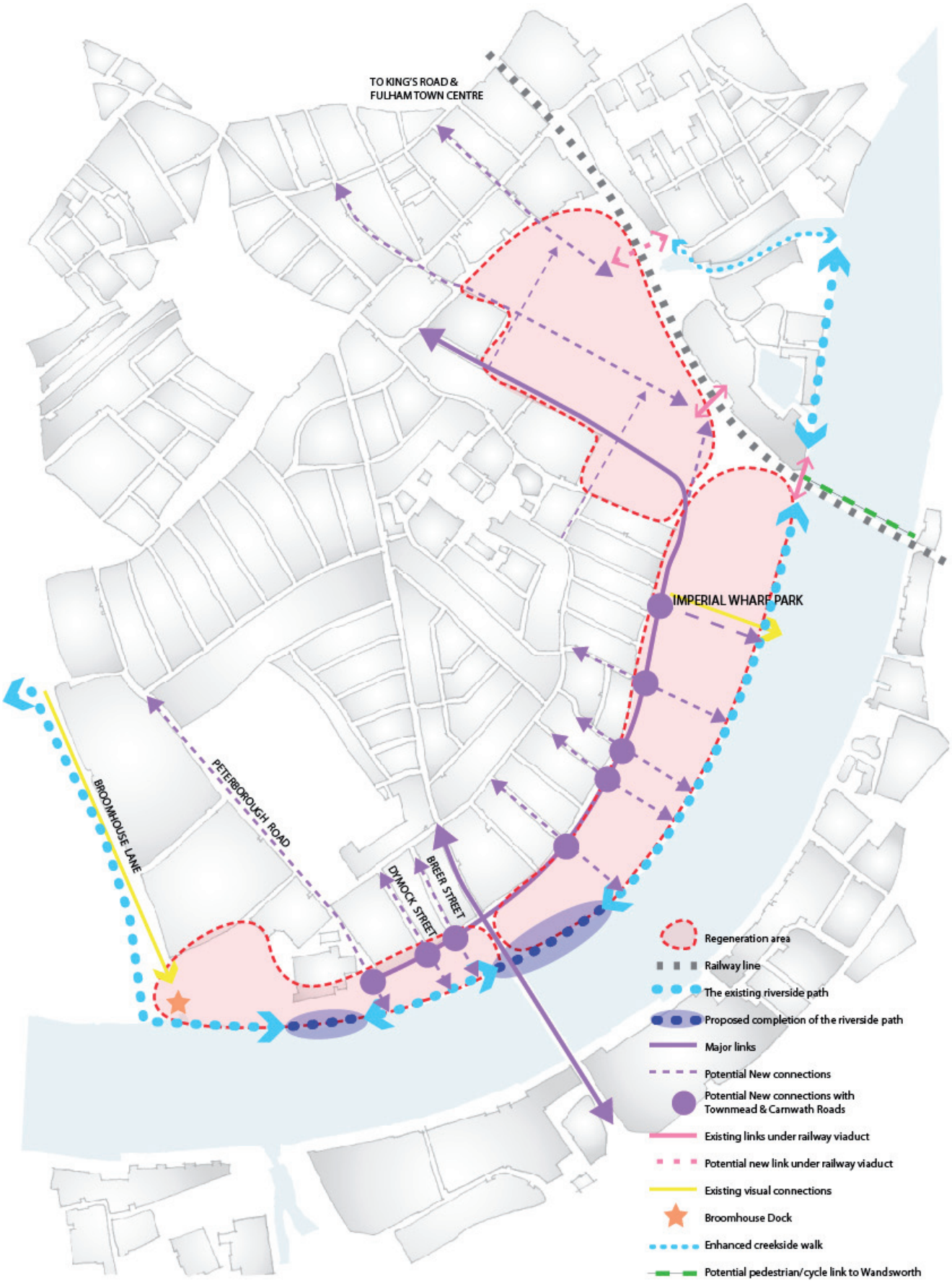
9.7.4 Improving existing streets

The primary linkages would then form the spine around which a network of well designed, safe, pedestrian friendly streets and spaces could be established. Improved connections to the riverside would need to cross Townmead Road and Carnwath Road. These roads are likely to experience increased levels of traffic as the area becomes developed. Measures to reduce pedestrian / vehicular conflict and to improve the environment for the pedestrian should be incorporated into any proposals. The riverside walk is diverted away from the riverside at Wandsworth Bridge. Pedestrian crossings at Wandsworth Bridge Road and Townmead Road would need to be re-examined with a view to improving conditions for the pedestrian.

9.7.5 Potential for new river crossing

In looking at the wider area, links across the river remain restricted solely to Wandsworth Bridge and Battersea Bridge. The potential for an additional pedestrian bridge across the Thames has been examined previously. It may be timely to re-examine the feasibility of such a link.

Fig 9.25: Connectivity and Permeability



9.8 PUBLIC REALM AND OPEN SPACE

9.8.1 High quality public realm

South Fulham's public realm includes parks and playgrounds as well as transport-related spaces such as roads, pavements, paths and riverside routes. It also concerns the ability of public space to interact with its surrounding buildings. Good quality public realm is of considerable importance as this is where most residents, employees and visitors experience the environment in which they are living, working or visiting. It is also the public realm which provides the setting for buildings, and the glue which binds an area together. The provision of good public realm was one of the main issues debated by stakeholders attending the consultation workshops on South Fulham Riverside facilitated by the Prince's Foundation. There are existing open spaces which would serve the regeneration area in some capacity for recreational use. All new developments should seek to improve and enhance existing public spaces through Section 106 funding where appropriate.

9.8.2 Provision of new spaces

Imperial Wharf Park has made a contribution to the provision of open space in the framework area although it has not provided all the public amenities that a space of this size could achieve to deliver residents aspirations. Other developments should seek to better this standard in terms of public benefits and seek to improve the existing network of open spaces by creating new spaces where appropriate and improving the pedestrian experience between the spaces. The aim is one of a series of safe and accessible connected spaces which feel generous and well-designed and clearly signal that the riverside and its local environment is a public space. All such spaces should be designed to generate the level of human activity appropriate to location to create a reduced risk of crime and sense of safety at all times. All new developments should promote access to the Thames River Path. (See Figure 9.29)

The riverside, in particular can accommodate a range of types of spaces, from new areas of parkland, new riverside squares with restaurants and cafes to smaller spaces for more passive recreation and quiet contemplation. Each would bring a level of vitality and interest to the riverfront. All new developments should provide a level of public space provision commensurate with the intensity of use. The new spaces would be most appropriately accommodated at the intersections of linking routes through the site providing an "event" at key nodes. A coherent structure can then be developed across the whole regeneration area.

All new developments should seek to provide play space for children. These can be incorporated within the enclosed communal spaces at the rear of buildings within perimeter blocks where they are purely for resident's children. Play spaces can also be incorporated within other new spaces where they are providing for a wider public benefit.

(See Figure 9.29: Public Realm and open space)

9.8.3 Design and materials

All new developments should provide a clear definition between public and private space. Schemes for work on the public highway should be to adopted Streetsmart standards, in terms of the paving, street furniture and landscaping. Where routes through developments are on private land the design should convey that the public are welcome to walk through. To encourage this, routes should be simply designed to match the appearance of the public highway and designing to Streetsmart standards would therefore be appropriate. This could be particularly effective where new routes are the continuation of existing streets. If surface level car parking is incorporated in new routes it should be linear and along the kerb edge to reinforce the prevailing urban character. Echelon parking and car parking courtyards should be avoided as they are out of character and may convey that the route is purely for residents.

All buildings, streets and public spaces should be designed to be inclusive and accessible for all and all proposals should have regard to the Council's Access for All SPD which will be superseded by the Planning Guidance SPD in 2013.

Figure 9.26: Barking Central from above. New Town square incorporating areas of soft and hard landscaping, logs for informal play, seating and routes through the square (Steven Davies)

Figure 9.27: Lace Market Square, Nottingham (David Millington Photography ltd.)

Figure 9.28: Barking Central, public route to Town Hall adjacent to new town square (Steven Davies)

9.8.4 Landscaping

A planting strategy for the framework area can be developed from proposals on individual sites. Street tree planting along Townmead and Carnwath Roads should be carried out where appropriate and where possible. Further tree planting and soft landscaping on the riverside will be encouraged. Native tree species should be chosen as a priority and existing trees replaced where practicable. The mature trees retained on the riverside at the Imperial Wharf Park river frontage have a significant presence in views along the riverside and from the opposite bank. Trees of significant scale may be required to provide sufficient definition to the riverside walk.

Figure 9.30: Royal Arsenal Riverside (Olli Hellman)

Figure 9.31: City Point, Brighton (Olli Hellman)

Figure 9.29: Public Realm and open space

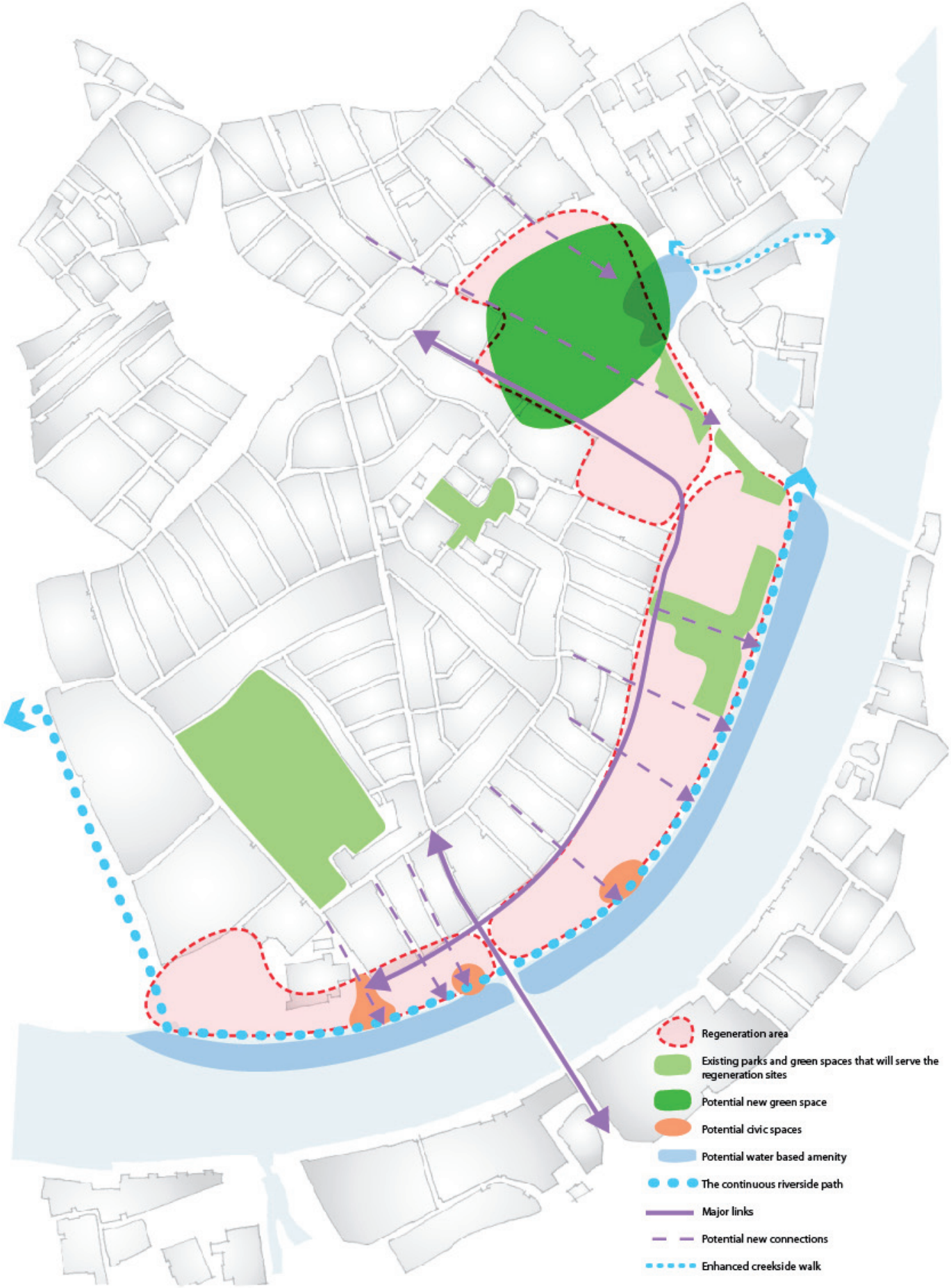


Fig 9.32: Street trees in Germany (Steve Davies)

Figure 9.33: Street trees in Germany (Steve Davies)

9.8.5 Active frontages

In order to provide a good quality environment for the public realm it will be important that the enclosing public facades are appropriately designed. All new developments should create an attractive safe and overlooked pedestrian environment and provide active ground floor frontages to enliven open space and the street scene. New routes through sites should also be designed to incorporate active frontages with a fine grain appearance incorporating main entrance doors and individual thresholds for all ground floor units.

Figure 9.34: Gunwharf Quays (Olli Hellman)

9.8.6 Upgrading existing streets

A coherent strategy for public realm improvements to Townmead and Carnwath Roads including paving, lighting, street furniture, landscaping and tree planting should be developed and implemented. This should involve increasing the width of the pavements where possible, and improving the experience of the pedestrian as much as possible.

CHAPTER TEN | Development Capacity Study

10.1 INTRODUCTION

The purpose of the development capacity study is to use a 3D model to test the spatial capacity of the area to see if it can accommodate different options regarding housing and employment growth. Key considerations from Chapters 8 and 9 on Housing and Urban Design have set key parameters that will inform the level of growth that can be supported through the development capacity study. The outcome from the transport study will then inform whether the proposed level of growth in the number of residential units and jobs can be accommodated.

10.2 KEY CONSIDERATIONS

These key considerations below need to be taken into account when establishing whether the density levels in the three development options proposed are acceptable. These principles were established in Chapters 8 and 9, Housing and Urban Design.

- Approach to height and massing
- Able to accommodate a mix of acceptable housing typologies and sizes
- Other urban design and place making principles
- Sites available for development
- Transport capacity in the area

10.3 APPROACHES TO HEIGHT AND MASSING

- **Building Heights** In order to respond to local context and urban design principles building heights of 3/4 storeys adjoining low rise residential properties for example at Sullivan Road and Bagley's Lane are required. Increased height and massing could be satisfactorily accommodated along this stretch of the riverside given the scale of the Thames which provides the setting. The Urban Design Strategy Chapter 9 proposes west of Wandsworth Bridge that building heights would generally be appropriate at 4 to 7 storeys with additional height in specific places but not above 10 stories. East of Wandsworth Bridge Road it anticipates 3 to 7 storeys are generally appropriate with some higher buildings. The area to the immediate west of Imperial Road is likely to be more suitable for lower rise buildings including houses. Higher buildings could be accommodated on the Fulham Wharf/ Sainsbury's site and Chelsea Creek/ National Grid sites on Imperial Road.
- **Perimeter Blocks** The requirement is to have a series of perimeter blocks establishing a finer grain to the urban layout. This is also linked to ownership of sites to ensure the overall concept scheme can be delivered with sites coming forward for redevelopment at different times. Within the blocks private or communal amenity space can be created including children's play space.
- **Connectivity** This approach using perimeter blocks allows new routes to be established connecting the hinterland to the river creating a series of new links for pedestrians and cyclists.

10.4 ACCOMMODATING A MIX OF ACCEPTABLE HOUSING TYPOLOGIES

- **Typologies** The requirement for affordable housing is that in the Core Strategy namely 40% affordable housing as set out in strategic policy H2. Housing typologies include one, two and three bed apartments, some maisonettes, and three, four and four plus bed houses.
- **Housing Standards** Compliance with Lifetime Homes standards and minimum space and design standards for all new housing detailed in Policy 3.5 and Table 3.3 of the London Plan (2011).

10.5 OTHER URBAN DESIGN AND PLACE MAKING PRINCIPLES

- **Open space** New areas of public open space should be considered to address deficiencies in access to open space as identified in Figure 2.4 in Appendix 2.

There is a lack of provision in the east of the regeneration area and on the riverside at least two new public spaces open to the river should be considered, one is already proposed on the Sainsbury's/ Fulham Wharf site.

- **Children's play space** New communal children's play space is required in new residential development that provides family accommodation. Compliance with requirements regarding children's play space as set out in the Mayor's SPG 'Shaping Neighbourhoods: Play and Informal Recreation' 2012
- **Amenity Space** Draft Planning Guidance Supplementary Planning Document states that "all new dwellings should have access to an area of amenity space, appropriate to the type of housing being provided. Every new family dwelling should have access to amenity or garden space of not less than 36 square metres. Dwellings with accommodation at ground floor level should have at least one area of private open space with direct access to it from the dwelling. For family dwellings on upper floors this space may be provided either as a balcony or terrace and/or communally within the building's curtilage". The Mayor's Housing SPG (2012) standard 4.10.1 sets out a requirement for a minimum of 5sqm of private outdoor space to be provided for 1-2 person dwellings and an extra 1sqm to be provided for each individual occupant.
- **Heritage Buildings** The layout needs to accommodate protect and integrate heritage buildings within the block arrangements.

10.6 SITES AVAILABLE FOR DEVELOPMENT

The regeneration area was previously designated an employment zone in Hammersmith & Fulham's UDP. In 2007 this designation ceased which will have a significant impact on the anticipated level of future development likely to take place in the regeneration area.

An assessment has been made regarding the development areas where it is anticipated that development may take place at some time within the plan period. (Up to 2032). Approximately 21.8 hectares of land have been identified as likely to come forward for development (see Figure 4.9). This assessment of sites is broadly similar to those included in the Strategic Housing Land Availability Assessment (SHLAA). Approximately 8 hectares of land within the regeneration area has recently received planning permission for residential led mixed use development.

10.7 TRANSPORT CAPACITY

Within the South Fulham Riverside regeneration area the key constraint to future growth within the area is the transport capacity. Public Transport accessibility level (PTAL) is relatively low and key junctions within the highway network are already operating at capacity. The priority therefore was to commission a Transport Study early in 2010 to identify its likely restraint on future growth in the area.

The transport study considered the three development options and considered various transport interventions necessary to support the three development options. The Transport Study concluded that medium density (550 habitable rooms per hectare on average across the area) was the maximum level of growth achievable based on the modelling undertaken as part of the transport study.

A ratio of 0.5 parking spaces per unit residential and the more restrictive end of the London Plan range for commercial is assumed within the Transport Study and will need to be taken into account in the development capacity modelling.

10.8 DEVELOPMENT OPTIONS

Three development options Low, Medium and High Density were identified below (See Figure 10.1) with differing numbers of residential units and commercial floor space. The Core Strategy (2011) and outcome from the Transport Study informed this selection.

Within the Core Strategy 2011 the expected minimum growth within the South Fulham Regeneration Area over the next 20 years is 2,200 new homes. This information is based on the Strategic Housing Land Availability Assessment (SHLAA) which identified 21.4 hectares of land suitable for residential development which could accommodate 3,857 homes (based on density of between 350 and 550 habitable rooms per hectare). The Core Strategy 2011 estimated that

about 2,200 homes out of a possible 3,857 were likely to come forward for redevelopment over the next 20 years.

The outcome from the Transport Study established that an average of 550 habitable rooms per hectare (3888 residential units) and 21,200 of commercial space) was the maximum achievable and this was also dependent on a number of highway interventions being implemented.

The Core Strategy looked at average densities of 350 and 550 habitable rooms per hectare within the SHLAA which is why these densities were chosen for the low and mid density options. A further higher density option of average 750 habitable rooms per hectare (5,303 residential units) was included as this level of density had been approved on sites within the South Fulham Riverside area previously.

