

Kensal Canalside Pre-Feasibility Study

baseline report

December 2008



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Royal Borough of Kensington and Chelsea



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headline summary

This pre-feasibility study into a possible EcoQuarter approach at Kensal aims to confirm whether the Council's current vision for the site – comprising placemaking, regeneration, sustainability and transport infrastructure aspirations – has the potential to be viable.

By exploring the viability of different development options for the site, the study also indicates the benefits that could accrue for the local area. Moreover, if the potential to provide direct connections from the site to a wider London is realised, whether through Crossrail or some other means, the site could potentially fulfil a role of much wider significance than the purely local.

Key policy drivers enhancing London's international role as a world gateway city, contributing to the regeneration of North Kensington, responding positively to climate change, and intensifying development in accessible locations.

Physically, there are a number of key constraints affecting development of the site:

- The rail and canal corridors form barriers to north-south movement within and beyond the site.

Whilst development could possibly be built over the railway, this is unlikely to be viable for the canal.

- Safety concerns around the gasholders are likely to prevent residential development on significant portions of the site as long as the gasholders are in place (until at least 2016, although we understand that the gasholders will be redundant by 2040 at the latest). There is a view that these safety requirements are excessive.
- The single vehicular connection to the site makes it isolated, both in terms of public and private transport. It also places significant physical constraints on development.
- The existing Sainsbury's store may not wish to move from its current site, although it could possibly be redeveloped as part of a larger, denser development.
- We understand that Crossrail are seeking to use part of the southern portion of the site for a temporary bus garage during construction works, to 2017.

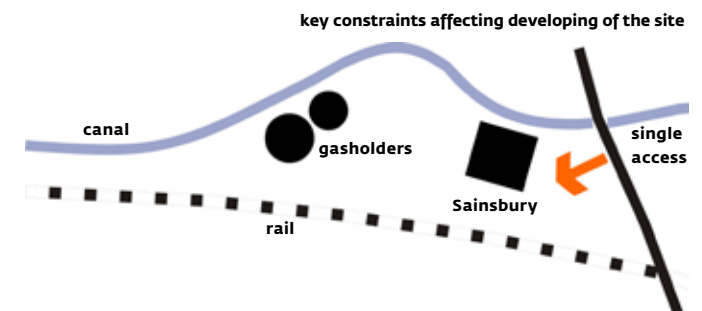
In terms of sustainability, air pollution in the immediate vicinity of the Paddington railway line is poor – although this is very localised on the railway itself, with air quality over the site showing a marked improvement. Access to

community facilities is relatively poor (with the exception of supermarket shopping) and social deprivation indicators in adjoining residential areas to the south offer much potential for improvement.

In addition, there are the important factors of:

- the role and willingness of four key landowners to participate in such a project,
- the costs and values of different components and
- the implications of having – or not having – a Crossrail station.

These matters are considered in more depth in the second stage Options Report.





1 the brief

In April 2008 the Royal Borough of Kensington and Chelsea appointed a consultant team led by Kevin Murray Associates to undertake an initial feasibility assessment in relation to the establishment of a new 'EcoQuarter' at Kensal. The outputs of the study will feed into the emerging Local Development Framework in deciding future planning policy for the site.

The strategic aims of the proposed study are:

- To undertake an initial **pre-feasibility** of a possible EcoQuarter approach using key sites at Kensal.
- To confirm whether the concept has **potential** – and, if so, to scope out the next stage of work in a vision concept and brief.

Fundamentally, this study takes the long view. What could the **role** of the site be in 20 or 30 years time? What might it look like? Or, put another way, what can we **aspire** to – realistically – for this site?

Part of the purpose of this commission is to assess whether the Council's current vision for the project is realistic. That

vision is described in the brief as:

- A **zero or low energy mixed use development** that also has a light footprint in terms of other natural resources.
- A centre of activity that catalyses a **natural regenerative energy** in the north of the Borough, so reducing or even removing the need for ongoing regeneration interventions by the public and voluntary sectors.
- High quality **placemaking**, producing a permeable and human scale street environment, with fine grain mixed uses creating natural surveillance and positive urban space.
- A development that is **well integrated** with its hinterland, especially to the south - overcoming the 'cul-de-sac' location of the site caused by the main rail line, either through bridges or by building over the track.
- Appropriate **accessibility** through enhanced bus services and/or a Crossrail station.
- A place that makes the most of the **waterside environment** of the Grand Union Canal.

- **Mixed housing provision** (in terms of both size and tenure) and an appropriate range of **job opportunities**, including for local needs.
- **Access only by public transport**, except for disabled drivers, car clubs, deliveries and emergency vehicles.
- The **necessary social infrastructure** (schools, doctors surgeries etc) to support the scale of the development envisaged.

brownfield land between Sainsbury's and the gasometers - from the north



The brief poses a number of questions for the study to answer:

1. Development capacity

- Could the level of development required for a Crossrail station be accommodated? What would the implications be in terms of urban form?
- Are the assumptions leading to this threshold of development accurate?
- How might the disposition of uses, transport and phasing be?

2. Accessibility

- How can transport accessibility to the area be significantly improved?
- What is the feasibility of securing a Crossrail station?

3. Valuation

- What is the potential viability of the project?
- Would it fund significant infrastructure and regeneration benefits?

4. Environmental performance

- How would the EcoQuarter concept support or undermine the project?

The following sections of this document comprise the initial Baseline Report. This is to be read in conjunction with the sister documents

- The Options report
- The Risk Assessment
- The Overview Report

footpath along Grand Union Canal





2 site location

The site under consideration for the EcoQuarter type approach to regeneration lies at the northern extremity of the Royal Borough of Kensington and Chelsea, close to its boundaries with Hammersmith and Fulham, Brent and the City of Westminster. Although the southern portion of the site extends westwards into Hammersmith and Fulham, our focus was on those parts of the site within Kensington and Chelsea.

The site straddles the main rail links between central London and Heathrow Airport, and between Paddington, Reading, Bristol and South Wales. The site is 15 hectares excluding the railway – made up of 9 hectares to the north of the railway and 6 hectares to the south. These areas exclude the railway and airspace above it.

The majority of the site lies to the north of the railway, tightly hemmed in between the railway and the Grand Union Canal. A smaller section of the site extends along the south side of the railway line.

Although the location is 'peripheral' with respect to the heart of the borough, the strategic significance of the site on the

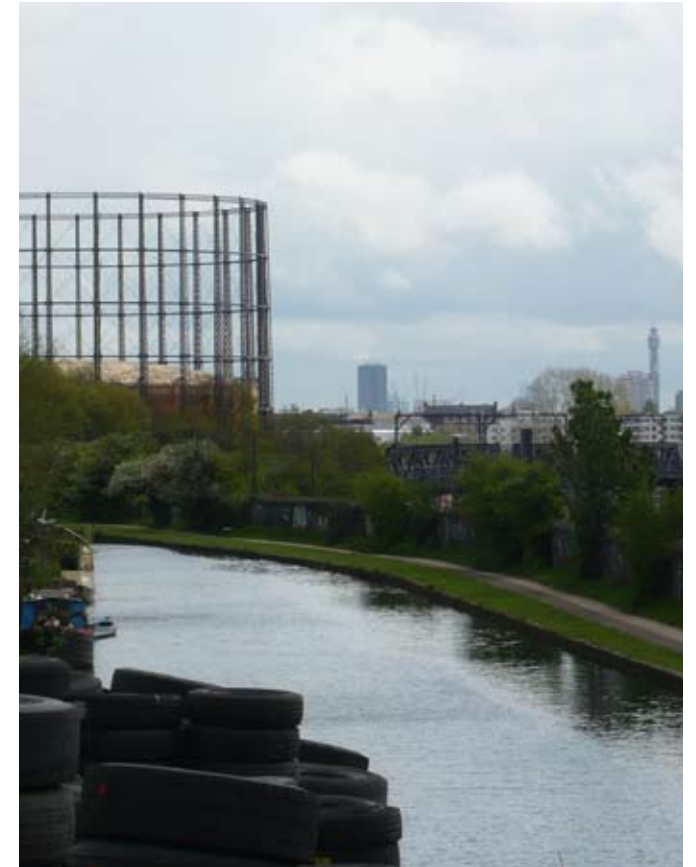
main public access corridor between Heathrow and central London should not be under-estimated. If the potential to provide direct connections from the site to a wider London context is realised, whether through Crossrail or some other means, the site could potentially fulfil a role of much wider significance than the purely local.

More information about the site, local context and ownerships is contained in sections 4 and 5.

aerial view of site + site boundary



Grand Union Canal with gasometer looking south-east



3 policy context

The purpose of this feasibility study is to take a strategic view of the possibilities, with the aim of establishing challenging but realistic aspirations for this site. That means that we should not be constrained by existing statutory planning policy for the site, as this could change – indeed it is the very purpose of the study to help inform such future policy change. But that does not mean that the statutory planning framework is irrelevant, as it contains important clues as to the potential long term role of the site both locally and strategically.

Some of the key issues emerging from regional and local policy are identified below - enhancing London's international role as a world gateway city, responding positively to climate change, intensifying development in accessible locations, and contributing to regeneration. These issues generally reflect the requirements of current national policy

London Plan

A number of emphases in the London Plan are relevant to this feasibility study:

- London's international role as a **world gateway city** – by facilitating its continued attractiveness to world business and building excellent global communications.
- Making London an exemplary world city in mitigating and adapting to **climate change** and a more attractive, well-designed and green city.
- Sensitively **intensifying development** in locations that are, or will be, well served by public transport
- Maximising the potential of the **canal system** for both recreation and bulk transport.