The Core Strategy 2011 assumes the regeneration area will support minimum growth of between 300 to 500 new jobs. The assumptions regarding commercial space included in the three development options are derived from the Core Strategy 2011. Based on the assumption that 18.5sqm of commercial equates to one workspace the 300 to 500 jobs equates to 5,550sqm and 9,250sqm respectively. Although the commercial floor space assumptions used in the medium and higher density options are higher than this they are still represent relatively low levels of commercial space.

The development options have also been used to test public transport, highways, open space and social infrastructure requirements associated with new development.

Figure 10.1: Development Options

OPTION 1 - LOW DENSITY

Residential (350 hr per hectare)	B1 use	A1-A3 use	Other (D1,D2, wharf)	Total Commercial (sq m)
2,474 units	4,240	4,240	2,120	10,600

OPTION 2 - MEDIUM DENSITY

Residential (550 hr per hectare)	B1 use	A1-A3 use	Other (D1,D2, wharf)	Total Commercial (sq m)
3,888 units	8,480	8,480	4,240	21,200

OPTION 3 - HIGH DENSITY

Residential (750 hr per hectare)	B1 use	A1-A3 use	Other (D1,D2, wharf)	Total Commercial (sq m)
5,303 units	16,400	16,400	8,200	41,000

10.9 BLOCK MODEL THEORETICAL TESTING

As the outcome from the Transport Study concluded that the transport capacity would place a maximum limit on the number of homes and jobs detailed in Option 2 - Mid Density this was the development option that was used to test the maximum capacity of the area.

A 3D block model was developed based on Option 2 – Medium Density based around the sites within the regeneration boundary identified as likely to come forward for development within the next 20 years (as identified in 10.6 above).

Since the 3D modelling exercise was undertaken three large sites have received planning permission Sainsbury's/Fulham Wharf (site 16 in Figure 4.9) and 26 Sullivan Road and 92 - 116 Carnwarth Road (sites 2,5 and 6 in Figure 4.9). and the Chelsea Creek site (part of site 24 in Figure 4.9) The additional commercial space anticipated within the regeneration area remains roughly in line with 21,200sqm modelled. The additional residential units anticipated have slightly increased but not at a level to have any significant effect on the outcome of the 3D modelling exercise.

10.10 KEY OUTCOME

Figure 10.2 to 10.5 3D Axonometric demonstrates how Option 2 – Medium Density could be applied to the South Fulham Regeneration area. It demonstrates in spatial terms the type of layout, scale and massing that could be developed for the regeneration area that complies with all the key considerations identified in 10.3 to 10.7.

However each proposal which comes forward in the regeneration area will need to demonstrate that it is in compliance with the development plan and has regard to the principles set out in the SPD.

Figure 10.2 Indicative Development Capacity National Grid and Chelsea Creek

Figure 10.3 Indicative Development Capacity National Grid and Chelsea Creek

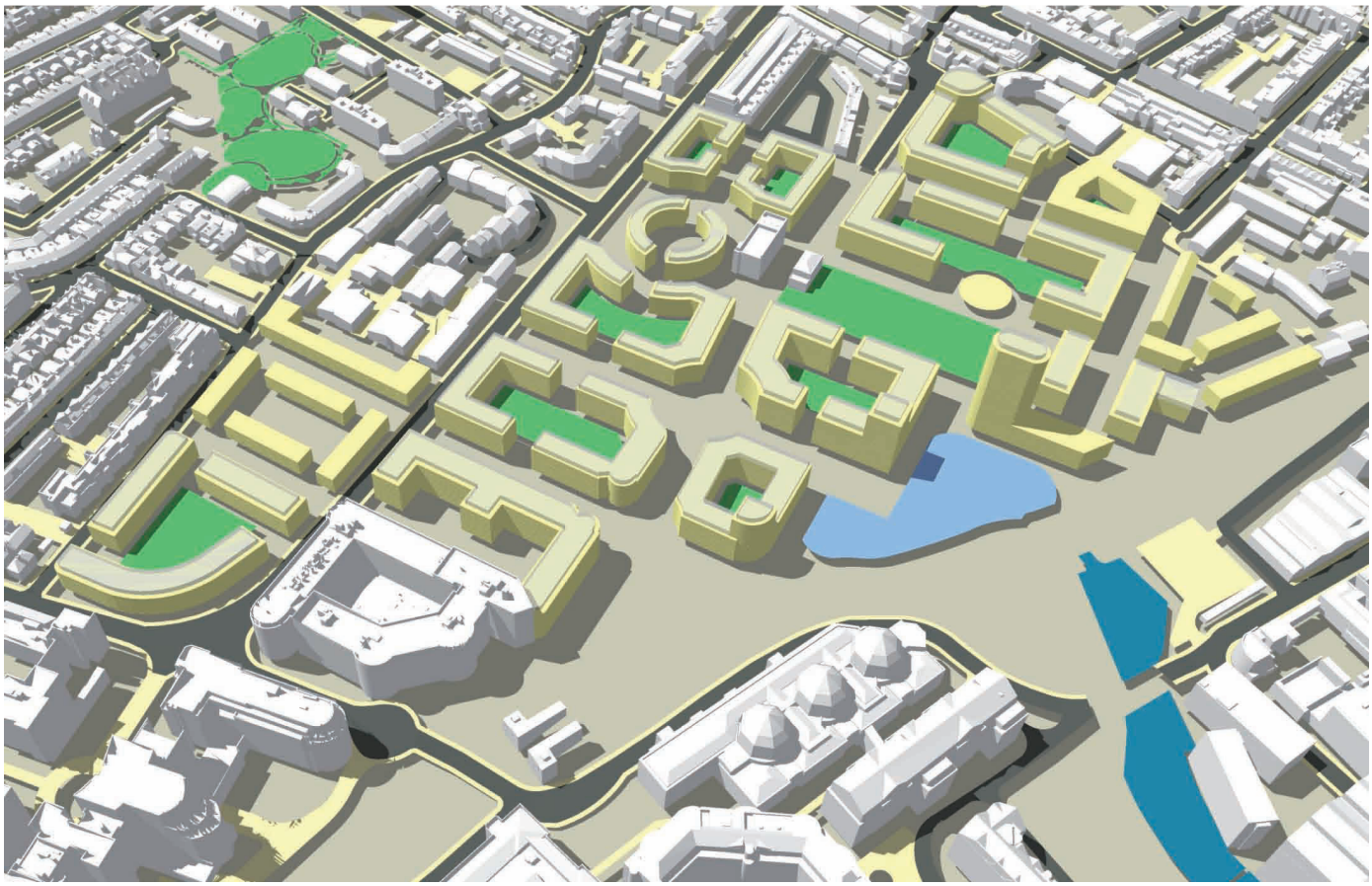


Figure 10.4: Indicative Development Capacity West of Wandsworth Bridge

Figure 10.5: Indicative Development Capacity West of Wandsworth Bridge

CHAPTER ELEVEN | Transport Interventions

KEY PRINCIPLES

- All development proposals should be accompanied by a robust transport assessment (TA) clearly demonstrating the impact of the development on all modes of travel, particularly the highway network.
- All new developments should contribute towards environmental and highway improvements as outlined in the DIF study and deliver wider, clearer and high quality accessibility.
- Travel Planning is a fundamental element to harness the accessibility of the regeneration area. All developments should be underpinned with robust residential and workplace travel plans.
- Regeneration will harness the potential of the area, as per the Core Strategy Policy SFR, with the river being opened up and development encouraging river related uses along with the continuation of the Thames National Path to facilitate walking and cycling connections.
- Car parking levels should be minimised in order to restrain car trips, except for parking for car clubs vehicles, which are encouraged in order to provide an alternative to private car ownership. As per the London Plan 2011, electric charging points should also be incorporated. Management and access strategies for developments may be required to mitigate the impact of new, intensified vehicular accesses on the highway network.
- Development proposals should be supported by substantial measures to minimise the impact of freight during the servicing and delivery for the developments on the road network and particularly during the construction period with the use of rail and river networks strongly encouraged.

Key principles of the transport study

- To outline the aims and objectives of the South Fulham Riverside transport study;
- To understand the likely impacts on public transport and highway networks as a result of the development scenarios;
- To demonstrate the need for new transport services and infrastructure;
- To identify the key strategic infrastructure required to support development within the regeneration area;
- To identify the optimum transport packages to support the development scenarios;
- To set out a series of transport recommendations to support the preferred option.

11.1 OVERVIEW

The London Plan, the Core Strategy and the current saved policies within the UDP seek to ensure regeneration of the borough encompasses comprehensive integration between transport and development to shape the future of Hammersmith and Fulham. This will be encouraged through patterns and forms of development that are sustainable as well as improving public transport, walking and cycling accessibility in areas of greatest demand such as South Fulham Riverside.

High density development, by virtue of its nature, would lead to increased trip generation and is only considered acceptable in locations which have good access to public transport and where the existing levels of transport capacity are sufficient to absorb the impacts of development.

All major developments are assessed by the Council and the Greater London Authority, which includes Transport for London, as one of a number of statutory consultees in the planning process. Proposals are assessed against relevant Local and Regional planning policies and if required provide adequate mitigation or transport improvements to ensure any impact can be acceptably absorbed on the networks.

The Transport and Movement Context (Chapter 4 and Appendix 3.0) sets out an overview of the existing transport characteristics in and around the regeneration area.

Figure 11.1: Summary of comparative residential land use sites from TRAVL

Site	Location	No. of Units	PTAL	Survey Date
Imperial Wharf	Hammersmith & Fulham	1263	1	02/12/2009
Chelsea Bridge Wharf	Wandsworth	690	4	03/06/2009
Battersea Reach	Wandsworth	650	3	22/10.2009
Riverside West (I'nv & Att)	Wandsworth	533	3	20/10/2009
Grovesnor Waterside	Westminster	252	2	22/10/2009
St George Wharf (Aff & Priv)	Lambeth	927	6	22/10/2009

Whilst the sites surrounding Wandsworth Bridge have good access to public transport and the new station at Imperial Wharf has improved Public Transport accessibility levels to the east, the lack of significant public transport capacity in the regeneration area, coupled with capacity problems on the highway network, could present a potential barrier to development and sustainable growth within the regeneration area unless significant enhancements and improvements are facilitated.

PTAL is a TFL approved quantitative measuring tool based on walking access time and service availability to public transport services. Although a package of improvements to highway and sustainable networks will be outlined to support the regeneration, in reality this may not significantly increase the PTAL levels within the area due to the fact that PTAL is based on a numerical calculation based on distance to and frequency of services; for buses this is 8 minutes walk or 640 metres and for rail this is 12 minutes walk or 960 metres and any services beyond these distances/walking times are rejected. Accessibility is defined as the ease to which a service can be reached or obtained, this distance could differ depending on a number of factors, including mobility and travel choice.

11.2 TRANSPORT STUDY AND ADDENDUM

In order to inform the development of the South Fulham Riverside Supplementary Planning Document, an independent transport study was commissioned in 2010 to better understand the cumulative impacts of a range of development scenarios over the 20 year plan period

A follow on Addendum to the study was undertaken in 2011 which refined the study work to ensure consistency in line with the latest assumptions. Development impacts within the Transport Assessments for those sites within South Fulham Riverside where planning permissions had been approved were included to provide a more robust assessment in place of the forecasts within the 2010 Transport Study. A deduction for vehicular trips generated by existing uses where planning permission has been granted for a change of use and updated traffic counts from 2011 were also included in the refined assessment.

Feedback from the public consultations for the SPD also formed a valuable element in scoping the Transport Addendum and potential improvement proposals. Further refined assessments within the SFRRA will be required to take forward the conclusions from the Transport study and Addendum; particularly in regard to defining the details of high priority transport interventions.

The aim of the Transport Study was to identify the impact of regeneration development scenarios within South Fulham Riverside, highlighting the impact on public transport and the highway network. The study also investigated a range of possible transport interventions, identifying an optimum transport solution for each, which was refined within the addendum.

The transport study involved five key work streams;

- Travel demand forecasting for each development scenario
- Strategic and local modelling using various software packages
- Definition of a range of transport packages/ initiatives to support the various quanta of development;
- Appraisal of the mitigation packages with key objectives;
- Consultation with TfL and other key stakeholders.

The Transport Study and Addendum provide a strategic overview of the regeneration of South Fulham Riverside and further refinement work will be required throughout the plan period which will include the deduction of all existing trips from development sites, approved quanta of trips for sites that secure planning permission and specific modelling to focus on defining the detail for certain transport enhancements.

Every development proposal needs to be accompanied by a robust transport assessment considering existing site uses compared to the proposed quantum of development, with impact analysis on the existing highway and other modal networks. The transport assessments provide site specific analysis which is used in conjunction with the Transport Study, Addendum and any future refinement work to assess in detail the impact of any proposed development within the context of South Fulham Riverside and the appropriate amount of funding to secure the infrastructure improvements to absorb the impacts generated.

11.3 DEVELOPMENT SCENARIOS

In order to assess the quantum of new development in the regeneration area, the original Transport Study modelled three development scenarios based on the assumption that up to 21 hectares of land within the regeneration area could be redeveloped with housing led mixed use developments and a limited amount of new commercial use as follows;

- **Scenario 1 Low Density** – 350 habitable rooms per hectare, 2,474 homes,10,600sqm commercial
- **Scenario 2 Mid Density** – 550 habitable rooms per hectare, 3,888 homes, 21,200sqm commercial
- **Scenario 3 High Density** - 750 habitable rooms per hectare, 5,303 homes, 41,000sqm commercial

For the purposes of the Transport Study and providing an indicative assessment on the potential impact of regenerating South Fulham Riverside, potential development sites were considered based on feedback from discussions in 2009-10 with landowners and prospective developers. This was refined within the Transport Addendum 2012 taking into consideration updated opinions on potential development timescales and the recent planning permissions at the time of the 2011 assessment for the Chelsea Creek, Fulham Wharf and Baltic Sawmills development sites.

These potential development sites were divided into two phases within the Transport study 0-5 years and 5-10 years and 3 phases within the Transport Addendum; 0-5 years, 5-15 years and 15-20 years.

A trip-rate based approach, using information from both TRAVL (Trip Rate Assessment Valid for London) - a unique, multi-modal trip generation database designed specifically for use in the capital - and the TRICS database (National database equivalent), was adopted to determine the travel demand associated with the three development scenarios.

It should be noted that the Imperial Wharf survey was undertaken just after the Imperial Wharf Station opened and the station has increased the public transport accessibility level to the east of the SFRRA from 1 to 2. The Transport Addendum did include up to date station usage surveys and developments sites within South Fulham Riverside will need to be accompanied by a robust TA including mode share impact surveys.

The parking provision for the residential element was modelled at 0.5 spaces per unit which was considered acceptable for testing purposes based on current car ownership in the area and is in line with national, regional and local transport policies to encourage a shift away from the private car. Commercial parking provision was based on the London Plan standards. Given the public transport accessibility level range throughout the SFRRA, car parking and cycle parking levels will be assessed in site specific terms, based on the UDP and London Plan 2011 standards. See Figure 11.2.

Figure 11.2 Development trip forecast for 2020

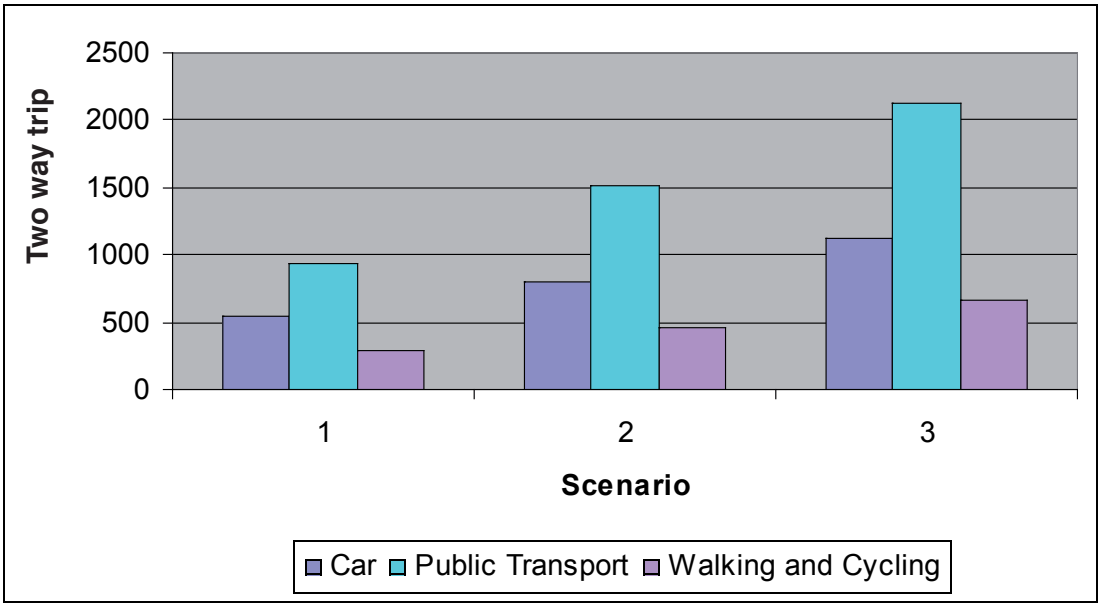


Figure 11.3 Mode share comparisons – South Fulham Riverside/Hammersmith & Fulham (TRAVL Data – Imperial Wharf, 2009) & (Benchmarking data for London Boroughs, July 2010).

Mode	South Fulham Riverside (2009)	Hammersmith& Fulham Mode Shares (2006/09)
Rail	11%	1%
Underground	18%	14%
Bus	29%	17%
Taxi/other public transport	0%	3%
Car/motorcycle	23%	24%
Cycling	1%	4%
Walking	16%	37%

Figure 11.2 illustrates new peak hour two way trips for the entire regeneration area split into three modes of travel; car, public transport and walking, for each development scenario. It shows the number of trips grow steadily with the increasing density of each development scenario, with the steepest incline increases attributable to the highest density scenario (3). The bar chart which represents a step change in the level of housing and employment respectively.

The residential modal share from the regeneration area compared to the borough as a whole is shown in figure 11.3. This shows that rail, bus and train usage are much higher than the Borough average. It needs to be remembered that the SFRRA is a regeneration area given the number of current vacant and underutilised sites and there is clearly huge potential for improvement with regards to all sustainable travel choices, particularly cycling and walking which will be supported by the proposed highway interventions.

11.4. TRANSPORT AND HIGHWAY IMPACTS FROM THE REGENERATION ON EXISTING NETWORKS.

This section will explain the impact of increased development on public transport, highway, bus and rail networks.

It should be noted that the impact of other regeneration areas within the borough and the removal of the western extension congestion charging on 24th December 2010, have not been considered as part of the transport study. A zero background growth rate was applied to the existing traffic demand following discussions with TfL. A separate strategic study is currently underway by TfL investigating the combined effect of the various proposed west London regeneration areas (The Western Arc).

Highway

The VISSIM modelling within the Transport Study indicates that with development, traffic impact will range from 5 – 25% depending on the development scenario, on the key corridors of New King's Road and Wandsworth Bridge Road as shown in Figure 11.4 and 11.5 for the AM and PM peaks. With the current highway layout the key areas under the most pressure from development remain the major junctions:

- Wandsworth Bridge Road / New King's Road
- Wandsworth Bridge Road / Townmead Road/ Carnwath Road.

Carnwath Road is most significantly affected in the PM peak due to the increased demand on Townmead Road which restricts the opportunities for right turning traffic onto Wandsworth Bridge Road.

Furthermore there would be increased congestion and delays at Harwood Terrace and New King's Road, which are currently susceptible to queuing within peak periods. Without highway capacity enhancements increases to serve the regeneration area, particularly at the junctions mentioned above, any substantial development would result in significant and unacceptable delay and congestion to the highway network.