Local Development Framework (LDF)

The interim issues and options for the **LDF Core Strategy** is a fresh document, having been published earlier in 2008. Not only does it reflect the latest regional context, but it is also an up-to-date statement of the issues facing North Kensington and the Borough's aspirations for the area. Key points from the spatial vision for 2028 include:

- More and better facilities for local residents.
- Continued importance of office employment.
- Increased provision of small offices.
- Regeneration of North Kensington through significant new development and greatly improved public transport.
- A reputation for outstanding design quality.
- More family accommodation and better quality affordable housing.
- The most sustainable Borough in London.

West London Sub-Regional Development Framework

This document gives guidance on how these London-wide aims should be implemented within west London. Key points include:

- An urgent need for more affordable housing, particularly **family accommodation**.
- Optimise the relationship between the **intensity of development** and the existing/potential capacity of the public transport system.
- All development should generate a net increase in the quality and quantity of **wildlife habitat**.



As part of the Local Development Framework, a draft North Kensington Area Action Plan was also published in early 2008. One of its three Areas for Action includes the study for this commission. A series of three growth options are proposed, from limited renewal of existing residential estates to a new Crossrail station and associated Eco-Town. The document notes that there is potential to deliver significant change and regeneration benefits, especially if it were decided to designate the area as an Opportunity Area in the Mayor's London Plan.

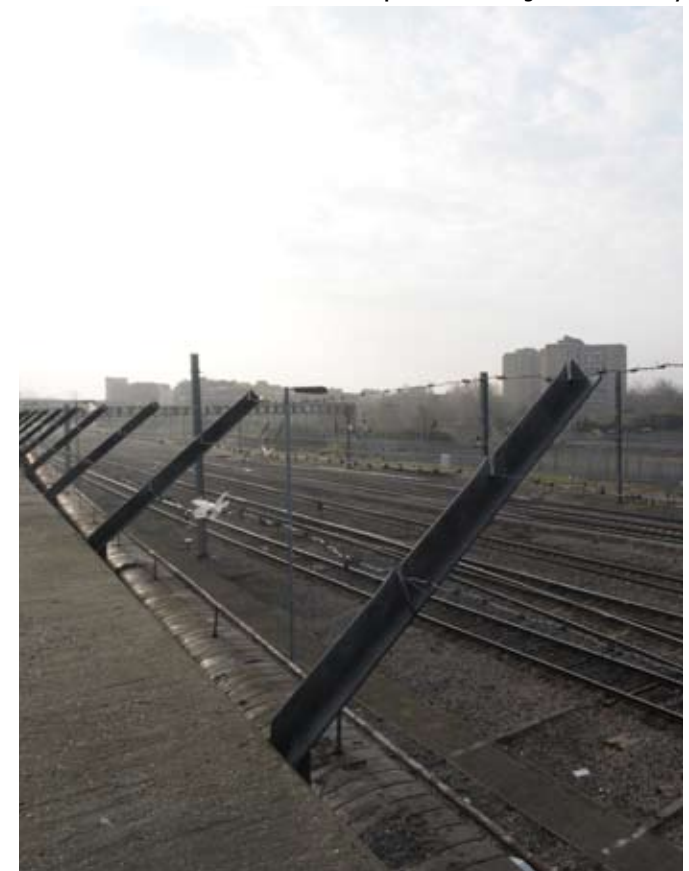
Tall buildings

The brief requires that our options analysis considers the implications of sufficient development on the site to contribute to the case for a new Crossrail station. The relatively restricted nature of the site means that tall buildings offer a potential development solution.

National guidance on tall buildings, published by CABE and English Heritage in 2007, supports a pro-active approach to planning for tall buildings and emphasises the need for

environmentally sustainable, high-quality design. This reflects the emerging consensus that tall buildings can be a beneficial solution for densification at very accessible locations, provided that environmental standards and design solutions are of high quality.

view south-east from the retaining wall at Canal Way



4 site analysis

Local context

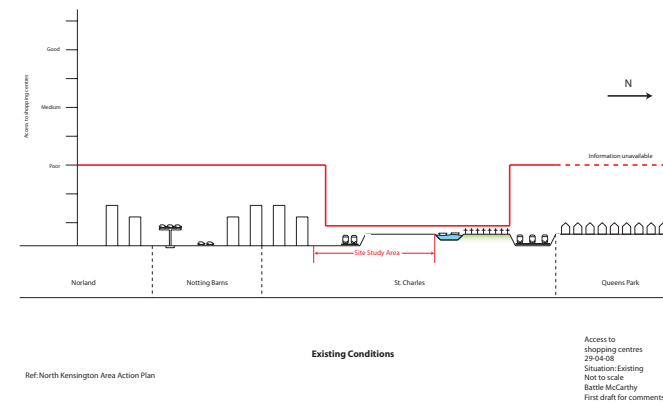
The site is part of a rich urban fabric dominated by residential areas, business uses and substantial areas of open space including the Kensal Green cemeteries, Wormwood Scrubs Park west of Scrubs Lane and Little Wormwood Scrubs Recreation Ground off Dalgarno Gardens. Business and light industrial uses are concentrated to the west of the site around Scrubs Lane. Harrow Road, Ladbroke Grove and Barlby Road all accommodate local shopping centres. The Barlby Road area in particular is a rich mixed use area with residential, business space, schools, hospitals, places of worship and community facilities all within easy walking distance. This contrasts with the study site itself where walking distances to places within short distances are extended by the physical barriers of canal and railways.

Topography and physical form

The highest point on the site is the canal bridge on the towpath immediately north of Sainsbury's (33.3m OED) and the lowest area is recorded in the railway sidings adjacent to the Barlby Road area (20.5m OED). The site is split by

a retaining wall running along the north boundary of the railway tracks. To the north of the retaining wall the site is generally around 30m. The retaining wall itself is around 4 – 5 metres in height and the land falls from the base of the wall to the boundary fence with the Barlby Road area.

analysis section - access to existing shopping centres



Study area components

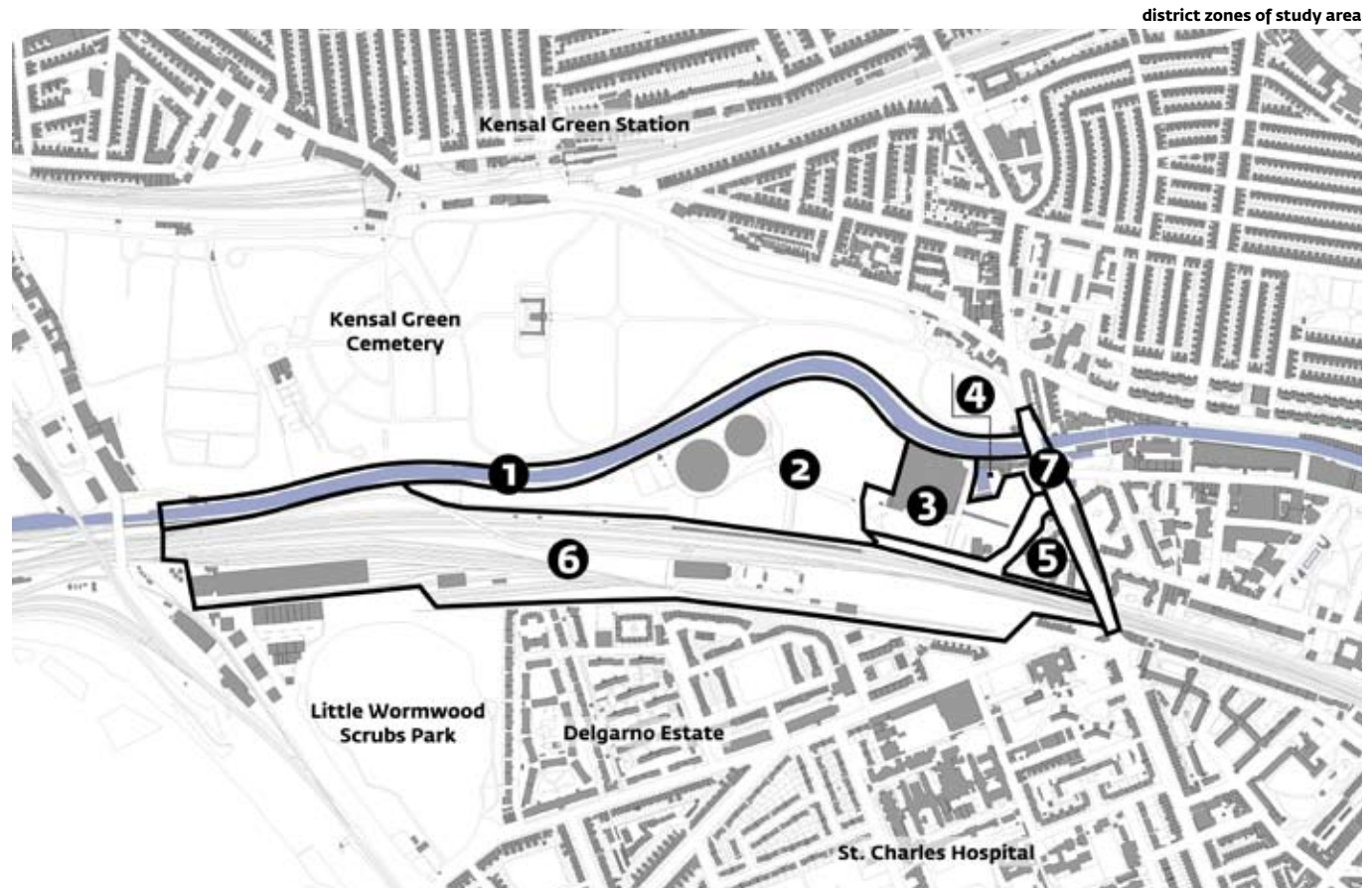
The study area comprises seven distinct zones:

- 1. Grand Union Canal corridor:** an attractive stretch of inland waterway enclosed by the boundary walls and vegetation of Kensal Green Cemetery along its north bank, by a 2.5m high brick wall along most of its southern length. Near Ladbroke Grove the canal is enclosed on its south side by a Sainsbury's supermarket and by a block of offices. The canal is an ancient monument, rich in history with interesting canal artefacts and a strong sense of place. Many of the boats and barges moored on this stretch of the canal are used for residential purposes. Apart from the road bridges over the canal at Ladbroke Grove in the east and Scrubs Lane to the west, there are no links across the canal.
- 2. Kensal Gasometers and associated land:** a substantial area of land comprising four parcels associated with the former gasworks (originally covering the whole site) including two operational gasometers and equipment. The area of land to the east of the gasometers is vacant



with wetland areas regenerating into new habitats – this area also contains the remains of a canal inlet and the foundations of various industrial artefacts associated with the gasworks.

3. **Sainsbury's supermarket:** this is a large area situated east of area 2. It comprises a supermarket building of approximately 75,000 ft² and extensive car parking. It is a significant generator of activity and is a major focus of pedestrian trips, taxi and public transport activity. The building itself turns away from the canal and its main entrance relates to the car park, bus stops and taxi rank (private). Canal Way is the main access to Sainsbury's and to the gasometers. It provides a panoramic view over adjacent parts of west London and beyond from the retaining wall separating the site from the railway.
4. **Canalside business space:** this is a three storey building from the 1980s or 90s with a close relationship with the canal – it includes an inlet running from the canal through the building to a private water space used by a canoeing club.



5. **Kensal House:** this is a five – six storey residential development designed by the English modernist architect Maxwell Fry and built in 1937-38 with assistance from the pioneering social reformer Elizabeth Denby. The development was funded by the Gas Light and Coal company, who owned and operated the adjacent gas works, to show that a modern building could run cheaply and safely on gas power. It is a Grade 2* Listed Building.
6. **The railway corridor:** this is a significant area carrying the mainline and Heathrow Express rail services. In the future it is also likely to have Crossrail services. The rail corridor area is split into two – the active railway tracks adjacent to the retaining wall and a range of sidings and depots at a slightly lower level lying adjacent to the housing area off Barlby Road. The only links across the railway are at the western and eastern edges of the study area at Scrubs Road and Ladbroke Grove. The railway therefore acts as a considerable barrier between north and south.
7. **Ladbroke Grove:** this street is effectively the current public face of the site. Its junction with Canal Way is

the entrance to the site; it is the only vehicular access to the site and has been designed to cater for large goods vehicles and buses. The access is unfriendly to pedestrians and creates a negative first impression of the area. Ladbroke Grove itself contains residential and business properties.

Character and place

The site has strong place qualities associated with the canal corridor environment and its history and intimate human scale environment. Sainsbury's is also a place-making component albeit in a different way – it is likely to be the building that most people will associate with the site on a day to day basis. The gasometers are large scale landmarks and also reminders of the former industrial use of the site. Canal Way is also significant in that it allows panoramic views over west London and beyond.

In general terms, the character of the site is varied – moving from active in the east to disused in the west, and from attractive and heritage orientated in the north to the fringes of residential in the south. In comparison to the qualities

of the surrounding areas, the site lacks connectivity, integration, permeability and consistent place qualities. It contains a significant amount of derelict land.

Grand Union Canal, looking east





5 ownerships

Land ownership is an important dimension in considering the potential of this area. The brief identifies four linked sites with development potential. From a property perspective the study area falls into three zones:

- To the **north** of the railway line is land owned by Sainsbury's, the adjacent bus terminus, and the Peabody/Ballymore site.
- To the **west** is the remainder of the land on the north side of the railway, currently dominated by the gas holders. This site comprises Kensal Gas Works.
- To the **south** of the railway is the former Eurostar train depot (North Pole Rail Depot), lies the south of the railway. It extends well beyond the Borough boundary into Hammersmith and Fulham.

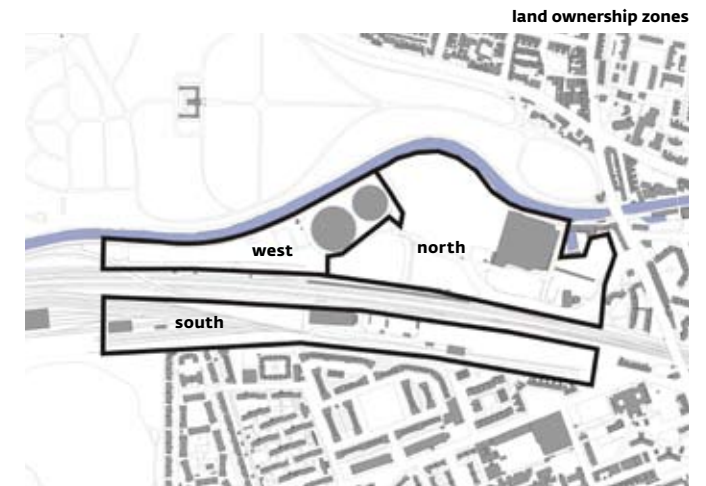
Each of these sites is vacant or underused – even the Sainsbury's site offers potential for more intensive redevelopment with other uses above the retail floorspace. We understand from the Council that each land owner is open, at least in principle, to exploring the idea of comprehensive redevelopment of the sites, subject to their own individual concerns and constraints.

The Council has advised us on ownership boundaries and the rights that landowners enjoy across other land. A map showing the approximate extent of land ownerships is included as an appendix.

The land to the north of the railway is separated from surrounding areas by the Grand Union Canal to the north with the cemetery beyond and the railway to the south. There is only one vehicle access, from the east via Canal Way and limited access to the canal for pedestrians. This makes this part of the study area self contained and somewhat isolated but also secure. These arrangements necessitate liaison between owners to ensure the area is properly planned, and that suitable provision is made for access, services, drainage and levels, particularly given the linear nature of the area.

Separated by a wide expanse of rail track, the southern area is also linear, principally accessed from Admiral Mews. There is also potential access to be created from Mitre Way, in Hammersmith and Fulham, via the North Pole Depot at the western end of the site.

The areas to the north and south of the railway could be planned and developed separately by their owners, but if proposals include building over the railway line or the provision of a pedestrian bridge, details will need to be agreed between the owners, particularly given the change of levels.



6 transport

The site is bounded by the Grand Union Canal in the north and Dalgarno Estate in the south, and is bisected by the Great Western Main Line railway from Paddington Station, which splits it into two distinct parcels. The main parcel, north of the railway, is made up of the Kensal Gasworks, a Sainsbury's supermarket and an open brownfield site. South of the railway line is the disused North Pole railway depot.

The canal and railway corridors act as significant barriers to local movement through the area, effectively making the northern part of the site a cul-de-sac area. The southern part of the site can be accessed from Barlby Road in the east and Mitre Way in the west.

Street network and vehicular access

Historically, the area which is now Kensal Town and Kensal Green centred on the crossroads of the London to Harrow Road and the Portobello to Kilburn Road (later known as Ladbrooke Grove). Today, Ladbrooke Grove is a busy two-lane street fronted by a mix of residential and commercial properties as well as by the eastern boundary wall of Kensal

Green Cemetery. It provides the principal north-south route across the canal and railway corridors in the area.

Vehicle access to the main part of the site is from Canal Way via a roundabout on Ladbrooke Grove. Canal Way is a private road, which currently provides vehicular access to the Sainsbury's parking area, service yard and 24-hour petrol filling station, the gasworks and rail tracks, as well as having bus stops, stands and turnaround facilities on its eastern end.

railway tracks going through the site



It is generally a single carriageway of 7.3m width, with footways on the north side only, which widens on the approach to Ladbrooke Grove to two single carriageways of 4.1m. There are some existing problems of bus, traffic and pedestrian conflict at the busy Ladbrooke Grove end, which would need to be addressed by any significant development on the site. In addition, the interaction of the Canal Way / Ladbrooke Grove roundabout with the Kensal Road junction further north would need to be carefully considered.

The depot site to the south of the railway lines is currently accessed from Barlby Road in the east and from Mitre Way in the west. The A219 Scrubs Lane passes near to the western edge of the site on a bridge over the railway, but does not connect directly to it.

The areas immediately to the south and east of the site lie within the western extension of the Central London Congestion Charge Zone, which came into effect on 19 February 2007. While the Sainsbury's store and the rest of the site do not lie within the Congestion Charge Zone, they do fall within the Residents' Discount Zone, entitling residents to a 90% discount on weekday charges. Current access to the depot



site to the south is through the Congestion Charge Zone.

On-street parking in the areas surrounding the site is subject to Controlled Parking Zone restrictions. The Sainsbury's car park, with 330 parking spaces and 23 disabled parking spaces, is the only significant public off-street car park in the area.

Public transport

The existing Kensal area is currently well served by public transport with regular bus services along Ladbroke Grove, and train and tube services from Kensal Green Station (London Overground and Bakerloo Line), Ladbroke Grove Station (Hammersmith & City Line) and Kensal Rise Station (London Overground) are a 15 minute walk (1,200m) from the centre of the site.

However the site itself has relatively poor public transport accessibility levels, which drop off steeply from Ladbroke Grove in the east (very good accessibility) towards the gasworks in the west (very poor accessibility). This is largely due to the physical barriers to movement that make pedestrian routes to stations and bus stops longer than necessary. For example,



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KENSAL CANALSIDE BASELINE MOVEMENT ASSESSMENT	
EXISTING VEHICULAR ACCESS	
1521/40	
November 2008	Alan Baxter

walking from the centre of the site to Kensal Green Station would take approximately 15min (1,200m) although the station is only half that distance away as the crow flies.