Underground

The degree of maximum saturation experienced on any section of the District Line (eastbound morning peak from Fulham Broadway to West Brompton) ranges from 91% to 94%. The greatest impact is on the eastbound line with a 3.8% increase in passenger numbers during the AM peak.

TFL introduced improvements to the Wimbledon Line branch in December 2011 with 5 additional trains providing space for 4,000 extra passengers during the Am peak. There are additional trains during the late evening with 6 trains an hour until 23:30hrs and an additional train on the Ealing Broadway branch providing for an extra 800 passengers who travel on the Wimbledon Branch and 700,000 passengers on the District Line as a whole. In particular, the removal of the poorly used weekday Olympia service has dealt with bottlenecks in the Earl's Court area which London Underground Limited state held up more than 20% of District Line trains entering Earl's Court behind an Olympia train. It is reported that this wait in the tunnel has reduced, directly speeding up journeys for the 150,000 customers who are affected by delays at the station. Figure 11.6 shows the development trip impact on the underground services and stations within the Am and Pm peaks

As part of further improvements to the line, TFL will be introducing new air-conditioned trains from 2013 and a new signalling system by 2018 which combined will deliver 24% more capacity to the line. The nearest stations as shown in figure 11.6 are on average around a 25 minute walk from the development area, a 10-15 minute cycle ride or a 10 to 25 minute bus journey. Therefore the potential increases are manageable given the recent and future improvements to capacity on the Wimbledon branch of the District line that TFL are proposing.

Rail

The West London Line (WLL) is currently operating within capacity, with a maximum degree of saturation of 67% experienced on the northbound services during AM peak. However the station surveys, as referenced in the Transport Study, were undertaken just after the station opened in September 2009 when the Imperial Wharf site was still under construction and as such it was stated that the actual current demand could be higher than reflected by the data. Chelsea Creek, which has been granted planning permission, was supported by updated

Figure 11.4 Future impact of Development trips AM peak from/to regeneration area

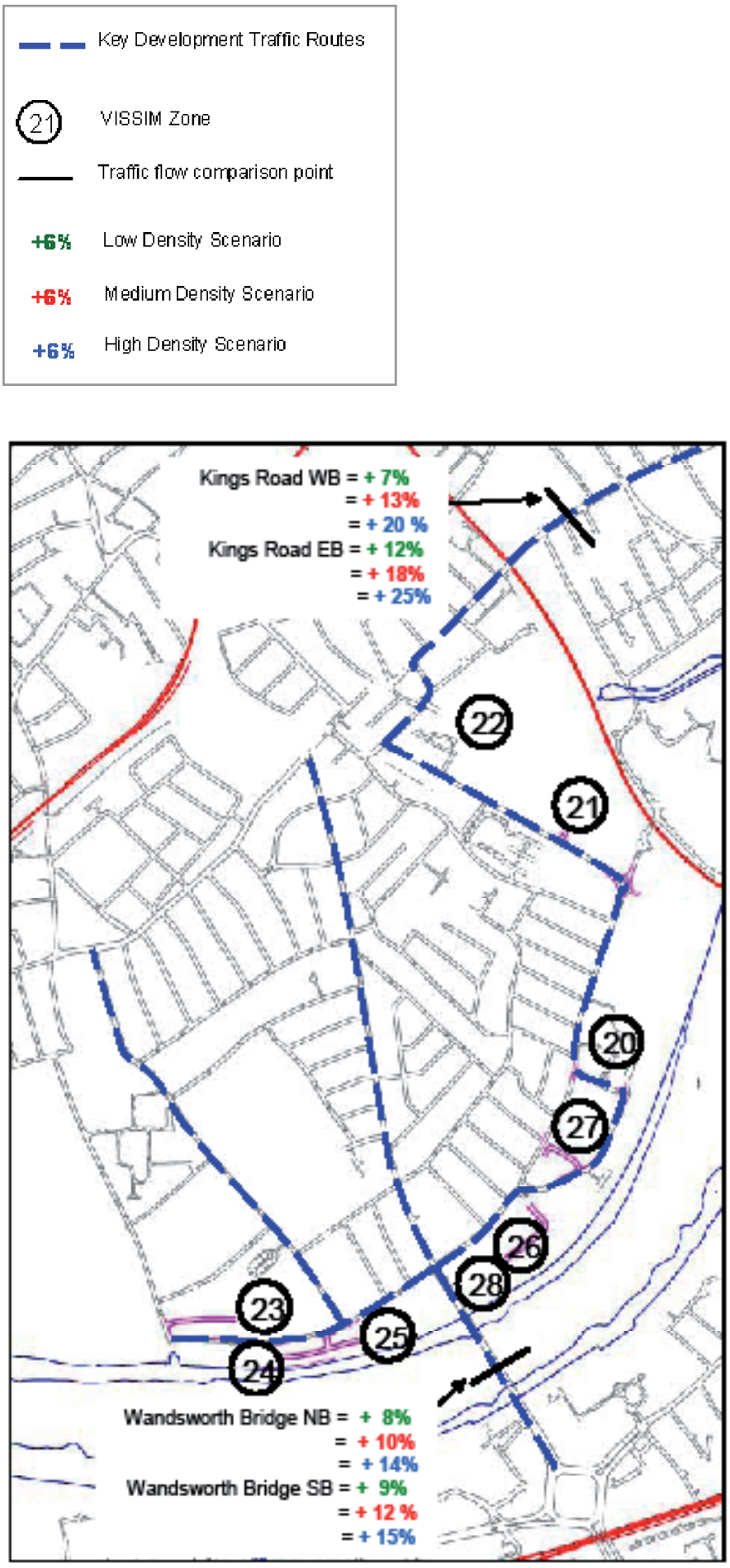
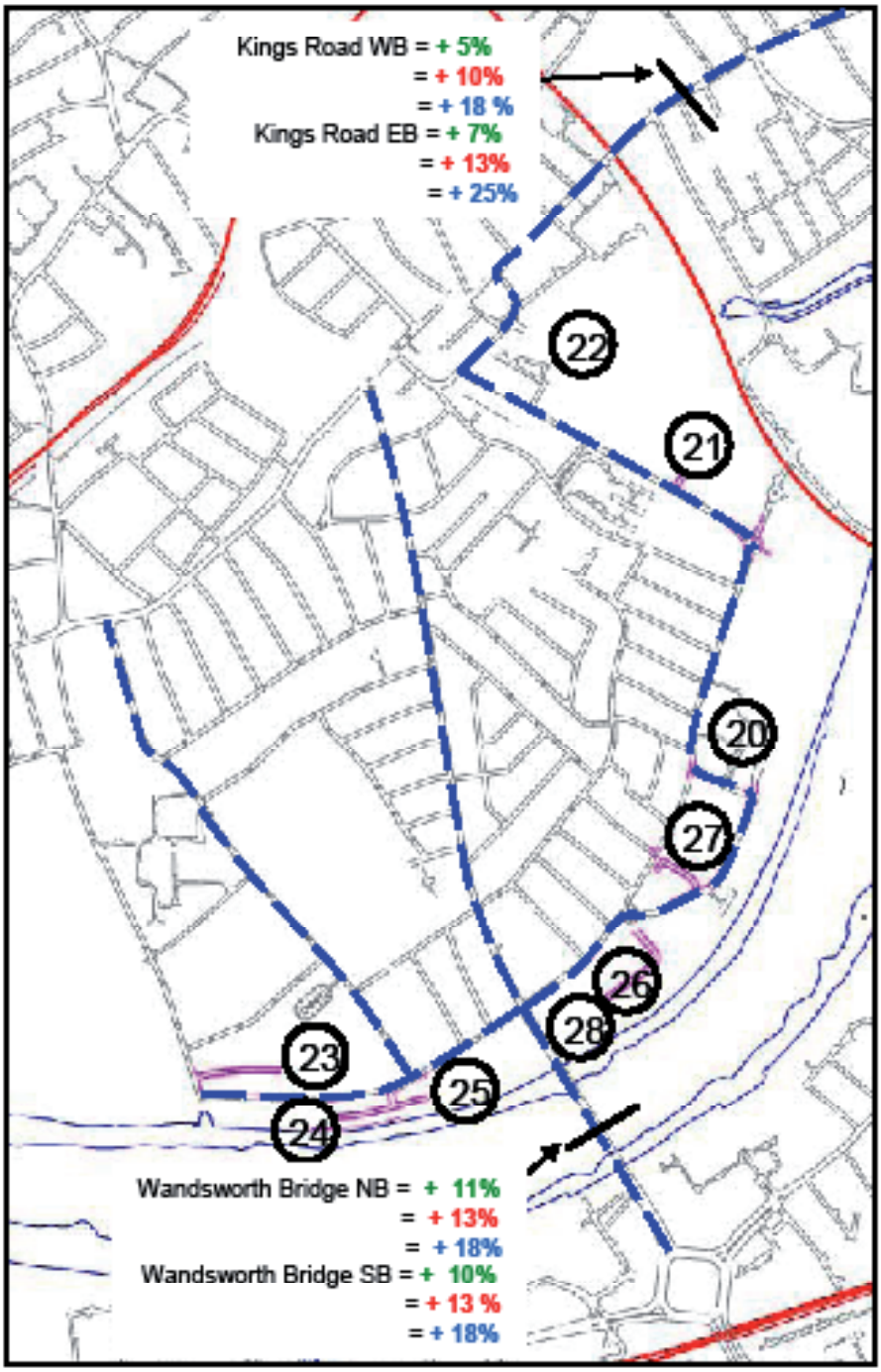


Figure 11.5 Future impact of Development trips PM peak from/to regeneration area



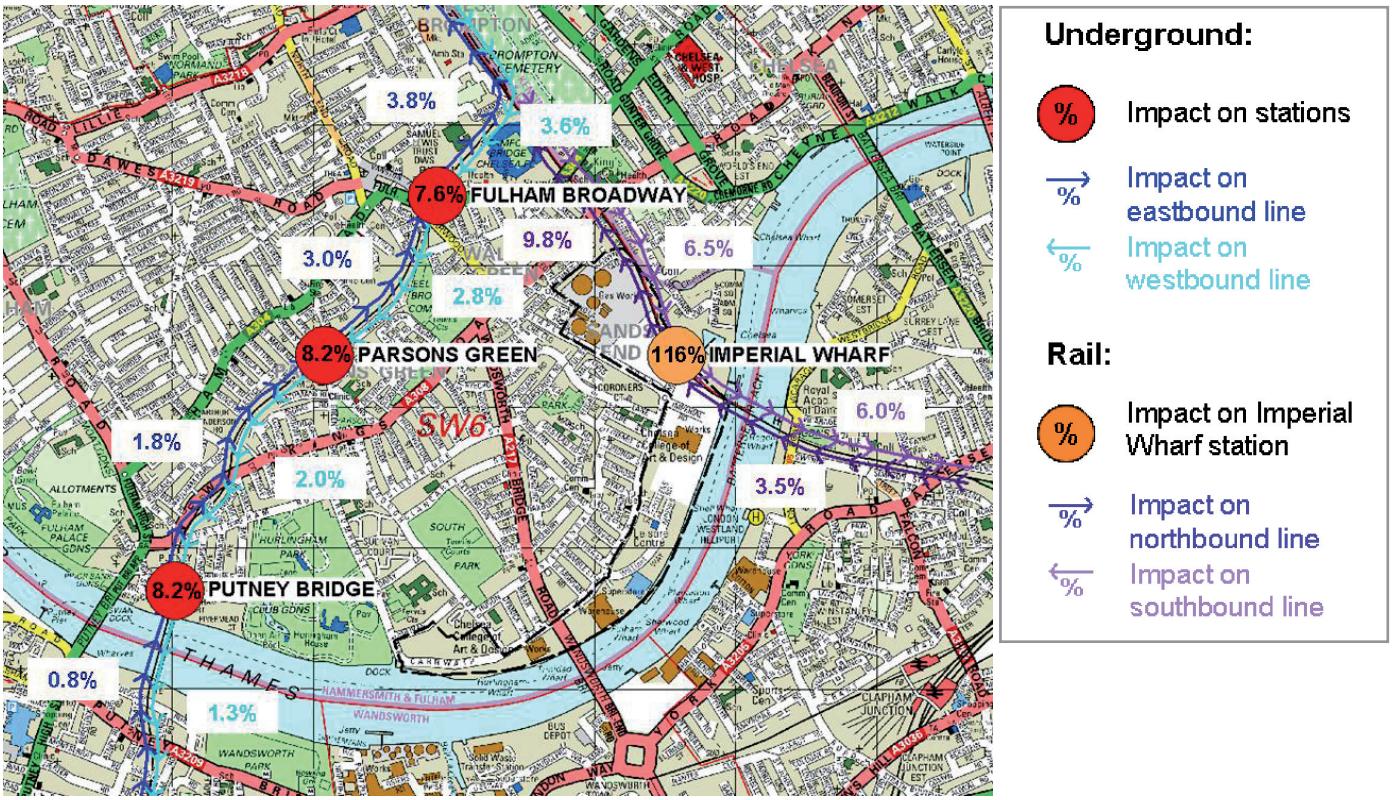
station surveys at Imperial Wharf that have shown usage is above the 11% modal share from the 2009 Imperial Wharf site survey data. This has been reinforced by consultation with TfL, who have confirmed that trains on this line have been observed to be heavily loaded during the peak periods and survey data in 2010 shows passenger numbers are predominantly northbound in the AM peak and southbound in the PM peak.

In July 2011, Network Rail published the London and South East Route Utilisation Strategy (RUS). The purpose of the RUS is to provide a high-level overview and consistent approach to capacity planning for the next 20 years for all rail routes into London and is based upon adding capacity to meet growing demand where it can be justified and achieved.

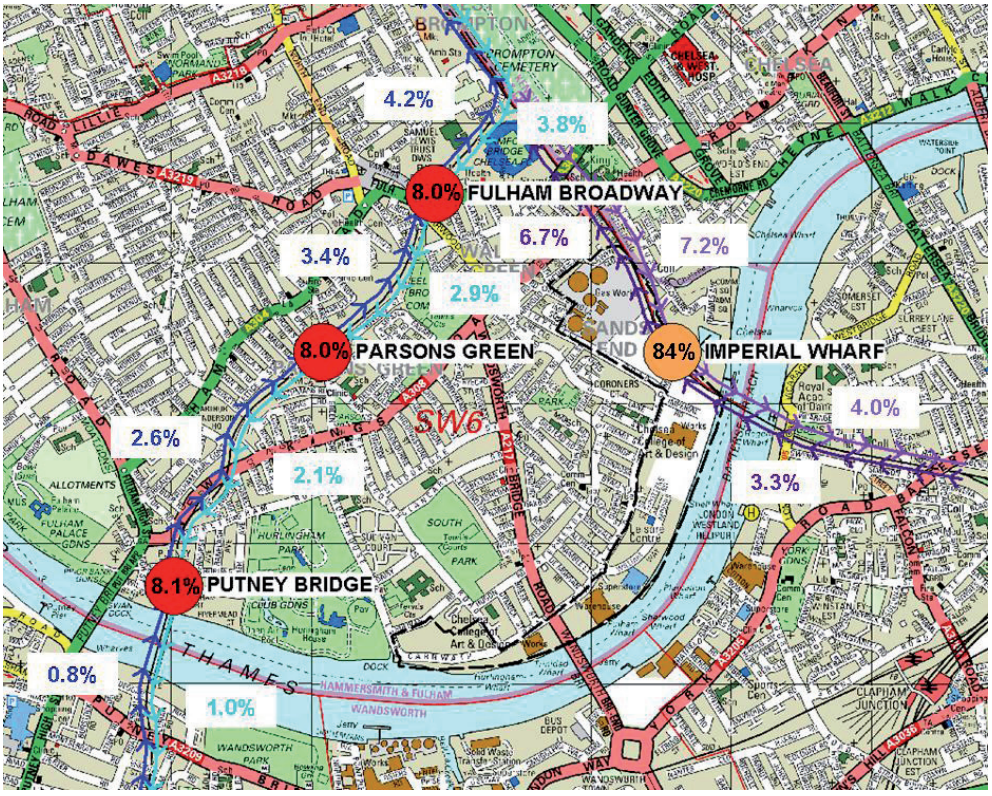
The RUS considered existing and future capacity and demand on the WLL, which serves Imperial Wharf station and concluded that with all committed improvements in place this line will still have a peak capacity gap (where demand exceeds 85% of the total capacity of the route over the high-peak hour) in excess of 3,000 passengers by 2031. The RUS therefore identified the following interventions were required to address the gap.

Figure 11.6 Peak hour development trips on the Underground and Rail

AM Peak



PM Peak



- Lengthening of Southern Services trains on the WLL to 8 cars
- Lengthening London Over ground service trains (West and North London Line routes) to 6 cars.

Subject to the platform extension, it has been assessed that Imperial Wharf Station can cater for the increased demand. The platform extension at Imperial Wharf Station is estimated to cost approximately £2.9 million which will be funded through developer contributions as noted in the DIF study.

Given that Imperial Wharf is the key station serving the SFRRA, and has greatly improved public transport accessibility across the eastern section of the area, increasing access to services will be essential in reducing dependency on the private car. It is therefore considered that the necessary platform extension be included in the package of recommended transport initiatives.

Buses

TfL London Buses have undertaken an assessment of the impact of development trips on the bus network. Key issues identified by this assessment include:

- Existing service frequencies to the west of the study area would be insufficient to accommodate an increase in the region of 30 – 40 new bus trips;
- Developments considered as part of Phase 1 (0 to 5 years) would result in capacity issues on the 391;
- The 424 is a local service and would not be able to cater for increased trips resulting from significant development.

The results of this assessment have been used to identify enhancements to bus services to mitigate the impact of development within the study area. It should be noted that TFL undertake their own recurrent assessment of bus services. The aspirations highlighted within this SPD for bus service enhancements were provided directly by TFL in 2010 to aid the assessment within the Transport Study. The Council and TFL will continue to work closely to agree on the form and timescales of bus service enhancements within the regeneration area. Specific changes to existing bus services or introduction of new services will be subject to specific consultation to be carried out by London Buses.

11.5 TRANSPORT MODELLING - KEY CONCLUSIONS

A strategic VISSIM model was developed for the Transport study and updated in the Addendum. The following summary suggests the best approaches to addressing sustainable development within the study area and the transport and highway enhancements will be discussed in more detail within this chapter:
It should be noted that the Transport Study and Addendum required assumptions on the level and location of development to attribute development trips accordingly. As stated further refinement work and specific junction modelling will be required throughout the plan period to provide details on the type and level of improvements required to accommodate the regeneration taking into consideration development sites and quantums that are brought forward.

- **Scenario 1 low density**:

  Could be accommodated with provision of local highway interventions to improve capacity of the network, along with enhancements to capacity and frequency of bus services.

Figure 11.7 Average Total Junction Queue Lengths (represented in Passenger Car Units (pcu)) for the critical junctions with the proposed highway interventions, for each scenario.

Junction	Total Junction Length (pcu)			
	Base	Scenario 1	Scenario 2	Scenario 3
New Kings Road / Parsons Green	3	4 (1)	3 (0)	4 (1)
Wandsworth Bridge Rd / New Kings Rd	3	13 (10)	15 (12)	17 (14)
New Kings Rd / Bagley's Lane	15	5 (-10)	5 (-10)	4 (-11)
New Kings Rd / Harwood Rd	7	8 (1)	8 (1)	8 (1)
Kings Rd / Edith Row	7	6 (-1)	6 (-1)	6 (1)
Wandsworth Bridge Rd/ Townmead Rd / Carnwath Rd	28	64 (36)	76 (48)	**118 (90)**

- **Scenario 2 medium density:**

  Would require significant additional capacity improvements over and above enhancements from Scenario 1. Car use restraint policies, highway capacity increases, and junction improvements are necessary to maintain the traffic within the regeneration area. This should be combined with a restructuring of the bus routes.