The bus stops on Canal Way and Ladbroke Grove, immediately adjacent to the site, cater for five routes that connect to destinations across London, providing particularly frequent services north towards Kensal Rise Station and south towards Ladbroke Grove Station. Most of these services run at a frequency of between 6 and 10 minutes during morning and evening peak periods.

Census 2001 figures show that, while car ownership in the local area is low (0.47 vehicles per household) compared with the borough (0.63) and London as a whole (0.87), the modal share of travel to work by sustainable modes (public transport, walking and cycling) is lower for the local area (61%) than it is for the borough as a whole (73%), which may be a result of its edge of Inner London location.

Walking and cycling

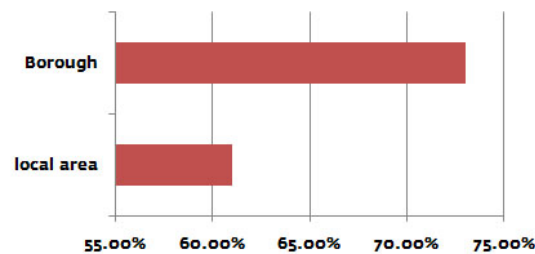
The east-west railway corridors (and to some extent the

canal) act as significant barriers to north-south movement, with Ladbroke Grove providing the only direct link across both corridors in the area. However, the towpath of the Grand Union Canal provides a strategic walking and cycling link, segregated from vehicular traffic, which gives good connectivity to the east and west.

The London Cycle Network of signed routes for cyclists is accessible directly from the site, along Ladbroke Grove, Kensal Road and the canal towpath itself. In addition, an extensive network of quieter streets across the wider area makes cycling an attractive alternative to travel by car or public transport for shorter journeys.

While most of the site is less than 5 minutes walk (400m) from the nearest bus stops on Canal Way and Ladbroke Grove, the nearest stations (Kensal Green and Ladbroke Grove) are around 15 minutes walk (1,200m) away. This affects the calculation of PTAL levels, which do not consider any bus stops further than 640m away or any stations further than 960m away. There would be obvious benefits if development proposals where to add walking and/or cycling connections across the canal and through the cemetery to the north, and

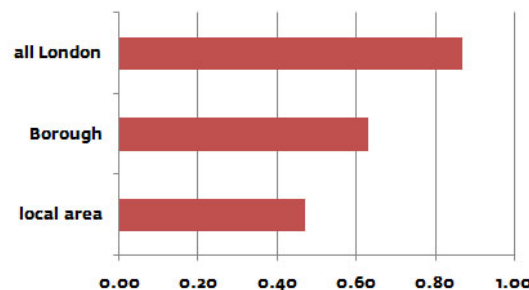
travel to work by sustainable modes



sustainable transport (above)

car ownership (below)

vehicles per household





across the railway lines to the south.

The green spaces of Wormwood Scrubs and Little Wormwood Scrubs are significant open spaces in the area and are classified as a site of natural significance. The principal route to these from the site is via Barlby Road and Dalgarno Gardens.

Crossrail potential

Crossrail, a new high frequency train service from Maidenhead and Heathrow in the west, through Central London, to Essex and Kent in the east, is set to open in 2017. It will be constructed on a safeguarded alignment alongside the existing Great Western Main Line through the site. Crossrail trains will run on the existing parallel tracks that currently accommodate First Great Western and BAA Heathrow Connect local services. These services will cease to operate between Paddington and Ealing Broadway and will be replaced by Crossrail services in the future.

Crossrail could have a number of impacts on the availability of land for development within the site. In addition to the

railway corridor, Canal Way itself has been safeguarded as part of the Crossrail Act to provide access during construction and for ongoing maintenance operations. Crossrail are seeking to permanently relocate the EWS rail depot from Old Oak Common to the western part of the vacant North Pole Depot, and have safeguarded the eastern part of the depot site as a temporary location for an existing bus depot near Paddington Station, which will be temporarily relocated during Crossrail construction.

With trains carrying up to 1,500 passengers each, Crossrail is being designed to cater for 24 trains per hour in each direction through Central London. Around half of these trains would continue west beyond Paddington and east beyond Liverpool Street.

The Kensal Canalside site lies between planned stations at Paddington in the east and Acton Main Line in the west, on the outer section of the Crossrail route. While a station is not currently planned in this location, there is the potential to establish one at Kensal Canalside, as Crossrail have agreed to plain-line the new tracks here, allowing passive provision for a station to be added at some stage in the future.

A new station in this location would serve North Kensington, Kensal and the northern parts of Shepherd's Bush, dramatically improving public transport accessibility and driving regeneration in the area.

There are two alternative routes to securing a new Crossrail station at Kensal Canalside. The first is ensuring that sufficient footfall is generated by adjacent development to cover the lost revenue of adding and operating a station, and the second is to use the revenue from development over the rail corridor to fund a new station. MVA have recently carried out an initial feasibility exercise that broadly considered three sites in the wider area before settling on Canal Way as the most feasible in terms of infrastructure and operations. They have also carried out a commercial assessment, which concluded that an additional 7,200 single trips per weekday would need to be generated to offset the estimated lost revenue of providing a new station. MVA broadly equated this to a fully residential development with at best 3,600 new residents (each making two Crossrail trips per weekday) or, with a relatively conservative trip rate, over 17,000 new residents.

Crossrail plan to construct driver access platforms and facilities west of Paddington, where trains running on the central section of Crossrail would stop and turnaround. An additional option may be to shift these facilities further west and combine them with a new station at Kensal Canalside. While this could translate into savings by having one facility rather than two, and could allow a new station at Kensal Canalside to be serviced by higher frequency Central London trains, it would be likely to require four platforms rather than two at the new station, with consequent land take into the development site. It would also incur additional travel time for all central trains from Paddington to turnaround just over a mile further away. While technically and operationally possible, the costs of additional infrastructure and travel time are likely to make this option unviable.

Consideration has also been given to the creation of a new station on the Great Western Main Line tracks rather than on Crossrail. These tracks currently accommodate express trains between London Paddington and Bristol Temple Meads (stopping first at Slough or Reading), as well as Heathrow Express services. Creating a stop here is unlikely to be viable due to the number of express services on this route that

would be held up this point as they are picking up speed out of Paddington. In addition, such a station would only provide connectivity to Paddington in the east and would not stop at any stations before Slough or Reading in the west.

Other public transport improvements

In association with the White City development, a number of bus routes in the area are being improved. In particular, the 316 will be extended to White City and a new bus route is proposed to run down Ladboke Grove, south to Holland Park and on to White City.

There are proposals to upgrade the nearby Hammersmith & City line, as well as the recent improvements associated with TfL's takeover of the North London Line (now London Overground) and planned frequency and train length increases on this route.

A new station on the West London Line (London Overground) at the North Pole Road crossing is being considered. Independently of this, an adjacent partial cutting is being considered, which would provide a new pedestrian/cycle link

to the White City Opportunity Area.

Finally, the Grand Union Canal offers the opportunity for future water transport facilities to/from the site. In the east, it connects to Paddington Basin and Grand Union Canal and in the west, to Hayes, branching south Brentford and the Thames, east to Slough and north to Birmingham. The canal is lock-free between Paddington and Hayes, allowing easy transport of people or goods.

Baseline movement assessment

The following plans and diagrams are contained in appendices:

- Existing Vehicular Access
- Existing Public Transport
- Buses from Ladbroke Grove
- Existing Walking and Cycling
- Crossrail Potential
- Census Extract (1)
- Census Extract (2)



7 sustainability

Our brief is clear: sustainable development must be at the heart of this project.

Sustainability and greenness is not simply about carbon – even though it is a major concern. Other strands of ecological well-being need to be integrated into our approach – such as water, air quality, and wildlife - alongside economic and social components of the project.

Sustainability is an integrated approach to the triple bottom line of Economic, Social and Environmental issues. At this stage in the study, our focus has been to establish baseline information from existing data sources about how site currently performs on a range of economic, social and environmental indicators, selected in response to the criteria raised by participants at the client workshop on 13 May 2008 (see options report for further detail):

Economic

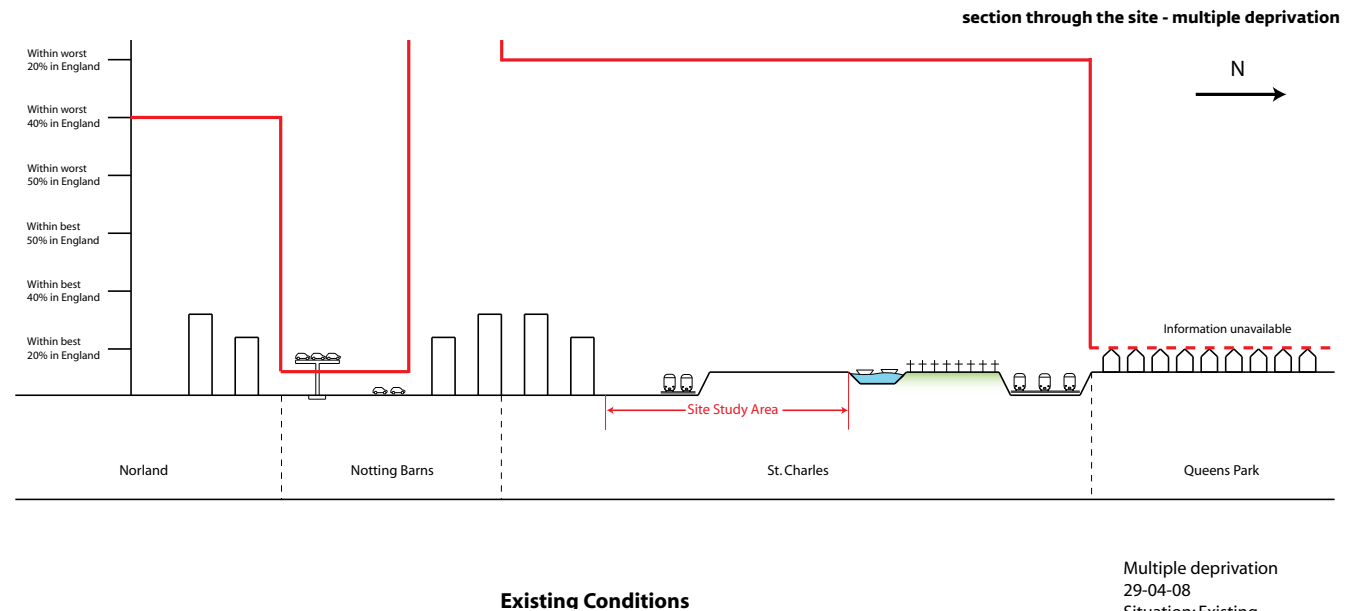
- Income deprivation
- Owner occupation housing
- Access to shopping centres
- Access to convenience centres