- **Scenario 3 high density:**

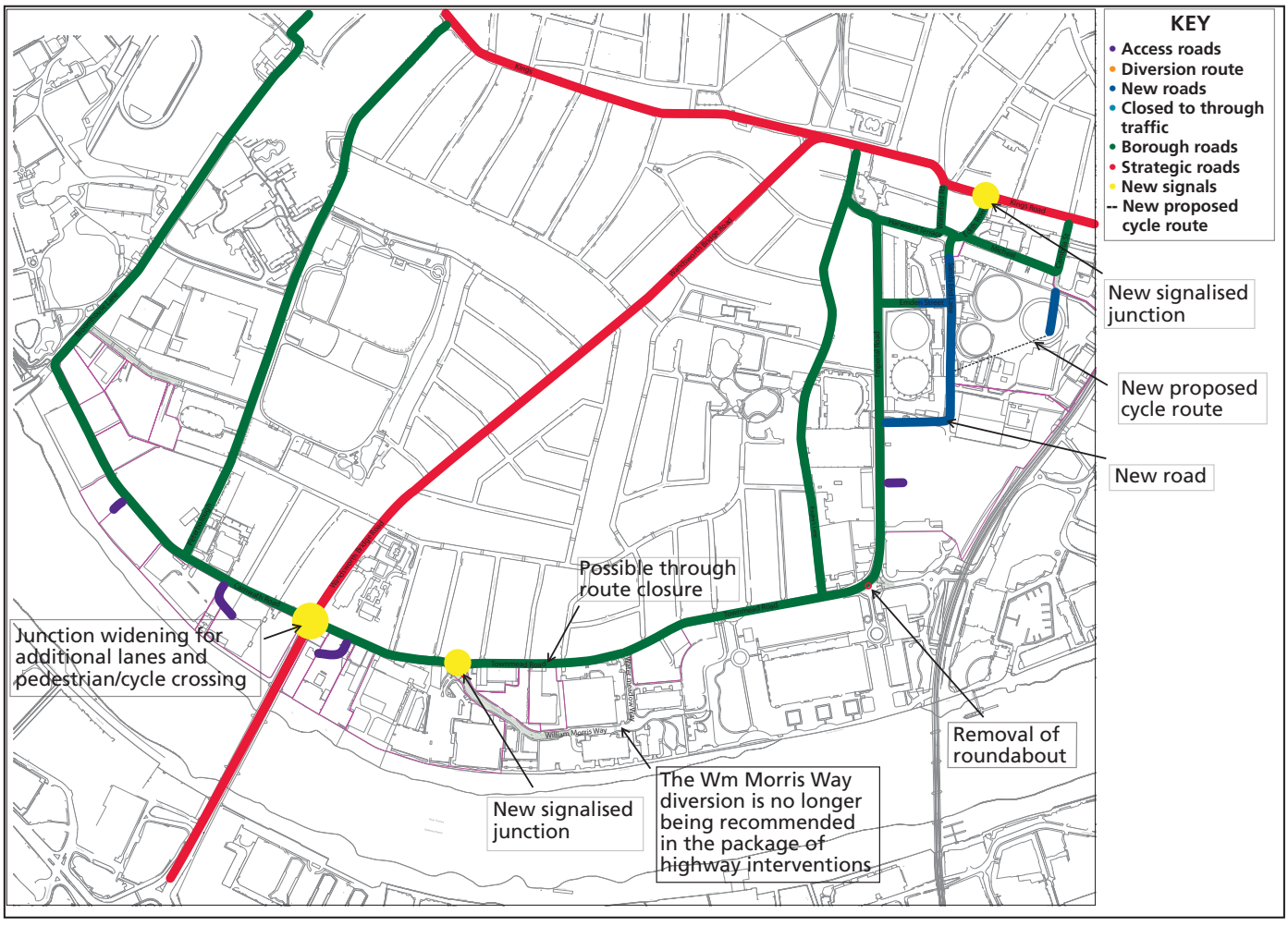
  An increase in vehicular trips (mainly by commercial) of approximately 50% between the medium and high density development scenarios is significant. As a result, an unacceptable level of queuing and delay, particularly at the Townmead Road/ Wandsworth Bridge Road / Carnwath Road junction, would result, as shown in Figure 11.7.

Therefore the conclusion of the Transport Study and Addendum, based on strategic modelling highlighted that Scenario 2 could be supported from a transport and highways perspective. The transport study and subsequent review suggests there is sufficient scope to increase highway capacity to accommodate the level of trips predicted whilst maintaining an acceptable level of service subject to the proposed transport interventions as will be discussed.

11.6. PROPOSED HIGHWAY NETWORK INFRASTRUCTURE IMPROVEMENTS TO SUPPORT THE REGENERATION

The Transport Study and Addendum have identified and assessed a range of transport enhancement packages for the regeneration area based on assumptions made to the scale and location of development. These comprise highway, bus, river, and pedestrian/ cycle improvements, and are outlined as follows;

Figure 11.8 Overview – Highway Interventions



11.6.1 Highway Interventions

The interventions have been split within phases 1 and 2 and highlight highway and bus improvements; more detail is then provided on each initiative. It should be noted that the northern link road will be facilitated with the regeneration of the Gas works site and for the purposes of the Transport Study this has been highlighted for redevelopment 15+ time within a third phase.

All these interventions have been prioritised with appropriate timescales for implementation. These timescales and priorities are subject to change depending on funding availability and requirement through development sites progressing

Figure 11.8 illustrates the proposed improvements to the highway network to achieve sufficient capacity on the network to support improved north/south and east/west movement.

Key Highway Interventions for Phase 1 (0-5 years)

- Wandsworth Bridge Road Bus Lane – Reduction in the length of the southbound bus lane on Wandsworth Bridge Road to remove the existing bottleneck affecting capacity of the junction;
- Townmead Road/Imperial Road Roundabout – Replacement of the existing roundabout with a priority junction with refuge islands and a ghost island; this is intended to address safety concerns with the high number of cycle and motorcycle collisions at this location. Further refinement work is required to assess the detail of this intervention and potential link to the proposed improvements on Wandsworth Bridge Road.
- Wandsworth Bridge Road / Townmead Road /Carnwath Road Junction – Widening to provide two lanes for traffic turning left and right from Townmead Road and Carnwath Road respectively improvements to junction radii, particularly for left hand turn movements into Carnwath Road and allow for the incorporation of appropriately controlled pedestrian crossing facilities;

Key Highway interventions for Phase 2 (5-15 years)

- Townmead Road/Sainsbury's Access Junction – Replacement of the existing roundabout with a signalised junction incorporating pedestrian crossing facilities;
- Townmead Road/ William Morris Way Roundabout – Replacement of the roundabout with a signalised junction, which will incorporate controlled pedestrian crossing facilities, to control and regulate the traffic flow to the signalised junction of Wandsworth Bridge Road;

Key Highway Interventions for Phase 3 (15-20 years)

- Northern Link Road facilitated by gas works regeneration. The National Grid site however may come forward for redevelopment earlier than 15-20 years. The northern link road will be required when the site is redeveloped.

11.6.2 Description of highway interventions

Wandsworth Bridge Road/Townmead Road/ Carnwath Road Junction

The capacity of the Wandsworth Bridge Road / Townmead Road / Carnwath Road signalised junction effectively constrains the capacity of the road network within the study area and therefore securing additional capacity and appropriate pedestrian crossing facilities at the junction is a principal objective of the interventions. The existing junction is constrained by the land available, lack of pedestrian crossing facilities, confined radii at the junction corners and Wandsworth Bridge. To obtain the additional capacity required, and provide the desired controlled pedestrian crossing facilities, land would have to be obtained from the adjacent development sites. The widening of the Townmead Road and Carnwath Road approaches will provide additional queue capacity and prevent blocking back at the junction and give the opportunity to provide bus priority measures.

If this solution is chosen then there will need to be in-depth discussions with the landowners to facilitate the land take required to provide the level of capacity and safety enhancements necessary to accommodate the regeneration of South Fulham Riverside. The three junction improvement options produced by Jacobs and included within the Transport Addendum have been produced based on the results from the strategic VISSIM modelling. Further refinement work will be required to specifically model the Wandsworth Bridge Road/Carnwath Road/ Townmead Road junction and the Townmead Road/Sainsbury's roundabout. This additional work will need to include the progression of development sites at the time of modelling, the reduction of all existing trips within the area

and discussions with relevant landowners to understand the actual level of enhancement that can be facilitated which meets the aspirations of the SPD. It is clear however that land take will be required if significant improvements are made at the Wandsworth Bridge Road junction.

Wandsworth Bridge Road Bus Lane

It is proposed that the southbound bus lane on Wandsworth Bridge be reduced to maintain two lanes of traffic in the southbound direction. This therefore creates capacity for other approaches to the junction that will see a significant increase in vehicles. In particular, Townmead Road will see a large increase in development traffic; however with the introduction of further traffic management and the re-phasing of the signals at the junction, this could be accommodated.

A further study is being undertaken (as advised by TfL) to determine whether bus journey times are affected by the reduction in the bus lane over Wandsworth Bridge. It should be noted that the initial view is that the removal of the bus lane will increase capacity at this junction considerably thereby reducing queuing for all vehicles including buses. Further localised capacity studies may also be required to fine tune the phasing of signals to further reduce queue lengths at the junction which can be incorporated into the refinement work.

William Morris Way Diversion

The Transport Study proposed that the priority of Townmead Road be changed to divert through traffic via William Morris Way and Watermeadow Lane, and that Townmead Road be closed to general traffic between these junctions. This was not a critical improvement but proposed to reduce rat running along Townmead Road. However following the first consultation of this SPD strong objections were raised to this proposal and as such this is no longer a recommended transport intervention.

Northern Link Road

The priority of Edith Row, Harwood Terrace, Sands End Lane and Waterford Terrace was proposed to be changed to make Waterford Terrace and the residential section of Harwood Terrace less desirable to traffic. It was felt that a northern link road was essential to mitigate the impact of development traffic on the network as and when the largest potential development site within South Fulham Riverside is brought forward. The Northern Link Road will be facilitated as and when the gas works site is brought forward for regeneration. Given the size of the site, the impact could be significant given the existing low level of trips. Further assessment work will be required to assess any Northern Link Road options and potential inclusion of nearby junctions.

Imperial Road / Townmead Road roundabout

It is also proposed to redesign the junction between Townmead Road and Imperial Road, in order that through traffic will have priority. This is to increase the north/south capacity for vehicular trips generated by development traffic. The roundabout would be replaced with a T-junction with refuge islands. The existing roundabout has a high level of cycle and motorcycle collisions and a change in priority will remove the onus on cyclists to give way, ensuring their safety. This measure is desirable from a safety perspective but does not increase capacity significantly.

Townmead Road/Sainsbury's Access Junction

Replacement of the existing roundabout with a signalised junction incorporating pedestrian crossing facilities. These signals will be linked to the signals at the Wandsworth Bridge Road/ Townmead Road/Carnwath Road junction to ensure the free flow of traffic on Townmead Road given that the William Morris Way diversion is no longer recommended. This will ease the capacity concerns along Townmead Road and improve pedestrian safety. As noted this element will be included within the refinement work to assess the link to the Wandsworth Bridge Road junction improvements. Fulham Wharf has been granted planning permission for a mixed use development incorporating a new Sainsbury's superstore and residential development. Any alterations to this junction will need to acknowledge and be modelled alongside the regeneration of the Fulham Wharf site and adjacent development sites.

11.7 PROPOSED BUS NETWORK INFRASTRUCTURE IMPROVEMENTS TO SUPPORT THE REGENERATION

11.7.1 Buses

TFL were approached to provide input for the Transport Study and Addendum with regard to their aspirations for improvements to bus

services within South Fulham Riverside as a result of the regeneration to increase capacity and frequency.

However, it should be noted that these timescales and priorities are subject to change depending on funding availability and requirement through development sites progression. As noted, the Council is working closely with TfL given that several sites have already progressed through the planning process to be redeveloped. It will ultimately be for TFL to progress with bus service enhancements within South Fulham Riverside in line with the aspirations of this SPD.

Phase 1 (0-5 years):

Bus:-

- Increasing the frequency of the 424 to 3 buses per hour plus an evening and weekend service. In addition, it is proposed that the single decker buses on the 391 route are replaced with double-decked vehicles

Phase 2 (5-15 years);

Bus:-

- Restructuring the 424 to create a split scheme, with an increase in frequency to 3 buses per hour along each of the two corridors, and replacement of the single decker buses on the 391 route with double decked vehicles.

There is a much greater constraint on bus capacity in the west of the regeneration area than the east, which has a high frequency bus corridor along Townmead Road and Imperial Road from Wandsworth Bridge Road and New Kings Road. Therefore ultimately any bus service enhancements should potentially provide an even service throughout the regeneration area improving accessibility and capacity with a greater choice of destinations and improved frequency to meet the increased demand.

Figure 11.9. Satellite image of existing Chelsea Harbour pier

11.8 PROPOSED SUSTAINABLE NETWORK INFRASTRUCTURE IMPROVEMENTS FOR MEDIUM DENSITY REGENERATION

This section includes proposed initiatives to the sustainable walking, cycle and river bus networks. These timescales and priorities are subject to change depending on funding availability and requirement through development sites progressing.

11.8.1 River Boat

There is an existing river boat service from Chelsea Harbour Pier (eastern boundary of the study area) running to Blackfriars (approximately 25-35 minute journey time). The Council would wish for the service to be retained and enhanced due to the potential it would provide for the South Fulham Riverside Regeneration Area. An enhanced riverboat service by the provision of a new pier is a long term aspiration– this is seen as a way in which to encourage river related uses and improve accessibility and could be incorporated within the regeneration of a riverside site. See figure 11.9 showing the existing pier at Chelsea Harbour in the context of South Fulham Riverside. Figures 3.8 and 3.9 in Appendix 3 show the route and service frequency,

11.8.2 Thames Path;

Any development will be expected to be in line with the objectives of the boroughs Supplementary Planning Guidance Thames Strategy – Kew to Chelsea (June 2002), and the Borough's Riverside Walk – Enhancement Report (August 2010). The provision of a fully connected, high quality Riverside Walk as highlighted in Local Development Framework Core Strategy policy SFR is the key underlying objective of the borough. Where new developments are proposed on riverside sites, their design should respect the riverside setting, ensure the built form allows for connection to the riverside and continues the width of the Riverside Walk at no less than six metres in width. The Council will adopt and maintain the route as a public highway.

11.8.3 Pedestrian/Cycle Bridge over River Thames;

A pedestrian/cycle bridge link over the River Thames to the east of the regeneration area would provide a desirable connection to/from Wandsworth and Clapham encouraging more walking and cycling in the area and allowing access to Chelsea Harbour Pier from the area south of the Thames. A new sustainable link would provide easier access to Imperial Wharf station from Wandsworth Borough and provide a link to the facilities within Wandsworth and Clapham for the east of the regeneration area and RBKC. It should be noted that Cremorne bridge is listed and any connection improvements may involve land in private ownership.

A Feasibility study for a pedestrian/cycle bridge near to Cremorne Bridge was undertaken in 2004 by Wandsworth Borough Council and two potential options were assessed with cantilevered and separate footings. This study has recently been updated by Wandsworth Borough Council.

11.8.4 Link under Wandsworth Bridge;

Pedestrian and cycle accessibility through the study area is also compromised by the severance created by Wandsworth Bridge Road. One potential solution is the provision of a link under the bridge to provide a continuous route along the river as part of the Thames Path National Trail, this will however involve third party land and require serious consideration to reduce conflict with the safeguarded wharves. Although a link under Wandsworth Bridge would address the severance caused by the bridge, the improvement this would bring to the overall accessibility of the area is not likely to be significant. This is due to the intermittent River Walk in this vicinity caused by the working wharves which are likely to stay for the foreseeable future. If this were to be taken forward a separate study would need to be undertaken to determine the feasibility of this option.

11.8.5 Extension of London Cycle Hire Scheme

In July 2010 the Mayor of London launched the London Cycle Hire Scheme and in November 2010 it was announced that the intention would be to widen the scheme to the west of London. Barclays have agreed to provide another £25 million of sponsorship and that money would be used to widen the scheme to the west and south west of London by Summer 2013. This will boost the LBHF Get Moving Campaign which aims to improve the local transport network and ease accessibility. It is therefore proposed that this will form an important element of the transport strategy for the SFRRA. However, further funding through developer contributions will be required to support this initiative.

11.9 PROPOSED COMPLIMENTARY INFRASTRUCTURE IMPROVEMENTS FOR MEDIUM DENSITY REGENERATION

These are considered to be desirable as part of an integrated approach to transport enhancement in the study area subject to funding and justification through development. Timescales and priorities are subject to change depending on funding availability and requirement through development sites progressing

- Holistic neighbourhood improvements for Sands End and South Park areas incorporating accessibility including walking and cycling improvements; for example cycle lanes, footway improvements, Wayfinding.
- Development of an area travel plan framework and delivery of supporting initiatives such as workplace travel plans, local development related travel plans and associated area wide improvements which are highlighted within the monitoring and review of such travel plans.
- Potential cycle route along the section of Townmead Road subject to partial closure;
- Advance stop lines provided at all new junctions.
- Potential cycle lanes / tracks through sites 21 & 22 to provide connection with the London Cycle Network on New Kings Road;
- Signing review focusing on pedestrian and cycle routes to tube and railway stations.
- High quality cycle parking at all employment locations, including showers and lockers for cyclists.
- Expansion of car club provision within new development off street and support for on street car club provision to supplement the Council's Borough Wide Car Club strategy.
- Measures to provide for electric vehicles within all new development in line with current planning policy guidance for passive and active provision.
- Support for reduced parking provision within new developments and car permit free agreements to ensure on street parking stresses are not exacerbated due to the regeneration.

11.10 CONCLUSIONS

All these interventions noted in sections 11.6-11.9 would improve pedestrian and cycle access to the study area, enhance connectivity to transport networks (including underground, rail, bus and cycle) and improve the safety of vulnerable road users within the area. The impact of new development on the local and strategic highways is expected to be considerable without mitigation, however with the proposed improvements as highlighted within the DIF study the network can cope and provide benefits to other modes of transport. In addition to physical highways changes, approaches such as car permit free developments, and travel demand measures will be expected.

A key objective of London Plan policy is to ensure that there are adequate levels of transport capacity to support the level of development proposed in regeneration areas such as the South Fulham Riverside Area. However any capacity improvements need to be balanced with encouraging the use of sustainable travel and increasing accessibility where possible.

This chapter has summarised the findings of the Transport Study 2010 and Transport Study Addendum 2012 which have outlined the constraints of the area and recommended that in order to support regeneration, a package of local highway, walking, cycling and public transport measures are required. This will help support sustainable growth and development in the study area. The proposed interventions overall provide modal choice and encourage a shift towards sustainable forms of travel that are both safe and accessible for future generations. The improvements will be funded as part of developer contributions through the regeneration of the area as outlined within the Transport Addendum and supporting DIF Study.

These include:

- An optimised package of highway interventions including capacity enhancements at key junctions, a new link road, and re-routing of through traffic.
- Bus service enhancements by TFL.

- An approach to development which reduces the need to travel by car and reduces the number of private vehicle trips within the area.
- A step change in the walking and cycle environment both within and to / from the regeneration area and ensuring improved legibility and connections.
- Private investment to enable these improvements to be secured and delivered in line with the vision for the future redevelopment of the area.

CHAPTER TWELVE | Social Infrastructure

KEY PRINCIPLES

- Child yield formulas are used to estimate educational needs arising from development to ascertain the anticipated increase in the nursery, primary and secondary school numbers. Growth assumptions in this SPD would require two extra forms of entry for primary and an additional form of entry at secondary level.
- Investment will be required in the new Bridge House Primary Care Centre that serves the regeneration area as well as existing GP services to accommodate anticipated growth.
- In order to accommodate deficiencies in access to public open space in accordance with table 7.2 of the London Plan (2011), a new area of public open space may be required in the east of the regeneration area as well as a series of open spaces fronting the river walkway.
- Given the current deficiency in access to play space provision across the regeneration area measured in accordance with Table 4. 4 of Shaping Neighbourhoods: Play and Informal Recreation SPG 2012 on site play space will be required on new developments in accordance with the Mayors SPG.
- Provision of high quality, accessible community facilities and services will be provided through the co-location of facilities following the closure of the Sands End Community Centre including a new community hub at Hurlingham and Chelsea School.
- Developers will be required to consult with the Council's Economic Development Team at an early stage and demonstrate how through partnership work and funding they can maximise employment and training opportunities. This will specifically involve direct funding of apprenticeships / trainee positions and outreach programmes including careers and job fairs to raise aspiration and awareness of job opportunities.
- Provision of a new local Community Safety Hub and provision of additional CCTV within the regeneration area.

12.1 OVERVIEW

In order to support the growth in new homes in the regeneration area an increase in social infrastructure and local community services (education, health, open and play space, community facilities, police facilities and employment and skills training) will be required to accommodate the increase in population.

New development must contribute to the provision of social infrastructure to support the expanding residential and working population. The Council commissioned a "Delivery and Infrastructure Funding" (DIF) study to investigate in more detail the social infrastructure required to support the increase in population, how this will be phased and establish a mechanism for a proportionate contribution from developers (further details in Chapter 14).

The proposed comprehensive redevelopment of South Fulham Riverside provides opportunities to locate community facilities in accessible and convenient locations. Core Strategy (2011) Borough Wide Strategic Policy – CF1 encourages the co-location of community facilities and services where opportunities arise. These will be encouraged in appropriate locations where they have maximum accessibility for their potential users.

As already detailed in Chapters 8, 9 and 11 although the target number of new homes for the South Fulham Riverside regeneration area identified in the Core Strategy is 2,200 due the large number of pre application discussions taking place on sites it is anticipated that the final number will most likely exceed this target. The number of new homes therefore assumed as a basis for the DIF study was 4,000 which is based on all circa 21 hectares of sites within the SHLAA coming forward for development within the plan period. This assessment of sites and phasing will be regularly reviewed to ensure the infrastructure is in place when new residential units are provided.

12.2 CONSULTATION FEED BACK

At the Princes Foundation workshops held in July and August 2010 participants were generally happy with the existing public space although they supported the idea of a new space around

Imperial Road sites that could include a café, playground and area for ball games.

They also proposed a series of event spaces on the riverfront alongside the river walkway to encourage use of the river. It was recognised that play space for children needed to be improved. The area focussed around Wandsworth Bridge Road /Carnwath Road/Townmead Road was proposed as a good accessible location for community facilities.

12.3 EDUCATION

Figure 4.1 in Chapter 4 shows the location of nursery, primary and secondary provision within the Sands End Ward which contains the South Fulham Riverside regeneration area. The population growth envisaged as a result in the potential growth of up to 4,000 new homes increases the number of children of school attending age hence any development will need to cater for their educational needs. Child yield formulas are used to estimate possible educational needs arising from any development. Any planning application submitted for a site would have to be assessed against these child yield formulas in order to ascertain the anticipated increase in the nursery, primary and secondary school numbers and seek suitable financial contributions in order to create the additional capacity to cater for this demand.

The child yield formulas are detailed below in Figure 12.1.

Bedrooms	Private	Intermediate	Social Rented
1 bed	0.01	0.01	0.07
2 bed	0.11	0.255	0.40
3 bed	0.42	1.135	1.85
4 bed+	0.98	1.44	1.90

The development capacity study undertaken in Chapter 10 which modelled Option 2 – Medium Density based on the above formulas would generate a child yield of 1,098 children.

In relation to primary school provision it is envisaged that the consequential population growth from Option 2 – Medium Density, (4,000 new homes) would require a total of two extra forms of entry. This could be accommodated through the expansion of existing schools or the development of a new school requiring land of circa 0.5 hectares and funding in the region of £10m at 2011 prices.

In relation to secondary school provision it is envisaged that the consequential population growth from Option 2 – Medium Density, (4,000 new homes) would require an additional form of entry. Given Parental Choice and the transport infrastructure, secondary school choice can be much broader and as such this would be accommodated through the expansion of secondary provision within the Borough and requisite funding of £5m.

It is envisaged based on the child yield formulas detailed in Figure 12.1 that an additional three nurseries would be required to accommodate the growth in the number of children of pre school age between 0 and 3 years.

12.4 HEALTH

Within the Sands End ward there is a new Primary Care Centre at 115 Wandsworth Bridge Road called the Sands End Clinic that as well as accommodating GPs has additional space for district nurses, school nurses and health visitors. It is not anticipated that potential growth of circa 4,000 new homes would necessitate the provision of new health facilities in the ward and can be accommodated through investing in existing GP services and the new Sands End Clinic. This position however will need to be regularly reviewed in relation to population projections to ensure that local facilities can still accommodate the growth.

12.5 OPEN SPACE

Open space is an important community resource. The only areas of public open space within the South Fulham Riverside regeneration area are Imperial Wharf Park, Imperial Wharf railway parkland on the eastern boundary of the regeneration area and Sands Wharf open space next to Regent on the River. Within the hinterland there is Hurlingham Park and South Park to the west of the Sands End Ward and William Parnell Park to the east that also serves the regeneration area.

The deficiency analysis undertaken as part of the borough's "Open Space Audit 2006" identified a deficiency in access to "local parks" around the gasworks site (Imperial Road) and Carnwath Road.

The Core Strategy seeks to enhance parks and open spaces and biodiversity in the area by requiring a mix of new public and private open space in the South Fulham Riverside regeneration area when development takes place. (Core Strategy Borough Wide Strategic Policy OS1).

The London Plan (2011) requires local authorities to ensure that future open space needs are planned for in areas with the potential for substantial change, such as regeneration areas (London Plan, Policy 7.18). In accordance with table 7.2 of the London Plan (2011) 'local parks and open spaces' of two hectares should be located within 400m of homes. These spaces need to provide for court games, children's play, sitting out areas and nature conservation. The east of the regeneration area is considered further deficient in access to open space as William Parnell Park is only 1.03 hectares.

There is no guidance at either regional or local level that sets out what overall quantity of public open space provision should be provided by a development of this size. The Mayor's Shaping Neighbourhoods: Play and Informal Recreation SPG 2012 sets out standards for access to play. One such standard is that 10sqm of dedicated play space should be provided per child living in the development. It is considered that this provides a useful aggregation for the calculation of the overall quantity of public open space provision. Using the child yield formulas already identified (Child yield 1,098 children) this standard generates an open space requirement of 1.098 hectares. In order to address deficiencies in access to open space a new area of public open space should be identified in the east of the regeneration area as well as a series of open spaces fronting onto the river walkway as identified in Section 9, Urban Design Strategy.

LBHF will not take on the management of public open space in the regeneration area hence these arrangements must be put in place by developers.

12.6 PLAY SPACE

It is the Mayor of London's strategic policy that all children and young people have safe access to good quality, well designed, secure and stimulating play and informal recreation provision, incorporating trees and greenery wherever possible (London Plan 2011, Policy 3.6).

The provision of children's play space will be determined using the Mayor of London's Shaping Neighbourhoods : Play and Informal Recreation SPG 2012 The design of play facilities will need to meet the design guidance contained in Design for Play: A guide to creating successful play spaces, 2008.

The Mayor's SPG (Table 4.4 Accessibility to Play Space (Future Provision) assesses the provision of play space against the following standards as shown in Figure 12.2.

Figure 12.2 - Table 4.4 Accessibility to Play Space (Future Provision), Shaping Neighbourhoods: Play and Informal Recreation SPG 2012

	Maximum walking distance from residential unit (taking into account barriers)
Under 5's	100m
5-11 year olds	400m
12+	800m

The location of all current play spaces within the Sands End ward which includes the South Fulham Riverside regeneration area are identified in Figure 2.4 Appendix 2. Within the regeneration area there is just one under 8 children's play space at Imperial Wharf Park and two within housing estates at Petrofina Wharf and Guerney Road which therefore have limited access.

The Mayors SPG sets out standards that new play standards are required to meet. Given the current deficiency in play space provision across the regeneration area (measured in accordance with the requirements set out in the table above) and the anticipated growth in population, new play space will need to be considered and a play strategy submitted with each planning application. On site play space will be required in accordance with the Mayors Shaping Neighbourhoods: Play and Informal Recreation SPG 2012.

12.7 LIBRARY AND COMMUNITY SERVICES

The Core Strategy seeks to provide high quality community facilities and services by among other things encouraging the co-location of community facilities and services where opportunities arise (Core Strategy Policy CF1).

The Sands End Community centre has now closed and the range of Council services operating from the premises, library, gym, children's centre and adult education have been relocated. This has provided an opportunity to re-provide these services in more up to date premises in more accessible localities.

The library has been re-provided in a community setting at Hurlingham & Chelsea School. Consultation conducted in connection with the library showed that there was support for library provision and that the local community valued it. The increase in dwellings, in particular family homes, being proposed in the regeneration area further impacts on the demand for this service.

Other services have also moved to this locality which has provided an opportunity to forge a strong cluster of services at the Hurlingham & Chelsea School creating a community hub.

Adult learning classes have been relocated at the school, including Pottery classes, Stained Glass and Jewellery classes. These classes, are offered as part of a programme of health & community wellbeing and have been introduced alongside an ambition to develop skills for life and employment support activities over time.

12.8 EMPLOYMENT & SKILLS TRAINING

The Core Strategy Policy LE1 (Local Economy and Employment) detail the Council's commitment to supporting initiatives that encourage local employment, skills development and training opportunities. The regeneration of South Fulham Riverside provides a significant opportunity to target local residents for skills and qualification training and employment opportunities during the construction phases as well as in any end user development.

The closure of the Sands End Community Centre, where much of the adult education classes took place, has meant that other community hub venues have been sought. The Council requires developers to support communications and activities which assist both existing and new residents to participate in local community life whether through volunteering or other forms of community engagement and access accredited and non accredited learning, particularly those which enhance employment prospects for local unemployed residents. In this way the economic growth and regeneration envisaged has wider community benefit across all demographic groups.

Any applications submitted should demonstrate how partnership work and funding will maximise employment and learning opportunities for adults, specifically the direct funding of apprenticeships /trainee positions and outreach programmes including careers and jobs fairs to raise aspirations and awareness of job opportunities. In addition a demonstrable commitment to enhancing business and area competitiveness as well as practical support for local entrepreneurship and enterprise will be required.

12.9 POLICE FACILITIES

Core Strategy Policy CF1 (Supporting Community Facilities and Services) states that the Council will work with it's strategic partners to provide Borough wide high quality accessible and inclusive facilities and services for the community by supporting the Metropolitan Police and Her Majesty's Court Service to deal with crime and anti-social behaviour.

Currently there is no fixed CCTV provision within the South Fulham Riverside Area however additional CCTV will be required to meet the standards set by the Borough's Emergency Planning Department and to accommodate the anticipated growth in the number of residents in the regeneration area. Currently residential areas are monitored/patrolled by the Neighbourhood Wardens and the Sands End Safer Neighbourhood Team. The parks are controlled by the Parks Constabulary.

A new local Community Safety Hub is therefore proposed that will become a base for the Sands End Safer Neighbourhood Team, the Anti Social Behaviour Team, the Street Outreach and Community Safety Teams. A site has yet to be identified however it is envisaged that the new hub and CCTV will need to be provided within the next five years.

CHAPTER THIRTEEN | Environmental Strategy

KEY PRINCIPLES

- The Core Strategy requires that developments make the fullest possible contribution to the mitigation of and adaption to climate change including the use of low and zero carbon technologies. London Plan policies require that buildings are constructed to meet zero carbon standards from 2016 (residential) and 2019 (non-residential).
- The use of low carbon, Decentralised Energy (DE) technologies such as Combined Heat & Power (CHP), Combined Cooling, Heat & Power (CCHP or tri-generation) will need to be considered on a site wide basis. All major residential development within the regeneration area should be built to ensure it can connect to a CHP network in future.
- Consideration will also need to be given to further reducing CO2 emissions through the use of on-site renewable energy generation.
- The London Plan requires development to be "air quality neutral" and not lead to further deterioration of air quality. Any major development will need to help reduce emissions and improve local air quality and will require a Low Emissions Strategy (LES) to demonstrate this.
- The Core Strategy Policy CC3 promotes sustainable waste management practices including sustainable demolition, ensuring all new developments provide suitable waste and recycling facilities and encouraging the movement of waste by sustainable means.
- The impact of construction, demolition and excavation activities will need to be considered and measures taken to mitigate their impact on the surrounding community.
- Detailed construction, excavation and demolition logistics plans must be submitted for each development.
- Construction, demolition and excavation waste should be remediated, recycled or reused on site and this will require measures to be taken to minimise any impacts from noise, vibration and dust on local residents.
- Redevelopment of South Fulham Riverside must include the remediation of land where it is potentially contaminated, the risks of which need to be assessed and addressed prior to redevelopment.
- SFR is located within Flood Zone 3 hence a Flood Risk Assessment (FRA) is required for each site to identify all potential sources of flood risk and consider approaches to mitigate flood risk, taking into account the impacts of climate change. Development schemes will need to incorporate a range of Sustainable Urban Drainage Systems (SUDS) measures to reduce both the volume and rate of development related run-off to achieve or better the run off rates required by the London Plan (2011).
- Consideration should be given to water conservation and management including water efficiency, potential use of reclaimed water and borehole abstraction.
- Development must be designed and constructed to mitigate and adequately control noise and vibration.
- In line with Core Strategy (2011) policy RTC1 the overall objective is to increase public access and use of the Borough's waterways and enhance their environment, quality and character. Development will be expected to protect and enhance ecology and biodiversity.

13.1 CLIMATE CHANGE

13.1.1 Overview

Planning policy at all levels – national, regional and local – requires new developments to contribute towards mitigating and adapting to climate change. The regeneration provides an opportunity to create a high quality development based on the principles of sustainable design and construction, helping to minimise carbon dioxide emissions and building new developments that can cope with the expected impacts of climate change.

The Core Strategy includes a strategic objective of reducing and mitigating the local causes of climate change. Policy CC1 requires developments to make the fullest possible contribution to the mitigation of and adaptation to climate change, including the use of low and zero carbon technologies such as combined heat and power and renewable energy systems, as well as the integration and use of a decentralised energy (DE) networks.

These requirements are also reinforced by the London Plan policies which require developments to meet a series of increasingly stringent carbon reduction targets over the next 20 years, culminating in buildings being constructed to meet zero carbon standards from 2016 (residential) and 2019 (non-residential).

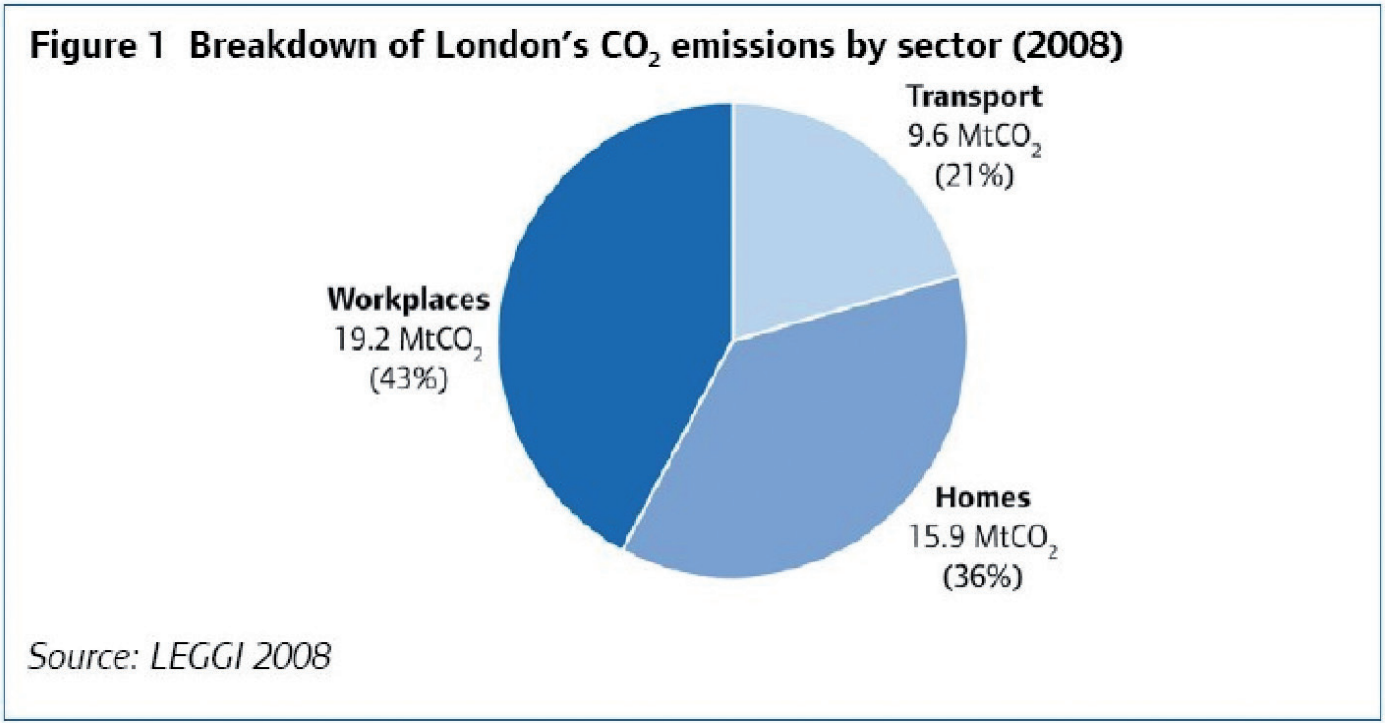
As well as being low/zero carbon, new buildings must also be designed and constructed to withstand the potential impacts of hotter, drier summers and milder, wetter winters which could increase the number of heat waves, droughts and flood events in London.

13.1.2 Climate Change Mitigation

The Government has set national carbon reduction targets of 34% reduction by 2020 and 80% by 2050. The London Plan also sets an intermediate target of 60% (below 1990 levels) by 2025. To help meet these targets it is important that new developments follow the Mayor of London's energy hierarchy to minimise the increase in carbon emissions and, where possible, aim to achieve low or zero carbon levels.

As Figure 13.1 shows, both London's homes and workplaces are significant sources of CO2 emissions. All new buildings constructed in SFR should therefore be designed to minimise energy use by maximising passive design measures, making best use of natural daylight and solar gain (without causing overheating).

Figure 13.1: London's CO2 emissions by sector



Energy efficiency measures such as high performance insulation and air-tight construction will also need to be integrated into building design to ensure that heat loss is minimised. Lighting and appliances also need to be energy efficient. Compliance with the relevant carbon reduction targets, as outlined in the London Plan (2011) will be expected for all new buildings.

The use of low carbon, Decentralised Energy (DE) technologies such as Combined Heat & Power (CHP), Combined Cooling, Heat & Power (CCHP or 'tri-generation') will also need to be considered on a site-wide basis. DE schemes which produce energy close to demand are more efficient than centralised electricity generation where both heat and energy are wasted in production and transmission. The Mayor of London expects 25% of London's heat and power to be generated by DE systems by 2025.

13.1.3 Climate Change Adaptation

As well as reducing energy use and CO2 emissions, development in SFR needs to be designed for the warmer, wetter winters and hotter, drier summers and be able to cope with heat waves, droughts and flooding. Climate change adaptation is particularly relevant to SFR given its proximity to the Thames and the potential for tidal flooding (see section 13.6 on flood risk and water management).