Social

- Low skilled occupations
- Access to community facilities
- Multiple deprivation
- Density of dwellings

Environmental

- Particulate exceedance at ground level
- Nitrogen dioxide at ground level



Multiple deprivation
29-04-08
Situation: Existing
Not to scale
Battle McCarthy

Source: Local Development Framework and North Kensington Area Action Plan

Since tailored on-site surveys are outwith the scope of this commission, the data for these indicators has been sourced from existing data contained in the Kensington & Chelsea and Brent Local Development Frameworks (including subsidiary documents such as the North Kensington Area Action Plan). The range of indicators is more limited than would be normally expected at, for example, the Environmental Impact Assessment stage. The appendices include a more comprehensive list of indicators which we suggest be analysed at the next stage of feasibility testing.

We believe it is important not simply to consider the site in isolation, but also how it performs in comparison with its environs – particularly the adjoining residential areas to the south. To present this information meaningfully, we have prepared a series of south-north transects extending from south of the A40 Westway, through the site towards Willesden Green in the north. These transects are included in the appendices.

Key issues emerging from this transect analysis include:

- Nitrogen dioxide pollution from the Paddington rail corridor is poor, although it is concentrated directly

on the railway itself (and is not as bad as either the Euston rail corridor to the north or the A40 Westway to the south). Similarly, particulate pollution is poor immediately on the Paddington main line but improves over the site.

- Access to supermarket shopping is excellent, although access to a greater range of neighbourhood shops, businesses and community facilities is poor. Interestingly, access to community facilities is not significantly worse than the existing residential areas to the south, due to the poor access that these areas themselves currently suffer.
- Deprivation indicators are uniformly poor in the existing residential areas to the south of the site, but less so to the north.

Appendices

Baseline movement assessment

- Existing Vehicular Access
- Existing Public Transport

- Buses from Ladbroke Grove
- Existing Walking and Cycling
- Crossrail Potential
- Census Extract (1)
- Census Extract (2)

North-south transects through the site and environs for key economic, social and environmental indicators:

- Map of transect
- Income deprivation
- Owner occupation housing
- Access to shopping centres
- Access to convenience centres
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- Access to community facilities
- Multiple deprivation
- Density of dwellings
- Particulate exceedance at ground level
- Nitrogen dioxide at ground level

Comprehensive list of sustainability indicators



8 property market

The property market is cyclical and responds quickly to changes in the economy. Accordingly, as well as devising proposals for a mix of uses, regard needs to be had to time implications and the state of the market if even modest schemes are to be successfully delivered given the likely order of costs.

The principal use within the study area is Sainsbury's, the value of which is likely to be in excess of £40m. While in certain circumstances that site could be the subject of a CPO, the preferred solution must be to work with the company so that both Sainsbury's and the study area benefit. This does not, however, preclude change which could involve resiting Sainsbury's.

The other dominant use on the north side of the railway is the gas holders. Over and above operational issues which in themselves have implications for how the northern area can be developed, the very perception of the gasometers adversely affects potential. Their removal would add significant value.

The study area is not an office or commercial location – and

is unlikely to become one without significant improvements to public transport e.g. a Crossrail Station. Without such improvements we do not believe occupiers, developers or funds will be attracted for such uses. There is currently demand from hotel operators, but again accessibility is likely to be an issue.

In terms of retail development, Sainsbury's is the dominant factor, deterring some retailers and potentially acting as an anchor for others.

The study area has considerable potential for the full range of residential development, including students. Values in this part of London have grown significantly: data from the Halifax indicates that average prices in the Borough have more than doubled from £368,443 in March 2000 to £754,087 in March 2008. The expectation in the market is that this trend will continue with periodic adjustments. The presence of the Canal on the northern edge of the site has the potential to contribute to value. As part of residential development, the provision of small serviced offices should be explored so that the opportunity to live and work on the site is not missed.

entrance to Kensal Gas Works



Sainsbury Supermarket

Although not helped by its physical shape, the land west of Sainsbury's is still large and has significance given its proximity to Central London. These characteristics may make it potentially attractive to a single institutional user, a university or hospital, potentially freeing up value elsewhere.

While the study area needs to be planned comprehensively so that the value of the whole exceeds the sum of the parts, (as achieved on many of London's great estates), it also needs to be capable of phased development, particularly as contemplated schemes increase in size.

Given the lead in time for major developments, there is the opportunity to use the time till the gasometers can be removed to devise a high quality, high value scheme which is market led and responds to local needs.



9 infrastructure and contamination

Existing infrastructure

There are existing electricity, gas, water, sewerage and telecommunications systems in the vicinity of Canal Way, although these are likely to require upgrading at least in part to accommodate significant new development on the site. The extent of upgrading would depend on both the scale of development on the site and also the environmental efficiency of that new development.

Contamination

The historic use of much of the site for town gas production from 1845 to 1970 means that there is a degree of contamination to be remediated. Since gas production ceased, all buildings associated with the production processes have been demolished to ground level.

Desktop studies, intrusive ground investigations and testing regimes have been undertaken on the section of the site to the north of the railway, particularly on the Ballymore site between the gasholders and Sainsbury's.

A remediation strategy was prepared for the Ballymore site in connection with Peabody's 2006 planning application. This included the removal of approximately 114,000 tonnes of contaminated soil to landfill. It was considered that the site could be remediated safely for construction activity and the end uses proposed in that planning application.

The degree of remediation required in connection with any other development on the site will vary according to its end use: residential use with gardens and play areas will require a higher level of remediation than covering the site with warehousing and hard standing, for example. Section 8 provides a brief commentary on the impact of remediation on costs.

view from the railway bridge, east of the site



Airborne gas leakage

Apart from contamination, the gasholders are also the source of another type of risk – airborne leakage of natural gas and the associated risk of explosion.

The Health and Safety Executive, the relevant statutory consultee, recommended refusal of the planning application on the Ballymore site in 2006, to avoid the risk of homes being constructed within the potential blast zones associated with the gasholders.

Considerable debate has taken place in relation to that planning application on the issue of whether the actual level of risk is as significant as the HSE perceives. Although indications are that the risk of airborne explosion due to leakage from the two gasholders is extremely small, as long as the gasholders are in place (likely to be until at least 2016), safety zones will exist around them where different types of development are not permitted. The exact magnitude of these zones has not yet been resolved.

10 COSTS

With such a vast, challenging and potentially complex project under consideration, we need to consider in a strategic manner how issues of cost may affect the approach – rather than simply cost alternative end state proposals. This is particularly important in the current context.

Construction costs and the tender market

Construction activity and **tender pricing** are entering a challenging and uncertain period. The last fifteen years have effectively seen year on year growth. The current uncertainty in the marketplace means that recent tender price increases of 6% per annum are likely to fall away gradually over the coming years – the impact of the ‘credit crunch’ being offset by major increases in the cost of raw materials, such as steel, and oil based products.

Historically the ‘boom and bust’ cycle has operated over a 10-year cycle and has generated an average construction cost increase of 3-4% per annum. **Disposal values** appear to have increased at a similar rate. Under these circumstances it is true to say that ‘current day viability remains intact’; the difficulty will come if construction costs increase more quickly than

disposal values.

Development constraints and costs

The split ownership of the site imposes a number of key development constraints, as well as posing significant phasing, sequencing and logistical issues.

The development site, whilst well positioned geographically, is hindered in development terms by a number of issues:

- The site boundaries.

view from south-western edge of site



- A lack of connectivity/accessibility due to only having a single road access point.
- Existing site uses acting to reduce site capacity.
- Demands on the existing utilities network due to current uses.

The ability to deliver a step change in site usage/development will require significant investment in infrastructure works. The cost of a railway station is likely to be in the order of £35m, plus alterations to signalisation on the primary routes into Paddington, as well as any Crossrail aspirations. The cost of a functional bridge structure is around £3,000/m² on plan, the premium for featuring signature bridges could add a further £5,000/m², plus a 40% premium for building over the rail lines. A road bridge linking north and south sites could therefore be £20million as a minimum. A pedestrian/cycle bridge would be in the order of 50-60% of that cost.

The site’s historical use is town gas production with numerous buildings and existing natural gas holders. This means that there are likely to be significant remediation costs – the extent of which will depend on the ultimate end



use, as remediation requirements vary for different end uses. For example, capping the site to contain the effects of any contamination would be the minimum cost, whereas creating garden spaces for residential uses would require more comprehensive remediation and therefore be more expensive.

If the entire site were contaminated with material which could not be treated on site and had to be removed, the cost of removing contaminated material would be £36 million for each 1m depth. On-site remediation could reduce this sum by 50% or less for a more dense urban scheme with fewer back gardens.

Deliverability of **environmental sustainability** will become increasingly difficult and expensive with the passage of time, as target reductions become more onerous. If worldwide investment in technology is delivered to create new products and more energy efficient plant and equipment, coupled with more efficient renewable energy solutions, the viability equation could remain in balance. If, however, research and development does not deliver more cost effective solutions and greater energy efficiency demands are imposed, then

many schemes will become unviable.

For example, to achieve a Code for Sustainable Homes Level 6 (zero carbon) scheme with today's technology costs between £20,000 and £40,000 extra per residential unit. When Level 6 standards become compulsory through legislation in 2016, many developments will become financially unstable or undeliverable – unless technology has advanced greatly. There are similar guidelines being developed for commercial buildings.

The most cost effective sustainability solution will be one which is designed around a mixed-use scheme with higher than average densities, whereby the peaks and troughs of daily demands are averaged and surplus heat from commercial spaces is recycled into heat and power for use within residential buildings – utilising existing tri-generation technologies.

Hence, the best value solution will be one which balances primary infrastructure demands with ground constraints/contamination, development mix, style and density, the phasing demanded by operational needs, and the disposal

values of the chosen development solution.



appendices

comprehensive list of sustainability indicators

Section 7 included a list of the various economic, social and environmental indicators that were used for baseline sustainability information. As explained in section 7, the scope of these indicators was necessarily limited to existing readily-available data. For the next stage of feasibility testing, we recommend that these indicators be expanded as follows:

Economic indicators

Employment

- Identify employment benefits locally and regionally.
- Identify a training programme/ potential.

Profitability

- Ensure the project provides the return required for the developer.

Investment

- Show the value of investment being undertaken by the developer to achieve the sustainable goals set out in the masterplan and to show the benefit of these investments as part of the proposed development.

Risk Assessment

- To set out a list of potential risks, the ownership of those risks and how they can be resolved.

Environmental indicators

Air Pollution

- Impact of local air quality on the proposed development, and also how the development will impact on the local air quality.
- This can include traffic generation, industrial plants nearby, construction activities and power plants on site.

Noise

- Impact of local noise sources on the proposed development, and also how the development will impact on the local area.
- Construction phase noise.

Daylight, Sunlight, Overshadowing

- Obstruction of daylight/sunlight to surrounding buildings.
- Overshadowing of development on nearby open space.

- Calculation of daylight provision to dwellings within the new development.
- Effects of glare from nearby buildings.

Water Resources and hydrology

- Effects on surface or ground water resources.
- Effect of development on drainage or run-off pattern in the area.

Ecology

- Ecological value
- Ecological value of the existing site, e.g. endangered species, sensitive habitats (canal), designated areas of ecological value (canal).
- Loss of, or damage to, habitats and plant and animals species.

Wind Environment

- Effect of the development on the wind environment in the local area, and to consider the pedestrian comfort level in relation to intended activities at relevant locations.

Waste

- Estimate the waste produced and to develop a waste strategy.
- Site waste management plan.

Social indicators

Physical activity

- Explore ways in which the development can encourage modal shift to walking / cycling and thus enable higher rates of physical activity which are associated with a range of health protecting and promoting effects for mental and physical health.

Community severance and social cohesion

- Community severance and low levels of social cohesion is linked to an absence of opportunities for old and new communities to interact. It is associated with high volumes of traffic. It is associated with lower density of social networks which in turn is associated with lower rates of self-reported physical and mental health.

Access/mobility

- Transport infrastructure can improve access to goods, services (including recreational facilities) and employment and so be beneficial to health; transport infrastructure can also impede access and mobility for some groups.
- Will the development promote access to green and open space?

Road traffic injuries

- Road traffic injury (RTI) is a leading cause of death in children over the age of 1 year. Most children killed or seriously injured on the roads are pedestrians accounting for some 63% of all fatal or serious child road injuries. There is a social and ethnic dimension to these statistics: children from lower socio-economic backgrounds suffer more RTIs.

Employment

- If x people are employed as a result of the development, what is the economic value of the health benefits that occur as a result of the reduction in mortality (and morbidity?) due to their employment status?

Housing

- If x people are housed in the development, what is the economic value of the health benefits that occur as a result of the reduction in mortality (and morbidity?) due to their housing status?

Food access

- Will the development support access to fresh, affordable and nutritious food for all people living and working in the development?

Community safety

- Will the development promote high levels of community safety?

Health services

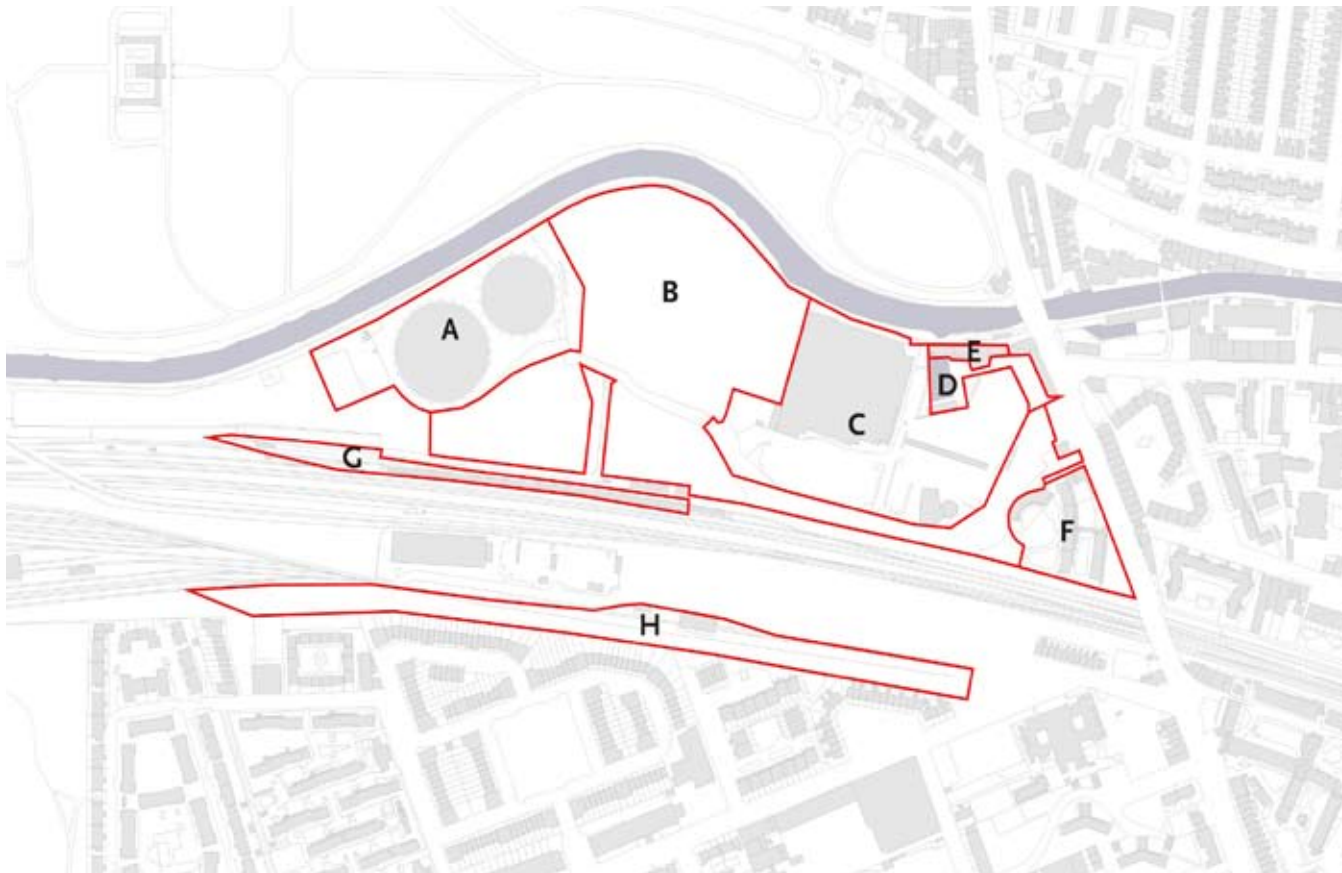
- Improving access to high quality health care and managing the challenge of changing demography i.e. the projected rise of 15% in over 65's by 2012. This requires effective partnership working between health and local authorities regarding joint needs health assessment, service planning and integrated service delivery

Climate change

- Local Authorities emphasising the need towards Climate Change from 'Global to Local'



Land ownership:
approximate information
from RBKC



A	National Grid Gas Plc
B	Fortress Ltd/Peabody
C	Sainsbury's Supermarkets Ltd
D	RBKC
E	Kensington Housing Trust
F	RBKC
G	British Railway Board
H	British Railway Board