The Mayor of London's cooling hierarchy should be implemented to ensure that overheating will be avoided. Use of green roofs, particularly on commercial buildings, should be encouraged to help reduce the impact of the urban heat island effect. Buildings should be designed to avoid the need for air conditioning systems where possible as these increase CO2 emissions and also pump waste heat into the atmosphere.

Integrating green space and soft landscaping areas into SFR will also help reduce the impact of overheating, along with providing open space for recreation and amenity, enhancing biodiversity and aiding storm water attenuation.

The likelihood of more intense storms in the future may lead to increased risks of surface water flooding. Making adequate provision for drainage across SFR will therefore be an important consideration, although the close proximity of the Thames as the receiving water body for storm water discharges is a mitigating factor. An assessment should be undertaken to identify whether there are locations in SFR where there are particular surface water management issues, and the Mayor of London's drainage hierarchy should be used to develop measures to manage run-off (see section on flood risk and water management) in consultation with the Environment Agency and Thames Water.

Climate change predictions suggest that there could be a higher likelihood of droughts in the future, meaning that water supplies will need to be conserved and water use minimised. Water saving measures need to be integrated into redevelopment including rainwater harvesting and dual potable and grey water recycling systems. The Mayor of London's Water Strategy provides guidance on sustainable drainage and water efficiency measures that can be integrated into developments. Further details on requirements can be found in the section on Flood Risk and Water Management.

13.1.4 Sustainable Design & Construction

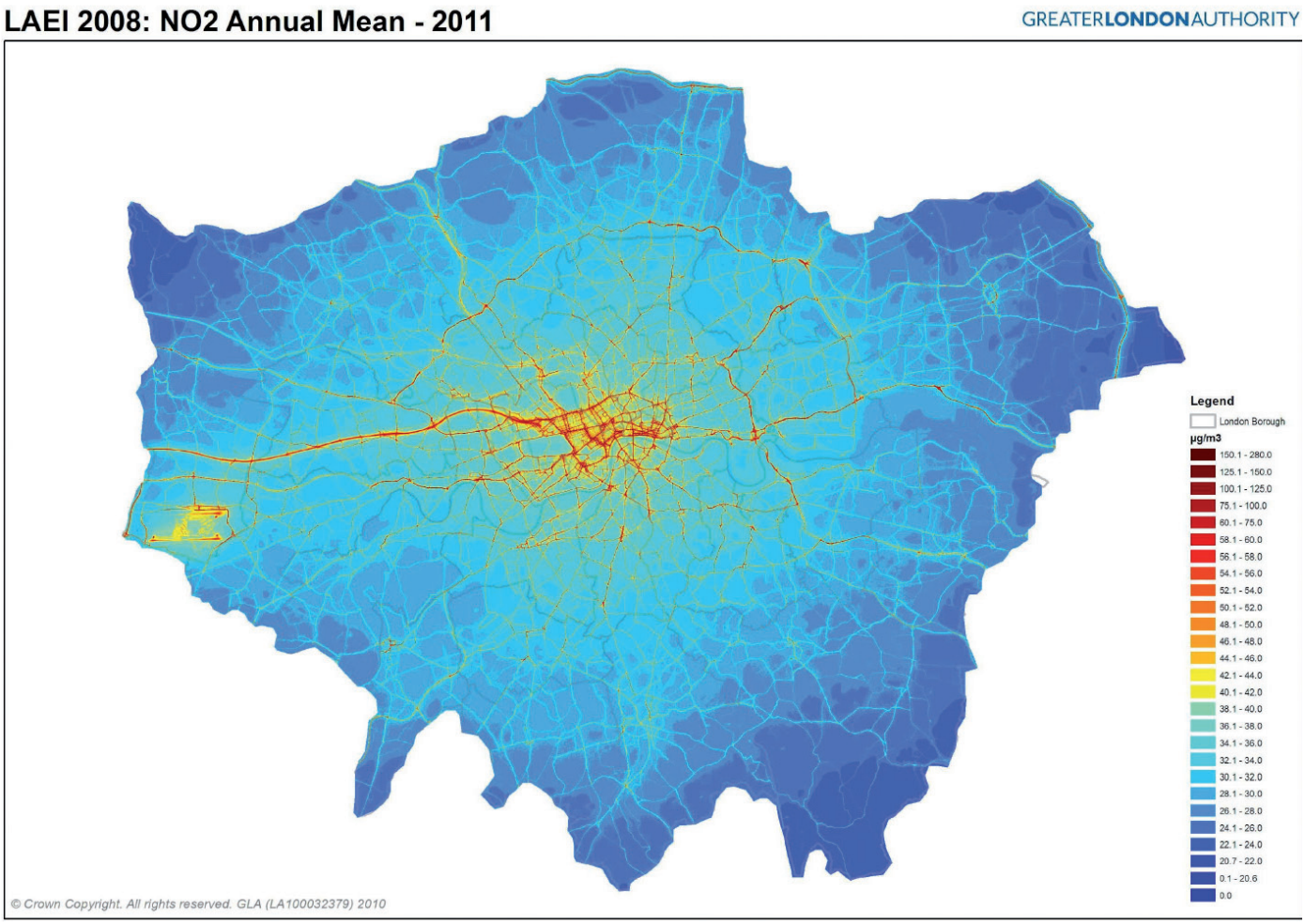
Development within SFR will need to take account of broader sustainability issues in terms of design and construction to ensure that all buildings meet high levels of environmental performance. For example, use of appropriate building materials (such as those with low embodied energy) should be prioritised, pollution minimised (during both the construction phase and occupation of the development), waste generation minimised and recycling (or re-use of materials during construction) should be maximised. The implementation of national standard schemes such as the Code for Sustainable Homes and BREEAM via planning policies in the LBHF Core Strategy (2011) and London Plan (2011) will help ensure that new buildings are designed and constructed to meet sustainability requirements. The Mayor of London's SPG on Sustainable Design and Construction also outlines key principles and required standards.

13.2 DECENTRALISED ENERGY

13.2.1 Overview

One of the Mayor's top priorities for reducing London's CO2 emissions is to reduce the capital's reliance on centralised power stations. This means increasing the use of local, low carbon energy supplies through DE systems and the establishment of Combined Heat and Power (CHP) for community heating. Accordingly, a target has been set in the London Climate Change Action Plan (CCAP) to meet a quarter of London's energy needs from decentralised sources by 2025.

Figure 13.2: London annual mean NO2 emissions



There are a number of key considerations which contribute to an evidence based understanding of local feasibility and potential for DE in LBHF, and it is particularly important to understand the heat and power demands of existing buildings and existing (and possibly under-used) DE sources, as there may be opportunities to link existing and new developments together.

LBHF has produced a heat mapping study of the borough which will be subsequently incorporated into the London Heat Map (www.londonheatmap.org.uk); an interactive platform displaying high level data on DE across London. The heat map has been recently developed to address the lack of information and certainty surrounding London's heat loads. It is intended to be used by boroughs, landowners and developers to help identify opportunities for DE and CHP across London and to support the development of new DE schemes. It also enables the development industry to make informed investment decisions without risking significant development costs.

13.2.2 DE in South Fulham Riverside

The heat mapping exercise undertaken in SFR identifies large consumers of gas, and identifies large hotels (Wyndham Grant Hotel, the Belvedere and Jury's Inn Chelsea) along with major residential schemes, namely Imperial Wharf, Sullivan Court and Chelsea Harbour. Most buildings/developments with large heat demands in SFR are clustered to the east of this zone within a relatively small area (i.e. within a radius of 150m to 200m), with the remainder of buildings distributed throughout SFR primarily fronting the Thames. Three energy centres are currently located in SFR: the CHP at Wyndham Grant Hotel, and two community boiler systems serving the Philpot Square and Manor Court estates.

Public buildings within this zone include schools only, and the heat demand associated with these uses is not large enough to support anchor load provision. At the time of construction, the Imperial Wharf development was not required to incorporate the necessary infrastructure to allow connection to CHP, however all further residential

development on the Imperial Wharf site should be built with the ability to connect to a CHP network in the future.

Gas demand (to provide space and water heating) in SFR is expected to increase over the next 20 years as regeneration takes place. Depending on the exact nature of the regeneration scheme that comes forward in terms of building types, heat demand profiles, ability to link existing and new sites together on a single heating system etc, a DE network may be feasible. If not, a number of smaller scale communal systems may be feasible in certain buildings, based on energy efficient CHP units. The viability of integrating DE into SFR will therefore need to be assessed as it could potentially offer substantial CO2 emissions savings, delivering savings of 20% against current estimated baseline CO2 emissions. For this reason all major residential development within the SFR should be built to ensure it can connect to a CHP network in the future.

Consideration will also need to be given to further reducing CO2 emissions through the use of on-site renewable energy generation. A range of technologies such as solar PV panels, heat pumps (these produce an efficient and low carbon source of heating and cooling however the potential impact on the water environment needs to be recognised and mitigated) etc should be assessed for their feasibility in providing heating, cooling and electricity generation in SFR. Potential impacts of any planned renewable energy installations will also need to be taken into account when assessing their suitability

13.3 AIR QUALITY

13.3.1 Overview

In common with many other London Boroughs, LBHF experiences periods of poor air quality when concentrations of nitrogen dioxide (NO2) and particulates (PM10) breach the Government's air quality objectives. LBHF is designated an Air Quality Management Area (AQMA) for these pollutants and Action Plans are in place to help reduce emissions, improve local air quality and meet air quality objectives.

The figure 13.2 (extracted from the 2008 London Atmospheric Emissions Inventory) shows the expected exceedence areas of the NO2 annual mean objective in Greater London, which includes SFR.

(See Figure 13.2)

SFR does not contain many busy roads, although Wandsworth Bridge Road (A217) and New Kings Road (A308) are responsible for NO2 exceedences and, to a lesser extent, PM10 exceedences in this part of the borough. Buildings are also responsible for a significant level of local emissions, in particular NO2 emissions from gas boilers. PM10 exceedences are less extensive than those for NO2.

Although improvements are expected over time due to reductions in emissions (improved vehicle technology, cleaner fuels, more energy efficient buildings etc), local measures will be required along with national and regional measures to ensure objectives are met consistently.

13.3.2 Policy context and low emission strategies

The London Plan requires development to be 'air quality neutral' and not lead to further deterioration of air quality, particularly in AQMA's. The London Plan also sets out a requirement for development schemes that plan to incorporate biomass boilers to include a detailed air quality assessment comparing forecast pollutant concentrations with that of conventional gas boilers (London Plan Policy 7.14). The Core Strategy also seeks to reduce levels of local air pollution and improve air quality in accordance with the London Plan (Core Strategy Policy CC4).

Any development within SFR that includes sensitive receptors (such as housing and schools) needs to consider whether there could be any potential health impacts of exposure to poor air quality alongside main roads such as Wandsworth Bridge Road and propose mitigation measures if necessary.

The Council's Core Strategy (2011) recognises that the local environment (which includes air quality) requires protecting and enhancing. Any major development within SFR will therefore need to demonstrate its contribution to help reduce emissions and improve local air quality and a Low Emission Strategy (LES) will be required to assess the potential air quality impacts of development and outline measures to be implemented.

Impacts will principally be transport and energy related, and the strategy must include measures to reduce the need to travel by car and encourage sustainable travel (through implementation of a travel plan, the use of electric vehicles,

measures to encourage walking and cycling etc), and ensure high standards of energy efficiency and appropriate use of low emission energy generation systems.

The adoption of energy efficient building design and renewable heat technologies (photovoltaics, heat pumps etc) can assist in reducing NO2 emissions from domestic and commercial gas boilers. However, some renewable technologies such as large CHP plants and biomass energy systems (if proposed) could increase local emissions of NO2 and PM10, if not assessed and mitigated. LES's will need to show how impacts from these installations can be adequately mitigated.

13.3.3 Demolition and construction impacts

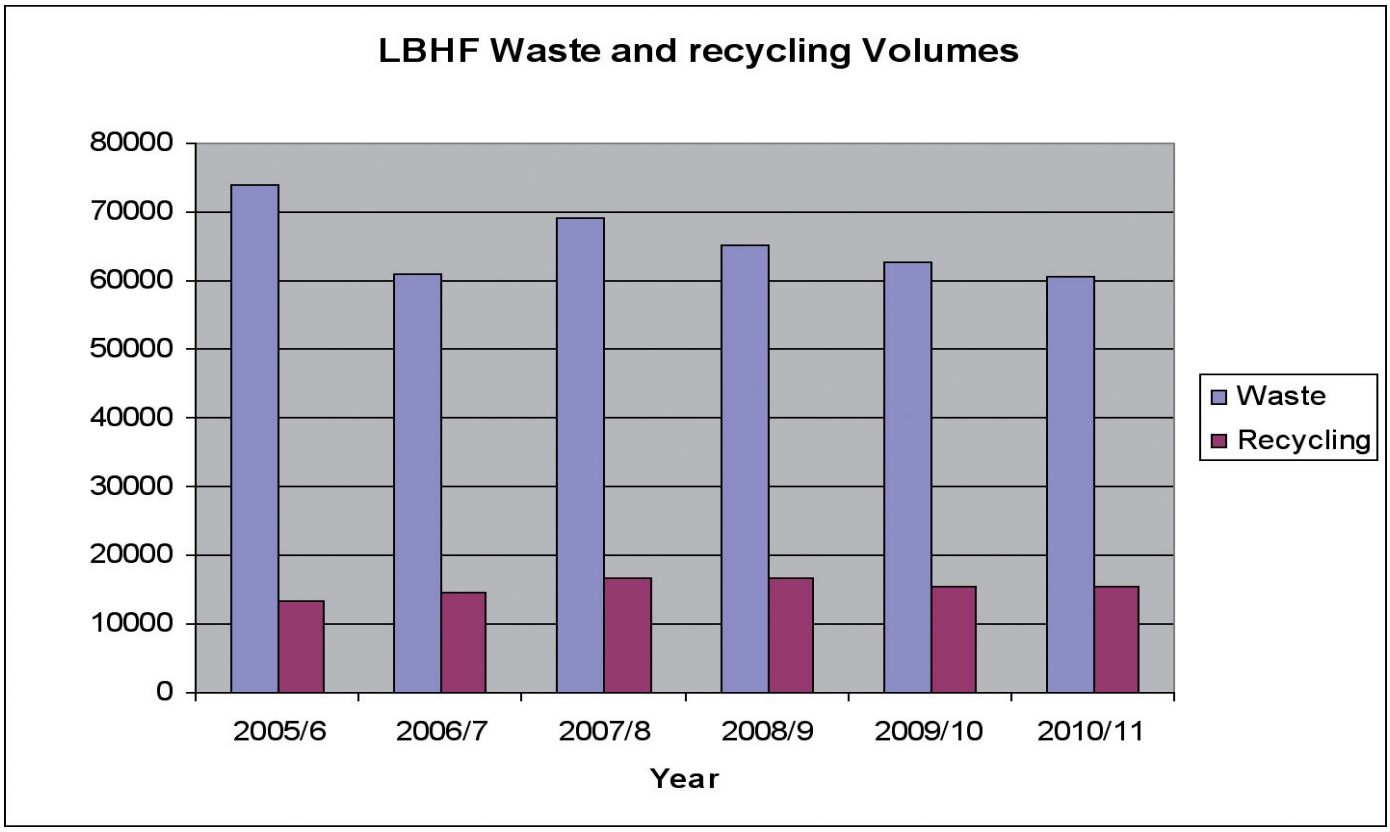
Local air quality impacts are likely during the demolition and construction phase of development. Construction management plans outlining best practise measures to control and monitor air pollution will need to be secured by condition of planning permission. The London Council's guidance document 'The Control of Dust and Emissions from Construction and Demolition' provides further guidance. Due to the likely extended construction phase and proximity of sensitive receptors, real time air quality monitoring (including baseline) may be required. The location of monitoring equipment, site trigger levels and the enforcement approach (should an exceedance occur) will need to be agreed prior to construction and should also be secured by condition of planning permission.

13.3.4 General mitigation measures

Redevelopment of SFR should aim to improve air quality within and adjacent to the regeneration area. In addition to Low Emission Strategies and other development-specific mitigation measures, the following area wide measures should be considered:

- Ensure non-residential and/or mixed use developments front Wandsworth Bridge Road;
- Plant trees, establish planted areas and other green landscaping to act as buffer zones along major roads;
- Limit the ratio of off-street car parks to new dwellings in line with TfL guidance lower thus encouraging a low level of car ownership, while also encouraging alternative sources of fuel, by installing electric vehicle charging points;
- Ensure that any bus standing facilities within SFR are located away from residential uses or areas where people congregate;

Figure 13.3 LBHF waste and recycling volumes



- Consider implementation of 20mph zones and shared surface treatments on certain roads through the site to reduce through traffic; and
- Encouraging walking and cycling through improved permeability and connectivity throughout SFR, in particular away from major roads, and improving access to public transport.

13.4 WASTE

13.4.1 Overview and policy context

National waste policy is set out in PPS 10: Planning and Waste management. PPS 10 contains a number of important principles for waste planning and incorporates both European and global thinking on waste policy, and internalises the waste hierarchy as the basis for waste planning in the UK. The waste hierarchy is also fundamental to the 'Waste Strategy for England' (2007), which sets out steps to break the link between economic growth and growth in waste volumes. The waste hierarchy proposes the following behavioural responses in order of priority:

- Reduction;
- Re-use;
- Recycling;
- Energy Recovery; and
- Disposal

The London Plan and The Mayor's Municipal Waste Management Strategy for London (November 2011) set out objectives, policy and overarching targets for recycling and residual waste disposal in Greater London, and these are reflected in emerging LBHF waste policy and targets.

Key applicable London wide targets include:

- achieving zero municipal waste direct to landfill by 2025;
- reduce the amount of household waste by 20 percent by 2031;
- To recycle or compost at least 45 per cent of municipal waste by 2015, 50 per cent by 2020 and 60 per cent by 2031; and
- To reuse and recycle 95 per cent of construction, excavation and demolition waste by 2020.

LBHF Core Strategy (2011) Policy CC3 promotes sustainable waste management practices including sustainable demolition, ensuring all new developments provide suitable waste and recycling facilities and encouraging the movement of waste by sustainable means. The Code for Sustainable Homes (2006) and Building Regulations (Drainage and Waste Disposal, 2000) are also applicable and specify in detail how sustainable approaches to reducing waste and ensuring recycling facilities are accommodated in building design. The Mayor's Commercial Waste Strategy sets out specific guidance and targets for minimising and dealing with waste produced by the commercial sector which accounts for the majority of waste production. The Mayor of London has recently adopted a Business Waste Strategy for London (November 2011).

13.4.2 Borough trends

There is no information relating to waste generation and recycling at ward level so Borough figures are referred to below. The overall volume of household waste generated in LBHF has decreased by 18 percent since 2005 and the overall rate of household waste recycling has increased from 21 percent to 27 percent. These rates of recycling are higher than many other London Boroughs and greater levels of recycling are anticipated in the medium to long term although the London Plan target of 45 percent diversion rate by 2015 is likely to be optimistic.

(See Figure 13.3)

Residual waste generated within SFR is currently transported via the Thames by barge from two Western Riverside Waste Authority (WRWA) transfer stations in Wandsworth to a new river fed waste to energy incinerator at Belvedere, Bexley and are now diverted from landfill. Co-mingled dry recyclables collected via LBHF's kerbside and commercial recycling collection schemes are sorted at a new materials reclamation facility (MRF) at Smugglers Way in Wandsworth for onward transportation.

Existing arrangements for waste transfer, disposal, recycling and processing between LBHF and the WRWA are set in statute and will continue indefinitely. There are currently no dedicated waste or recycling handling facilities within SFR.