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- Density of dwellings
- Particulate exceedance at ground level
- Nitrogen dioxide at ground level



existing vehicular access

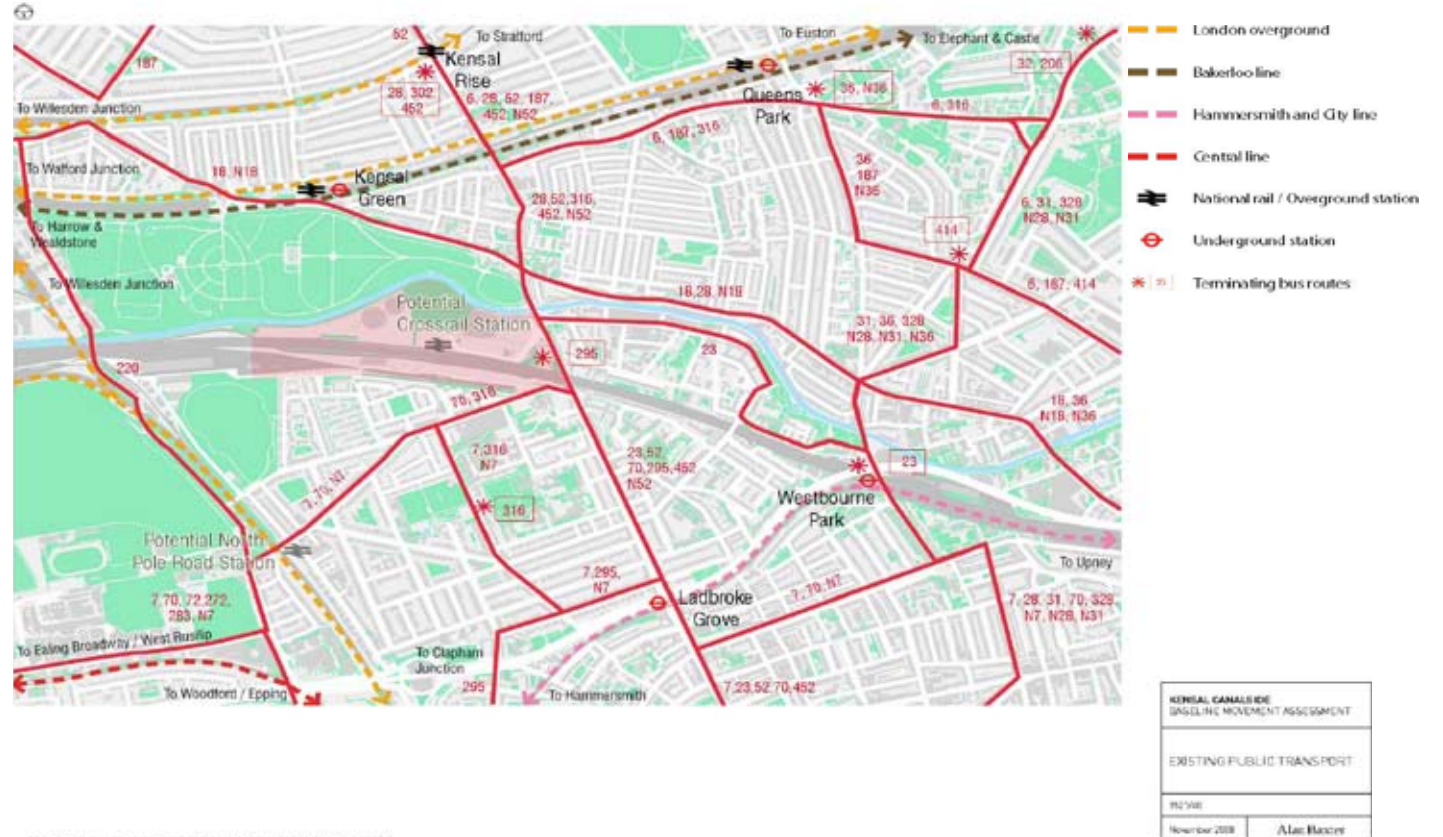
- 1 LRN red route
- London distributor road
- Local distributor road
- National Rail / Overground station
- Underground station
- Central London Congestion Charge zone
- Residents' discount zone
- Site

KENSAL CANALSIDE BASELINE MOVEMENT ASSESSMENT	
EXISTING VEHICULAR ACCESS	
1521/40	
November 2008	Alan Baxter

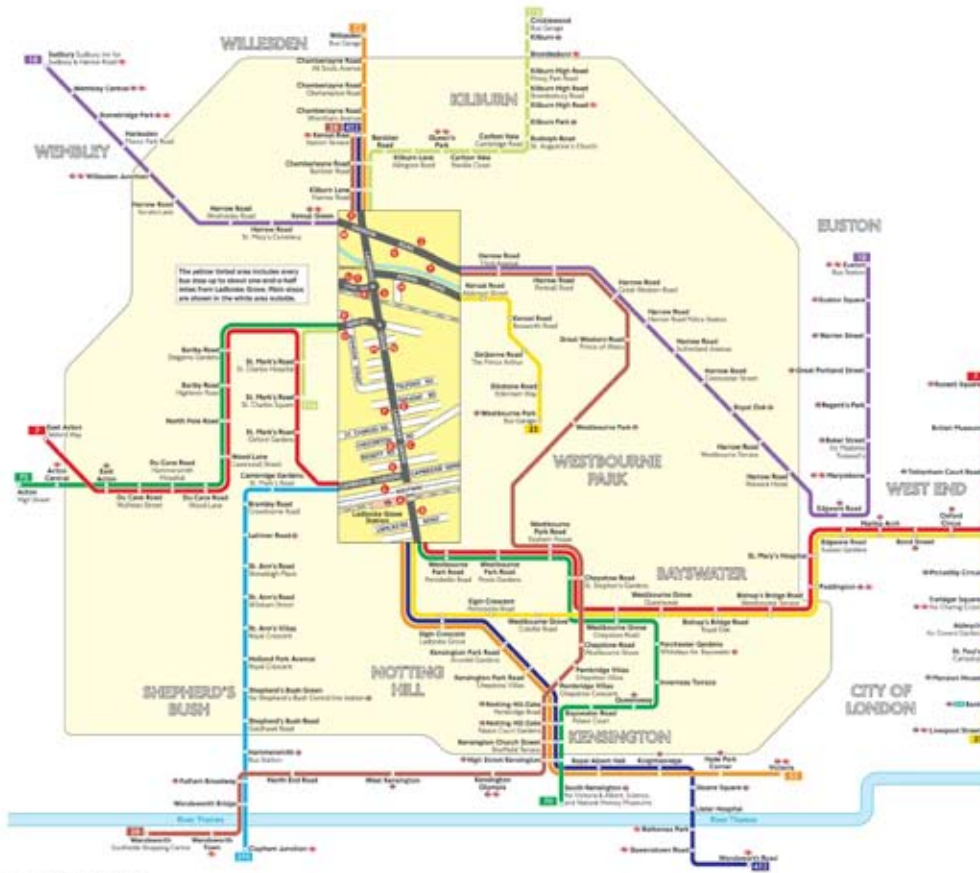
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existing public transport



17



Source: Transport for London
Information correct from: 13 October 2007

buses from Ladbroke Grove

Key

- Bus stop
- Station with Underground
- Station with Overground
- Station with DLR
- Station with Light Rail
- Station with Tram
- Station with National Rail

Route finder
Day buses including 24-hour routes

Bus route	Stops	Bus stop
11	Acton	Acton
12	Acton	Acton
13	Acton	Acton
14	Acton	Acton
15	Acton	Acton
16	Acton	Acton
17	Acton	Acton
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100	Acton	Acton

Night buses

Bus route	Stops	Bus stop
N1	Acton	Acton
N2	Acton	Acton
N3	Acton	Acton
N4	Acton	Acton
N5	Acton	Acton
N6	Acton	Acton
N7	Acton	Acton
N8	Acton	Acton
N9	Acton	Acton
N10	Acton	Acton
N11	Acton	Acton
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KENSAL CANALSIDE BASELINE MOVEMENT ASSESSMENT	
BUSES FROM LADBROKE GROVE	
10/1/08	
November 2008	Alan Baxter



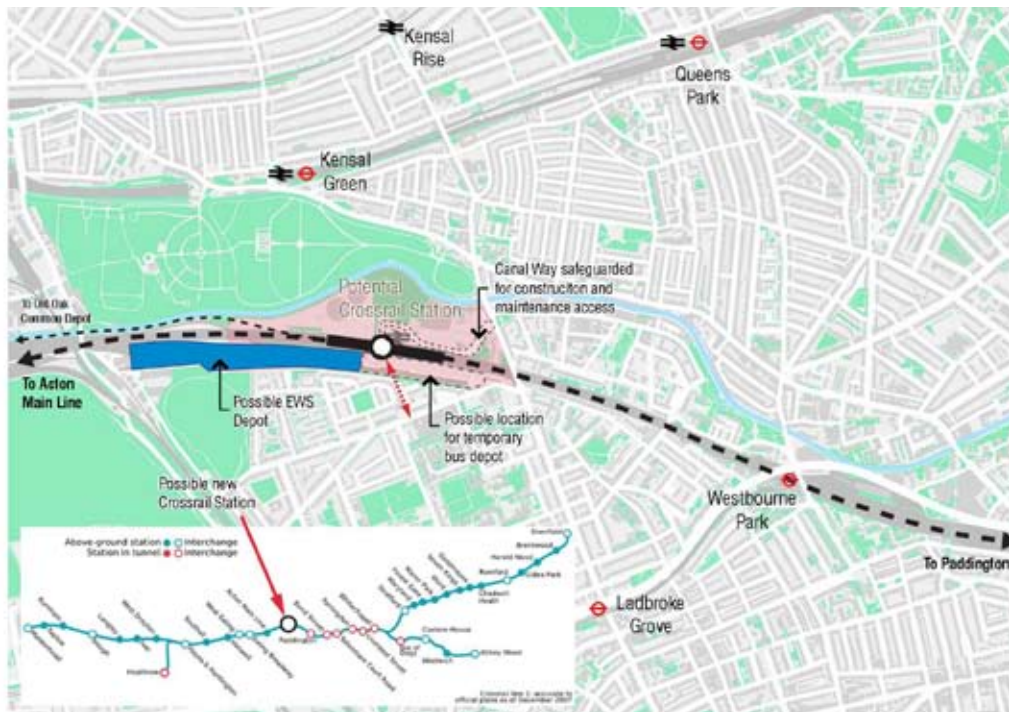
existing walking and cycling



KENSAL CANALSIDE BASELINE MOVEMENT ASSESSMENT	
EXISTING WALKING AND CYCLING	
182140	
November 2008	Alan Baxter

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crossrail potential



- Crossrail
- Possible Crossrail station
- ⊞ National Rail / Overground station
- ⊞ Underground station