13.4.3 Waste management systems

Various waste collection and management systems could be implemented in SFR, and the following guiding principles should be used to assess any waste management solution

implemented for major schemes:

- Domestic waste collection systems should maximise recycling and waste diversion at source (e.g. in kitchens);
- Must be cost effective;
- Should integrate with current LBHF waste collection systems and infrastructure;
- Green waste diversion and composting should be accommodated;
- Refuse and recycling storage areas should be of sufficient size and easily accessible;
- Refuse vehicle movements should be minimised where possible;
- The highway network and building layout should be designed to accommodate refuse vehicles where necessary and prevent access being blocked by parked cars; and
- Bulky waste collection areas should be provided for major schemes.

The integration of waste collection and management systems should be fundamental to any major schemes in SFR. Dependant on the waste management system(s) selected, the internal layout of buildings, basements, communal areas and open space will need to accommodate the preferred system and be designed and implemented in accordance with the waste management principles set out above.

LBHF's SPD 'Storage of Refuse and Recyclables' (soon to be superseded by the Planning Guidance SPD in 2013) provides additional design criteria for bin stores, household storage, recycling facilities, vehicular access requirements including highway specifications and turning areas, and generally provide all necessary detail for the design of waste facilities. It does not provide detail with respect to chute based systems or underground storage systems, although design criteria for highways and vehicle access remains relevant.

13.4.4 Construction Demolition and Excavation Waste

The impact of construction, demolition and excavation activities will need to be considered and measures taken to mitigate their impact on the amenity of the surrounding population. These impacts could include noise, vibration, dust, air pollution, highway congestion, pedestrian/ vehicular restrictions, light spill, ground movement, degraded water quality, potential exposure of contaminated land and impacts on ecology.

Policy, Legislation, Standards and Guidance

- London Plan, Policy 5.18 (Construction, Excavation and Demolition Waste), Policy 5.3 (Sustainable Design and Construction)
- LBHF's Core Strategy 2011, Policy CC3 (Waste Management) and CC4 (Protecting and Enhancing Environmental Quality).
- The control of dust and emissions from construction and demolition; Best Practice Guidance (Mayor of London and London Councils 2006);
- The Construction (Design and Management) Regulations 2007;
- The Control of Asbestos Regulations (2006)
- The Definition of Waste: Development Industry Code of Practice, version 2 (CL:AIRE, 2011)
- Site Waste Management Plans Regulation (2008):
- BS5228: Control of Noise and Vibration on Construction and Open Sites
- Control; of Pollution Act 1974;
- Environmental Protection Act 1990

As a priority, construction, demolition and excavation waste should be remediated, recycled or reused on site and this will require measures to be taken to minimise any impacts from noise, vibration and dust on local residents.

The construction of individual sites in the regeneration area has the potential to disrupt and add significant pressure to the traffic network. Due to the scale of redevelopment anticipated within the regeneration area a number of sites are likely to be under construction at the same time. Where on-site remediation, recycling and re-use of materials is not possible, nearby locations should be sought, if materials must be transported, this should be undertaken using the most sustainable method.

Detailed construction, excavation and demolition logistics plans must be submitted for each development. They must deal with all aspects of construction and demolition vehicle management, including demolition transportation arrangements, delivery schedules, delivery bookings, routing of vehicles and delivery and turning facilities.

Developers will need to provide a Construction and Demolition Management Plan (CDMP) before any excavation, demolition or construction takes place. This is required to limit any negative impact regarding noise, light and air pollution on the residential and community uses surrounding the regeneration area.

Construction noise and hours of operation will be controlled by the borough's environmental health officers through Sections 60 and 61 of the Control of Pollution Act 1974.

Site Waste Management Plan Regulations (2008) require a Site Waste Management Plan (SWMP) to be prepared and implemented for projects over £300,000 in value. These must be prepared in accordance with Defra Guidance and will be secured by condition or through s106 planning obligations

The purpose of a Site Waste Management Plan:

- to improve the efficient use of resources and construction materials and methods so that waste is minimised and can be re-used, recycled or recovered in other ways before disposal options are explored; and
- reduce fly-tipping by restricting the opportunities available for the illegal disposal of waste by ensuring compliance with existing legal controls and providing a full audit trail of any waste that is removed from the construction site.

13.4.5 Encouraging waste minimisation, re-use and recycling

There are numerous non-regulatory and education based approaches that can be implemented throughout SFR as part of an integrated approach towards waste minimisation.

Waste minimisation within the home can be promoted in many ways. Specially designed kitchen cupboards with compartments for various recyclables as well as residual waste should be installed in every kitchen to encourage the separation of waste from recyclables at source. Information boards fitted inside cupboards should include information on what can/ cannot be recycled and suggestions to limit the generation of waste, including buying loose fruit and vegetables as opposed to pre packaged; minimising packaging, using reusable bags and lunch boxes instead of plastic bags; buying goods in bulk; insisting on no junkmail; using tap or home filtered water rather than bottled water; buying products from recycled materials and composting garden waste. Similar information could be included at the point of residential waste disposal e.g. adjacent to bin storage areas.

Waste minimisation measures could also be promoted by the on-site management team in consultation with LBHF waste and recycling officers.

13.4.6 Composting

Composting can be carried out through a variety of techniques and utilises bio-degradable waste that would otherwise be disposed of. The most common and abundant form of feedstock for residential compost is garden trimmings (green waste) but other feedstock is ideally suited to composting such as household kitchen waste, flower cuttings and some commercial waste.

Composting can be undertaken on a small scale domestic basis in areas with limited outdoor space, or alternatively on a community wide basis through green waste collection and disposal via dedicated green waste bins, and composting units can be located at communal points on open space close to residential dwellings. These units could be established in combination with public gardens and allotments, and managed on a community led basis. Located alongside gardens and allotments, the compost would have a clear end use and there would likely be a ready demand. There are a variety of schemes of this nature, many with the involvement/guidance of the Community Composting Network (CCN).

13.5 LAND CONTAMINATION

13.5.1 Overview

Redevelopment of SFR must include the remediation of land where it is potentially contaminated, the risks of which need to be assessed and addressed prior to redevelopment. Land may have become contaminated by activities such as improper chemical storage, handling or disposal as well as accidental chemical leaks or spills. Former industries may have also contaminated surrounding properties either by allowing pollutants to enter groundwater or via the down-wind deposition of particulate pollutants from industrial air emissions. Natural sources of contamination may also exist such as gas producing organic matter or naturally occurring heavy metals in the soil.

Developers need to ensure that the subject land is suitable for use and all risks are identified and

assessed, and that remediation is carried out to address these risks. Remediation should be sustainable and should not adversely impact the environment, for example through production of unnecessary waste which requires transport over large distances.

13.5.2 Policy guidance

A number of legislative and guidance documents control the development of potentially contaminated land or the development of land for a sensitive use as well as other relevant pollution matters, these include:

- The Town and country Planning Act 1990;
- Part IIA of the Environmental Protection Act 1990, Contaminated Land (England) Regulations 2006;
- Defra Circular 01/2006 Contaminated Land Statutory Guidance;
- CLR 11: Model procedures of the management of Contaminated Land (2004);
- BS10175, The Investigation of Potentially Contaminated Sites;
- Environmental Permitting (England and Wales) Regulations 2010;
- The Hazardous Waste (England and Wales) Regulations 2005;
- The Environmental Damage (Prevention and Remediation) Regulations 2009; and
- Building Regulations 1991 under the Building Act 1984.
- Guidance for Developers of Land where Contaminated Land may be an Issue (LBHF, Draft 2011), which is to be finalised in 2012.
- The Definition of Waste: Development Industry Code of Practice, version 2 (CL:AIRE, 2011).
- Assessing risks posed by hazardous ground gases to buildings (CIRIA 665, 2007)
- The VOCs Handbook. Investigating, assessing and managing risks from inhalation of Volatile Organic Compounds (VOCs) at land affected by contamination (CIRIA 682, 2009)

These regulations and documents and subsequent updates should be fully considered when addressing contaminated land issues and remediation. Although not directly associated with the planning process, Part IIA of the Environmental Protection Act (EPA) 1990 places the responsibility on the Local Authority (LA) to identify areas of contaminated land where there is a significant possibility of significant harm being caused on a sensitive receptor. It is then the role of the LA to ensure that the site is remediated. This is implemented via an intensive process by which LAs review relevant local information to identify areas as being potentially contaminated and prioritise them for further assessment so that the areas of highest risk are addressed first. SFR should be appropriately remediated so that it does not become a LA Part IIA site.

13.5.3 Site remediation strategy

Parts of SFR have been designated as a potentially contaminated land sites under Part IIA of the EPA 1990 due to the probable risks associated with past and uses of the area. Further detail is provided in the historical environmental search records including details of past and present potential sources of land contamination. Potentially contaminated land should be assessed and remediated in accordance with the following seven stages each of which should be submitted and approved by the Council before the next phase is undertaken.

- **Desk Study:** Preliminary Risk Assessment; this assessment should include a desk top study which details the past and present uses at the site and the surrounding area to identify any potential sources of contamination. This should include a search of Council planning records. Any pollutants associated with these sources should be identified along with their potential related risks. It should then be determined what sensitive receptors are likely to be present at the development site such as humans, ecological receptors or building materials. Any pathway from potential on-site sources to off site sensitive receptors should also be identified. A conceptual site model should be produced to demonstrate where any pathway connects any of these sources to the sensitive receptors. This Source-Pathway-Receptor connection is known as a pollutant linkage. The conceptual site model should also include surface water drainage, proposed foundation design and borehole GSHP systems if these are proposed as part of a development. The desk study component should be submitted with any application for planning permission (whether full or outline).
- **Site Investigation Scheme:** This scheme is based upon the Preliminary Risk Assessment

and should set out how the site investigation will be carried out and should target the pollutant linkages identified in the conceptual site model.

- **Site Investigation:** This investigation should follow the approved scheme and be undertaken using current guidance and methods.
- **Risk Assessment:** The results of the site investigation should be assessed to determine the degree and nature of any contamination on the site and the risks posed by any contamination to human health, controlled waters and the wider environment. The conceptual site model should be revised with the information gathered through the site investigation to confirm the existence of any remaining pollutant linkages.
- **Remediation Strategy:** A detailed method statement for any required remediation works identified through the risk assessment should be produced with the aim of breaking any pollutant linkages. Where remediation is deemed necessary, a sustainable remediation strategy should be implemented and a 'dig and dump' approach to addressing contaminated land should be avoided. In-situ remediation should be considered and implemented where possible and the use of 'soil hospitals' where ex-situ remediation is employed should be considered to enable the re-use of the material. Where a 'dig and dump' approach is the most sustainable or optimal, it should be undertaken in accordance with the waste hierarchy and requirement for Site Waste Management Plans (as discussed in the previous Waste section). Waste produced in remediating land should be recycled and reused on redevelopment sites where possible.
- **Verification:** A report should be produced which validates and verifies that all of the works outlined in the remediation strategy have been undertaken as agreed. This includes details such as analytical results confirming successful in-situ remediation or importation or clean top-soil cover, the proper placement of gas membranes and waste transfer tickets demonstrating a duty of care in handling any off site transfer of excavated soil.
- **On-going monitoring:** If, during development, contamination not previously identified is found to be present on a site, the Council should be immediately informed and no further development (unless agreed in writing by the Council) shall be carried out until a report indicating the nature of the contamination and how it is to be dealt with is agreed in writing by the Council. There may also be situations in which confirmation that remediation has been successfully achieved or abated is necessary and monitoring past the completion of development is required. The scope of any monitoring should be agreed in writing by the Council.
- These works should then be reported to and agreed in writing by the Council, when it is demonstrated that no residual adverse risks exist.

13.6 FLOOD RISK AND WATER MANAGEMENT

13.6.1 Overview

This following section sets out the background and underlying conditions relating to flooding, drainage infrastructure and water resources, and provides policy guidance and measures to:

- mitigate the risk of flooding from all sources, especially tidal flooding from the Thames but also sewer flooding, surface water flooding and groundwater flooding;
- encourage the conservation of water and the sustainable use of water for domestic and commercial purposes;
- ensure an efficient and sustainable drainage network
- minimise storm water discharge; and
- promote and encourage biodiversity and ecology.This approach is supported by LBHF's Core Strategy (2011) policy CC2 on water and flooding

13.6.2 Flood risk assessment, mitigation and adaptation

The River Thames adjoins the site and river levels at this location are dominated by tidal movements as fluvial flows are relatively insignificant. A joint Strategic Flood Risk Assessment (SFRA) for LBHF and RBKC was published in 2010. SFRA is a planning tool that enables boroughs to assess

the potential flood risk to strategic sites and development proposals, ensures the potential flood risk is understood, and identifies measures to mitigate flood risk.

(See Figure 13.4 below)

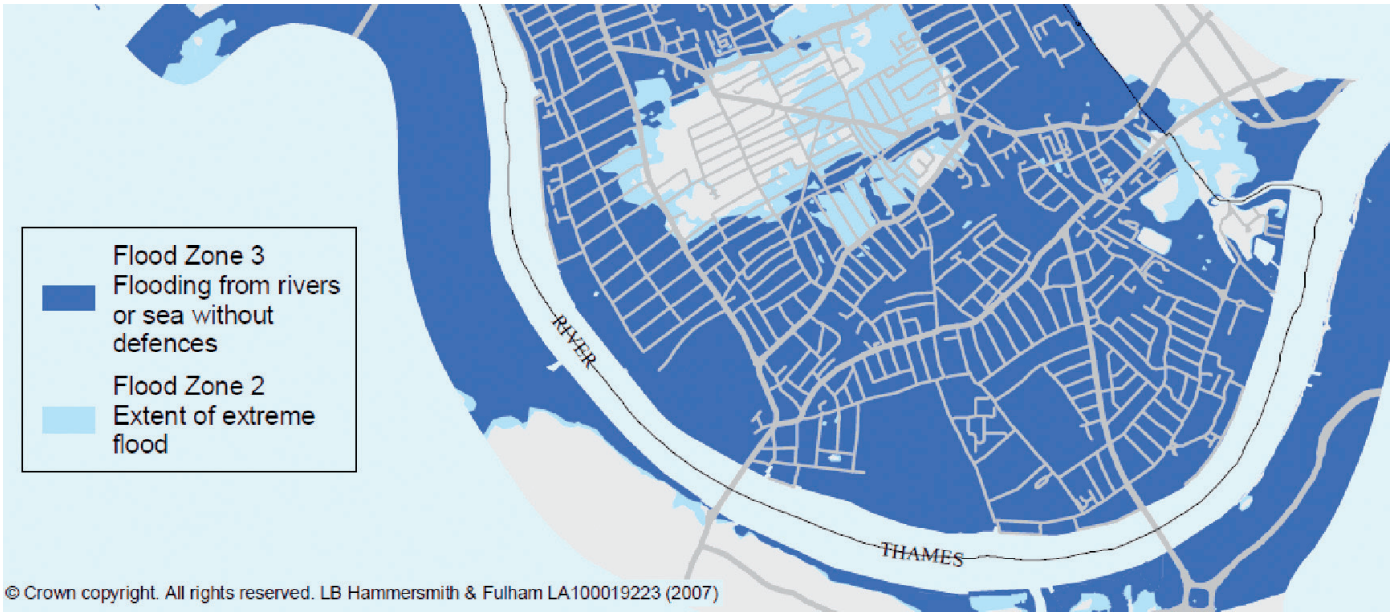
The majority of SFR regeneration area is located within Flood Zone 3 as defined by the Environment Agency (EA), and is highlighted in dark blue in Figure 13.4. Flood Zone 3 is an area with a high probability of flooding during a flood event with a greater than 0.5 percent chance of occurring annually (1 in 200 year event).

The statutory 'Sequential Test' required by the NPPF requires the local planning authority to prioritise development in ascending order from Flood Risk Zone 1 to 3. In response to this the LBHF Core Strategy notes that 60 percent of the borough lies within Flood Zones 2 and 3, and it would therefore be unreasonable to restrict development to the remaining 40 percent of the borough. The majority of the SFR regeneration area lies in Flood Zone 3.

A site-specific flood risk assessment is required for proposals of 1 hectare or greater in Flood Zone 1 [and] for all proposals for new development (including minor development and change of use) in Flood Zones 2 and 3 and these must be prepared in accordance with the NPPF and the LBHF SFRA. Any FRA must identify all potential sources of flood risk and consider approaches to mitigate flood risk, taking into account the impacts of climate change. The FRA must also consider the impact of the proposed development on flood risk elsewhere, for example if excessive hard standing is proposed. The FRA must also show how surface water flows achieve greenfield run off rates or better, as required by the London Plan and in accordance with EA guidance.

In addition to a FRA, physical design measures should be incorporated into redevelopment of SFR to mitigate the potential impact of tidal flooding from the Thames. Flood defences along the embankment in the form of walls, gabion baskets and groynes protect this part of London from the risk of river and fluvial flooding associated with tidal and storm surge events, and redevelopment should not compromise these defences and where possible enhance them. Development proposals for sites adjacent or within 16m of the defences should include information regarding their current condition. Where this information indicates that the expected lifetime is less than that of the development, the developer will need to outline and submit a programme of works required to bring the defences up to an appropriate standard which is commensurate to the lifetime of the development. Any development adjacent to the defences will need to ensure that access is available for emergency maintenance, repairs, and renewal. Current advice is to allow for 0.6m raising of the defences to account for sea level rise as a result of climate change. Proposals will be expected to show that this will not be prevented by the development. For example, the 'managed retreat' of the Thames riverbank and flood defences should be considered where

Figure 13.4: Flood Risk in SFR



feasible, which increases the floodplain area whilst having the added benefit of providing habitat and promoting biodiversity.

Tidal flood risk can also be avoided and mitigated through other physical and design measures. Ground and basement floor uses should preferably be ancillary and non-residential in nature. Although the EA does not object in principle to residential units located 600mm above the statutory flood level provided they are not self-contained, alternative means of escape must be provided and non-return pumps and valves should be installed in basement accommodation. The EA and Thames Water will also need to be consulted on the content of any FRA. and any works proposed within 16m of the flood defence wall would require a Flood Defence Consent from the EA.

13.6.3 Hydrogeology

Much of West London is underlain by a 'shallow' aquifer contained within locally occurring river terrace deposits along with a 'deep' aquifer flowing through the Thanet Sand and Upper Chalk Formations. These aquifers are typically separated by significant depth of clay from the London Clay and Lambeth Group Formations. The EA website suggests that the river terrace deposits underlying SFR constitute a 'minor' aquifer of variable permeability and the presence of a deep aquifer (approximately 19m) is likely. The SFRA prepared for LBHF and RBKC notes that fluctuations in the water table within the permeable gravels in the historic floodplain of the River Thames may cause localised groundwater flooding, particularly in excavations and basements. The potential impact of groundwater flooding must therefore be avoided through construction and design measures.

13.6.4 Sewer and surface water drainage

Sewer infrastructure within and adjacent to SFR is largely Victorian and predominantly a combined system taking both storm water and foul water. Key sewers immediately bordering SFR run along Carnwath Road and Townmead Road which both drain to a sewer along Wandsworth Bridge Road before draining northward towards the Walham Green sewer. Sewer flooding has been recorded at properties on Wandsworth Bridge Road and as such there are known capacity issues immediately adjacent to SFR. Consequently redevelopment within SFR area could potentially exacerbate issues associated with existing sewer capacity. Thames Water are currently investigating local sewer capacity issues and options as part of the Counters Creek Flood Alleviation Scheme and are preparing a bid to Ofwat to seek funding for the scheme.

Given the sizeable nature of the upstream combined sewer and water catchment and limited capacity in deeper storm relief sewers, storm water regularly backs up when it rains resulting in up to 50 overflow events per year. During such events combined sewer overflows discharge into the Thames.

The close proximity of the Thames provides the opportunity to discharge surface water run off into the river which will help alleviate the pressure on the combined sewer system. This option for development in SFR should be assessed in consultation with the EA and Thames Water.

The Environment Agency and Thames Water must be consulted on major schemes to ensure adequate water and waster water infrastructure is in place prior to occupation. Thames Water must also approve detailed matters including the design, capacity, size and construction of storm water and waste water networks. In addition developers may need to fund studies to ascertain whether proposed schemes will lead to overloading of existing water and waste water infrastructure. Failure to demonstrate that adequate water and waste water infrastructure is in place prior to occupation of schemes is contrary to Strategic Policy A Core Strategy, (2011) which states

" The acceptability of any development in the Borough will be dependent on a number of factors including...the provision of services, facilities and infrastructure to support new development'

13.6.5 Water conservation and management

The London Water Strategy promotes a simple hierarchy for strategic water management:

- Lose less: Reduce the loss of water through better leakage management;
- Use less: Improve the efficiency of water use in residential and commercial development;
- Reclaim more: Use reclaimed water for non-potable uses (grey water and rainwater).

The London Plan states that development should minimise the use of treated water by incorporating water saving measures and equipment and meeting water consumption targets of 105l/p/d in residential development, and also supports the supply of sustainable water supply (Policy 5:15).

LBHF's Core Strategy (2011) requires all water using appliances installed in residential and commercial buildings in SFR such as washing machines, dishwashers, WCs and shower heads should be water efficient and industry coded as such. Water butts, aerated and spray taps, low-flow and dual flush toilets, vacuum drainage systems and waterless urinals should also be installed where possible. These measures also help meet the requirements of the London Plan (2011) policies on minimising use of treated water.

Rainwater capture on commercial and residential buildings should be investigated and be integral to building design where practicable. Rainwater harvesting systems can be installed ranging from simple water butts to more complex systems linking buildings. Rainwater can be used for all non-potable uses including garden watering, car washing, toilet flushing and clothes washing. Gravity fed rain water systems are preferred to pumped systems as these use no energy.

Along with water conservation and management measures, it is essential that there is sufficient water supply infrastructure to support redevelopment within SFR and Thames Water must be consulted on the design and capacity of water supply infrastructure. Given the presence of a chalk aquifer beneath SFR, borehole abstraction as a supplementary source of potable water should also be investigated.

There is precedent for such abstractions, with one recently occupied residential scheme in Hammersmith sourcing all potable water from borehole abstraction. The Environment Agency must be consulted on any proposal for borehole abstraction and there is a need to protect water resources situated within shallow groundwater and the chalk aquifers. Any discharge direct to the River Thames must be designed to allow for the effects of tide-locking, and should avoid scour of the foreshore.

13.6.6 Sustainable urban drainage systems (SUDS)

LBHF Core Strategy Policy CC2 expects all development to minimise current and future flood risk from all sources, and in general will strive to mitigate flooding from surface water and foul water by promoting Sustainable Urban Drainage Systems (SUDS). In addition to requiring a FRA and Exceptions Test, development schemes will need to incorporate a range of SUDS measures to reduce both the volume and speed of development related run-off to achieve Greenfield run off rates or better as required by the London Plan. Currently, SFR features a large amount of impermeable surfaces and hard standing which will need to be reduced in association with new development.

SUDS comprise a range of measures such as permeable surfaces and pavements; swales, basins and drainage channels; ponds, wetlands & rain gardens; infiltration trenches and filter drains; green roofs and walls and attenuation tanks. SUDS can either be integrated into areas of open space and planted areas or buildings to attenuate flows from intense and/or long duration rain events, encourage absorption of storm water and reduce the risk of surface water flooding. SUDS can also improve the quality of storm water run off, promote biodiversity and provide amenity to open space. See section 13.6.4 Sewer and surface water drainage.

Some SUDS measures also have the potential to provide water quality improvements by reducing sediment and contaminants from runoff – either through settlement or biological breakdown of pollutants. Techniques that control pollution close to the source, such as permeable surfaces or infiltration trenches, can offer a suitable means of treatment for runoff from low risk areas such as roofs and car parks.

Green roofs on commercial and domestic buildings require an impermeable membrane to be installed on roofs supporting a layer of substrate and vegetation. Green roofs and walls (including terraces and gardens) can also improve the thermal performance of buildings, reduce the urban heat island effect associated with built up urban areas, absorb rainfall and dissipate storm water runoff, enhance biodiversity and ecological value and also provide residential amenity.

NOTE: Contaminated land maybe unsuitable for some SUDS schemes and it is recommended that remediation is undertaken prior to an infiltration solution being implemented.

Figure 13.5: Vegetated drainage channel

Figure 13.6 Green roof

Figure 13.7: Edge treatment with drought tolerant species

13.7 NOISE AND VIBRATION

13.7.1 Policy context and legislation

In addition to planning policy, noise and vibration is controlled through a range of policy and legislation, including:

- World Health Organisation – Guidelines for Community Noise 1999
- BS 8233:1999 (Sound Insulation and Noise Reduction for Buildings – Code of Practice)
- GLA – The Mayor's Ambient Noise Strategy
- BRE/ Ciria 'Sound Control For Homes'
- BS 4142:1997 - Rating industrial noise affecting mixed residential and industrial areas
- BS 6472:2008 'Guide to Evaluation of human exposure in buildings (1Hz to 80Hz)'
- Building Bulletin 93 (BB93): Acoustic design of schools
- Approved Document E - Resistance to the passage of sound

13.7.2 Dwellings

All residential developments shall be designed to ensure that the internal noise levels are 'good' in accordance with BS8233, where individual noise events should not normally exceed 45 dB LAMax at night in bedrooms. The location, design and internal layout of residential accommodation should ensure that living areas are located away from primary noise sources. Buildings should also be laid out so that similar rooms are above each other (i.e. bedrooms over bedrooms) and avoid stairs / common parts next to noise sensitive rooms.

Developments shall be constructed so that the impact of vibration from existing road, rail and industrial / commercial premises (e.g. gyms) falls into the category of 'Low Probability of adverse comment' as defined in BS6472.

Private and communal gardens should be designed where practicable so that the steady noise level does not exceed the upper limit as cited in BS8233.

13.7.3 Industrial and commercial developments

All developments and/or associated plant should be designed to ensure the existing ambient background noise levels at the nearest noise sensitive premises are not increased (i.e. that the rated level is at least 10dB (A) below the

measured background level). Assessment shall be in accordance with BS4142.

Commercial servicing areas should be located away from residential areas and/or enclosed where possible. Delivery, goods handling operations and collection times will need approval as part of a servicing management plan to be secured by condition of planning permission.

13.7.4 Entertainment

Any development that provides music or entertainment (e.g. restaurants, pubs, clubs, and retail outlets) must be designed and constructed to ensure that the activities are inaudible at any noise sensitive premises.

13.7.5 Schools

New educational facilities or improvements to existing facilities should be done in accordance with Part E of the Building Regulations 2003 and Building Bulletin 93: Acoustic Design for Schools.

13.7.6 Construction

Activities on construction sites that result in noise that is audible beyond the boundary of the site can only be carried out during permitted hours: Monday to Friday (08:00 to 18:00); Saturday (08:00 to 13:00) and at no time on Sundays or Bank Holidays.

Before works commence contractors must submit a S61 Control of Pollution Act 1974 (with regard to BS5228). Information required will include

- Construction methodology;
- Information on the type of plant to be used and the proposed noise control measures;
- A programme of works indicating the noise and vibration levels and the location for each activity;
- Calculation of LAeq and LMax at specified noise sensitive sites as requested;
- Any noise measuring; and
- Measures to notify and keep informed noise sensitive receptors.

13.8 RIVERSIDE ENHANCEMENT AND BIODIVERSITY

13.8.1 Overview and policy context

SFR has a unique setting on the River Thames which is the dominant physical feature of the area. The Thames is a unique environment and recognised as London's greatest natural asset and most important ecological corridor. LBHF recognises the importance of the Thames in the Core Strategy; Borough Wide Strategic Policy RTC1. The overall objective of the policy is to increase public access and use of the Borough's waterways and enhance their environment, quality and character.

Policy RTC1 states:

> *" The Council will work with its partner organisations, including the Environment Agency, Port of London Authority, British Waterways Board, Thames Water and landowners to enhance and increase access to, as well as use of, the waterways in the borough, namely the River Thames…and improve waterside environments, by:*
>
> - *Identifying the Thames Policy Area and setting out general criteria for the design of development in this area in the Development Management Policies DPD and in supplementary planning documents. In particular, there will be a planning framework for the South Fulham Riverside regeneration area which will provide more detailed design guidance for new development…"*
> - Protecting existing water dependent uses and requiring new development to provide opportunities for water based activities where appropriate and enhance river and canal related biodiversity…

The 'Borough wide Strategic Policy – OS1: Improving and protecting parks and open spaces' outlines proposals to protect and enhance parks, open spaces and biodiversity in the borough.

LBHF has defined the boundary of the Thames Policy Area within the Borough in line with strategic guidance, and has adopted the Thames Strategy - Kew to Chelsea as Supplementary Planning Guidance to the UDP and is likely to lose status in 2013 when the DM DPD replaces what is left is left of the UDP.

The GLA recognises the strategic importance to London of waterside spaces and routes in its policies for the Blue Ribbon Network, as set out in the London Plan. Relevant policies in the London Plan recognise the essential role that London's waterways have to play in delivering the mayor's vision of an exemplary, sustainable world city. Of particular relevance, Policy 7.28 states:

"Development proposals should restore and enhance the Blue Ribbon Network by:

- taking opportunities to open culverts and naturalise river channels;
- increasing habitat value: development which reduces biodiversity should be refused
- preventing development and structures into the wider space unless it serves a water related purpose;
- protects the value of the foreshore of the Thames and tidal rivers
- resisting the impounding rivers.
- Protecting the open character of the Blue Ribbon Network"

13.8.2 Riverside Enhancement

A recent LBHF report entitled 'Riverside Walk Enhancement Report' was prepared in line with the overarching policy objectives listed above. It's aim for the Thames riparian environment is to achieve a contiguous, high quality riverside walk with priority afforded to pedestrians. It also seeks to enhance the riverside character and improve biodiversity. It identifies numerous possible improvements to the 'Sands End' section of the Thames riverside which spans SFR, and breaks this section into three sub-areas:

- Sub-area A: Broomhouse Lane to Wandsworth Bridge Road;
- Sub-area B: Wandsworth Bridge Road to Imperial Crescent; and
- Sub-Area C: Imperial Crescent to Lots Road.

The report states that improvements to the riverside should fulfil the following objectives.

- Improve accessibility and connectivity;
- Create a sense of place;
- Improve the quality of the environment;
- Improve safety and security; and
- Protect and enhance biodiversity.

With respect to biodiversity, additional tree planting and soft landscaping using indigenous species should be encouraged along the riverside reflecting and reinforcing the character of the area. Where the riverside walk is restricted in width, every effort should be made to ensure sympathetic planting and landscape management on the landside of the walk (where space allows).

With fewer working wharves along the Thames there is little commercial need for a vertical wall in places, and therefore opportunities to improve biodiversity exist using alternative designs for flood defence which 'make space for water', create habitats and promote biodiversity. This 'managed retreat' or 'retiring of flood defences' along the riverbank has been achieved on the Wandsworth side of the Thames in conjunction with the recently completed Battersea Reach scheme:

Figure 13.8: Managed retreat of the riverbank at Battersea Reach

Managed retreat of the riverbank incorporating soft landscaping enhancements encourages colonisation by plant, insect and bird species, and may even provide opportunities to encourage other animals such as the water vole Arvicola amphibious. The retiring of flood defences also has the dual benefit of increasing the capacity of the flood plain and providing some mitigation against tidal flooding.

The use of the river to facilitate the construction of riverside schemes and riparian enhancements should be encouraged in keeping with the London Plan (2011) although the consent of the Port of London Authority (PLA) will be required for any managed retreat or alteration to river walls.

Existing vertical riverside retaining walls can also be adapted to become habitat for plant and animal species. Timber fenders or battens can be attached to the river wall creating micro-habitats for plants and animals. Silt builds up on the battens in association with twice daily tidal movements forming a natural substrate allowing colonisation by plants, and seeds and seedlings can also be planted into the substrate. The dimensions of battens are determined by the length and height of the section of wall, and Elm is considered the most suitable type of wood for battens.

There are many opportunities to establish and reintroduce biodiversity along the Sands End section of the Thames in conjunction with landscaping and riverside walk improvements, and area wide measures are best achieved by pooling s106 contributions from individual schemes.

Redevelopment within SFR should be carried out taking account of the following ecological principles:

- Enhancing the function of the Thames as a wildlife corridor and introduce measures to encourage riparian biodiversity;
- Investigate the managed retreat of the riverbank where practicable and establishment of areas of soft landscaping;
- No loss of Local Sites of Nature Conservation Importance;
- No negative ecological or environmental impact on the Local Sites of Nature Conservation Importance within the zone of influence of SFR;
- Retention, protection and enhancement of all existing priority[1] habitats and species;
- A net increase in open space including natural and semi-natural green space;
- The incorporation of green Infrastructure and SUDs in developments;
- Green roofs and other green design features are required on all buildings, where practicable. Building design should also incorporate nesting features (e.g. bird boxes) into the structure of buildings where practicable;
- Light spillage should be reduced within and adjacent to areas of ecological value, including green / blue ribbons (corridor linkages); and
- An ecological and environment impact assessment must be submitted with any major planning application.

[1] UK Biodiversity Action Plan species and habitats

CHAPTER FOURTEEN Delivery and Implementation Strategy

14.1 INTRODUCTION

Development in the South Fulham Riverside Area will require sufficient infrastructure to support and handle the impact of 2,200 new homes and 300-500 additional jobs: e.g. improved transport, education, parks and play spaces, health facilities, emergency services and other community facilities and services. The Council commissioned CgMs in June 2011 to undertake a Delivery and Infrastructure Funding Study (DIF) in South Fulham Riverside Regeneration Area linked to the draft SPD. The purpose was to assess the overall infrastructure requirement, the extent to which there would need to be new infrastructure and how this could be funded, in particular from the development itself. A Transport Study was commissioned in November 2009 and that had highlighted the need for significant transport interventions to support growth in the regeneration area.

The DIF study was intended to assess the extent to which development could contribute to the cost of infrastructure provision, having regard to viability and to the costs, in particular, of providing affordable housing. It was anticipated that many items of infrastructure would require contributions on a pooled basis from a number of developments, and so part of the study was to examine the scope and rationale for introducing a tariff on development.

Although the target number of new homes for the South Fulham Riverside regeneration area identified in the Core Strategy is 2,200 due the large number of pre application discussions taking place on sites it is anticipated that the final number will most likely exceed this target. The number of new homes therefore assumed as a basis for the DIF study was 4,000 which is based on all circa 21 hectares of sites within the SHLAA coming forward for development within the plan period.

In the meantime, the Council has been preparing proposals for the introduction of a Community Infrastructure Levy (CIL) in the borough, in accordance with national legislation. This also seeks to effectively pool development contributions towards infrastructure. The first round of consultation on the CIL took place in Autumn 2012 leading to adoption in 2013.

Originally, the Council considered that there could be a benefit in introducing a S106 tariff in South Fulham Riverside, in advance of the CIL charge. However, such a tariff would now clearly only have a relatively short life. Therefore, the South Fulham Riverside DIF Study will contribute to, and be part of, the evidence for, the CIL charge schedule that will apply in this area.

14.2 PLANNING POLICY BACKGROUND

Historically planning obligations have been sought under S106 of the Town and Country Planning Act 1990 (as substituted by the Planning and Compensation Act 1991) to mitigate the effects of development, either by way of financial payments, or by restrictions on development which cannot be achieved by condition. Contributions must be related to the development under consideration.

ODPM Circular 05/2005 introduced new advice relating to the pooling of contributions. Pooled contributions were potentially reasonable where the combined impact of a number of developments created the need for infrastructure and pooling allowed the infrastructure to be secured in a fair and equitable way. It also encouraged the use of formulae and standard charges to demonstrate the level of contributions likely to be required towards the provision of infrastructure necessitated by new development.

Under regulation 122 of the CIL Regulations, from 6th April 2010, the five tests that a planning obligation must meet have been consolidated into three and given statutory force. A planning obligation must be;

- Necessary to make the development acceptable in planning terms;
- Directly related to the development; and
- Fairly and reasonably related in scale and kind to the development.

14.3 COMMUNITY INFRASTRUCTURE LEVY (CIL)

The Planning Act 2008 introduced an entirely new approach to contributions with the Community Infrastructure Levy (CIL). Rather than assessing need on an individual application or through a formulae or standard charge, CIL is to be based on a wider assessment of need, is payable on virtually all developments, and is to be assessed having regard to general tests for the viability of development, rather than on a case by case basis. It is intended to give greater certainty to developers, and enable Local Planning Authorities to collect contributions from virtually all developments without the need to consider sites individually.

CIL is the government's preferred vehicle for the collection of pooled contributions with the target that by April 2014 CIL will apply in most areas. LBHF is currently preparing a borough CIL with a Charging Schedule planned for adoption in 2013. For up to date information on LBHF CIL, please see *www.lbhf.gov.uk/cil.*

14.4 INFRASTRUCTURE REQUIRED IN SOUTH FULHAM RIVERSIDE REGENERATION AREA

Figure 14.1 details infrastructure items identified through the DIF Study in South Fulham Riverside regeneration area requiring funding over the next 20 years. Further information regarding indicative phasing and prioritisation of infrastructure items can be found in the DIF study in Appendix 5.

(See Figure 14.1)

14.5 DIF STUDY CONCLUSION

The DIF study has played a valuable role in identifying and prioritising the necessary infrastructure as well as undertaking extensive viability testing that has contributed to and informed the CIL.

The outcome from the viability testing in the DIF study has established that development as a whole in the area should be able to make a substantial and satisfactory contribution to the cost of necessary physical and social infrastructure, as well as providing 40% affordable housing and paying the Mayor's CIL for Crossrail. Abnormal factors such as exceptional remediation costs, may affect the viability of individual schemes, and would need to be taken into account. However, the Council is confident, on the basis of the DIF Study that a future CIL, and S106 contributions in the future and meantime, will be able to ensure provision of the infrastructure necessary to support the regeneration of the area in accordance with the Core Strategy and the principles and guidance set out in this SPD

Figure 14.1 Summary of Infrastructure Items

Category	Scheme
Transport	Highway Package 1 – Widening of the Wandsworth Bridge Road junction, Townmead/William Morris Way junction 100m
	Land acquisition and utility diversion costs to deliver Package 1
	Highway Package 2 – new link road through the National Grid site and a new signalised junction at Kings Road/Edith Road junction
	Bus Interventions Package 3
	Imperial Wharf platform lengthening
	Barclays Cycle Hire Scheme
	Chelsea Harbour Pier upgrade
	Cycle bridge alongside rail bridge across the Thames linking Imperial Wharf to Battersea
	Cantilevered Thames Path under Wandsworth Bridge
	Holistic Neighbourhood improvements (walking, cycling)
Education Primary	Extension to accommodate two forms of entry through expansion of existing schools or the development of a new school requiring land of circa 0.5 hectares
Education Secondary	Extension to accommodate one form entry accommodated through the expansion of secondary provision.
Education early years	LBHF support for the private and voluntary sector regarding provision for additional pre school nurseries and affordable spaces.
Open Space	Improvements to South Park in accordance with master plan
Business Training and Employment	Construction training, post construction placements, apprentices and workplace co-ordinators
Health	Invest in local GP services and the new Sands End Clinic.
Community Safety	CCTV
	New Community Safety Hub for the Sands End Safer Neighbourhoods Team, Anti-Social Behaviour, Street Outreach and Community Safety Teams.
Thames Path & street furniture	Thames Path linked to River Walk Enhancement Report 2010
	Litter bins
Contamination	Bore Hole
Environmental	CHP study
	CHP – Integration of a Heat Network
	Flood defence / maintenance of the Thames Wall