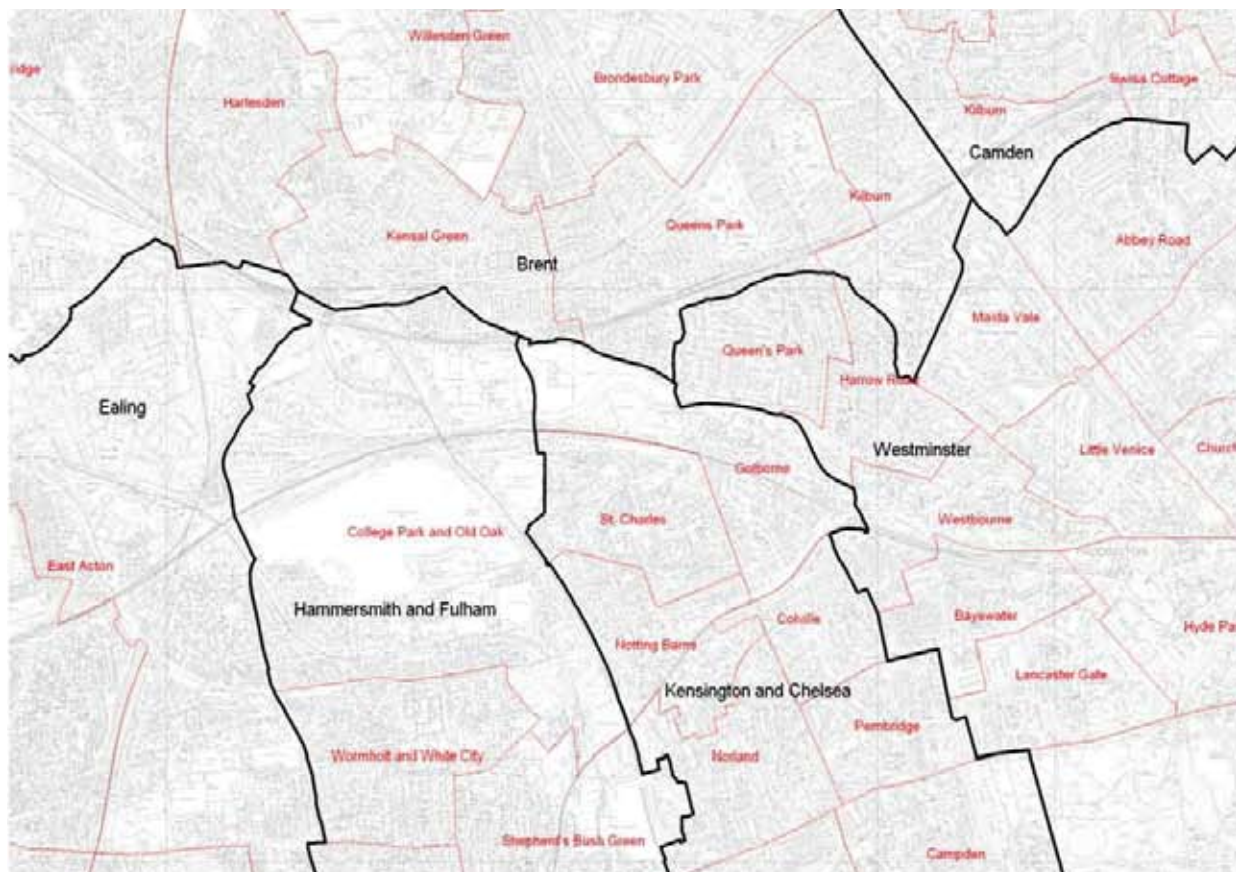
KENSAL CANALSIDE	
EDGE LINE MOVEMENT ASSESSMENT	
CROSSRAIL POTENTIAL	
10/10/08	
November 2008	Alan BACCH

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census extract (1)

			Region London		Greater London Inner London		Greater London Outer London		London Borough Westminster		London Borough Kensington & Chelsea		London Borough Hammersmith & Fulham		London Borough Brent		Wards Local Wards		Wards Study Area	
			Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Car Ownership	All Households	Households	3,015,997		1,219,859		1,796,138		91,172		79,145		75,439		99,991		40,720		7,862	
Cars or Vans (UV62)	No car or van	Households	1,130,649	37.5%	617,774	50.6%	512,875	28.6%	51,452	56.4%	39,870	50.4%	36,630	48.6%	37,287	37.3%	22,458	55.1%	4,655	60.8%
	1 car or van	Households	1,298,481	43.1%	479,140	39.3%	819,341	45.6%	32,108	35.2%	31,041	39.2%	30,461	40.4%	42,806	42.6%	14,821	36.4%	2,509	32.7%
	2 cars or vans	Households	476,185	15.8%	103,385	8.5%	372,800	20.8%	6,241	6.8%	6,633	8.4%	7,032	9.3%	16,207	16.2%	2,932	7.2%	419	5.5%
	3 cars or vans	Households	86,470	2.9%	15,195	1.2%	71,275	4.0%	1,012	1.1%	1,184	1.5%	1,058	1.4%	3,135	3.1%	393	1.0%	57	0.7%
	4 or more cars or vans	Households	24,212	0.8%	4,365	0.4%	19,847	1.1%	359	0.4%	417	0.5%	258	0.3%	756	0.8%	118	0.3%	22	0.3%
	Total cars or vans	Vehicles	2,616,328	0.87	751,157	0.62	1,865,171	1.04	49,316	0.54	49,767	0.63	48,875	0.65	87,757	0.88	22,419	0.55	3,609	0.47
Distance Travelled to Work Resident Population (UV35)	All people aged 16 to 74 in employment	Persons	3,319,134		1,253,781		2,065,353		89,472		75,571		83,023		118,704		39,662		6,371	
	Works mainly at or from home	Persons	285,935	8.6%	109,953	8.6%	175,982	8.5%	9,906	11.1%	10,259	13.6%	7,376	8.9%	10,888	9.2%	3,745	9.4%	621	9.7%
	Less than 2km	Persons	475,102	14.3%	192,481	15.4%	282,621	13.7%	21,214	23.7%	12,516	16.6%	13,549	16.3%	15,124	12.7%	6,478	16.3%	1,217	19.1%
	2km to less than 5km	Persons	659,230	19.9%	291,949	23.3%	367,281	17.8%	29,487	33.0%	19,655	26.0%	15,738	19.0%	24,999	21.1%	10,893	27.5%	1,818	28.5%
	5km to less than 10km	Persons	803,143	24.2%	306,123	31.6%	497,020	24.1%	16,926	18.9%	22,048	29.2%	30,950	37.3%	32,191	27.1%	12,222	30.8%	1,747	27.4%
	10km to less than 20km	Persons	686,960	20.7%	144,810	11.5%	542,150	26.2%	3,900	4.4%	4,306	5.7%	7,677	9.2%	22,725	19.1%	2,606	6.6%	380	6.0%
	20km to less than 30km	Persons	128,560	3.9%	19,076	1.5%	109,484	5.3%	1,085	1.2%	760	1.0%	1,134	1.4%	2,359	2.0%	419	1.1%	52	0.8%
	30km to less than 40km	Persons	32,812	1.0%	8,630	0.7%	24,182	1.2%	631	0.7%	427	0.6%	643	0.8%	812	0.7%	180	0.5%	17	0.3%
	40km to less than 60km	Persons	25,001	0.8%	8,281	0.7%	16,720	0.8%	581	0.6%	515	0.7%	621	0.7%	725	0.6%	235	0.6%	44	0.7%
	60km and over	Persons	36,282	1.1%	14,509	1.2%	21,773	1.1%	1,129	1.3%	986	1.3%	839	1.0%	1,257	1.1%	392	1.0%	62	1.0%
	No fixed place of work	Persons	174,881	5.3%	62,487	5.0%	112,394	5.4%	3,806	4.3%	3,359	4.4%	4,098	4.9%	7,232	6.1%	2,350	5.9%	381	6.0%
	Working outside the UK	Persons	8,276	0.3%	4,358	0.3%	4,917	0.2%	715	0.8%	615	0.8%	319	0.4%	282	0.2%	106	0.3%	24	0.4%
	Working at offshore installation	Persons	2,152	0.1%	1,143	0.1%	1,009	0.0%	112	0.1%	126	0.2%	79	0.1%	102	0.1%	36	0.1%	8	0.1%
Method of Travel to Work Resident Population (UV39)	All people aged 16 to 74 in employment	Persons	5,300,332		2,096,540		3,203,792		146,477		124,869		129,792		198,712		69,794		13,320	
	Works mainly at or from home	Persons	285,935		109,953		175,982		9,906		10,259		7,376		10,888		3,745		621	
	Underground, metro, light rail or tram	Persons	625,224	20.6%	349,173	30.5%	276,051	14.6%	28,420	35.7%	26,358	40.4%	31,245	41.3%	30,783	28.6%	7,799	22.1%	1,205	19.0%
	Train	Persons	404,414	13.3%	130,697	11.4%	273,717	14.5%	3,253	4.1%	2,074	3.2%	3,046	4.0%	7,328	6.8%	3,295	9.3%	617	9.7%
	Bus, minibus or coach	Persons	369,108	12.2%	179,110	15.7%	189,998	10.1%	11,071	13.9%	7,951	12.2%	8,892	11.8%	15,273	14.2%	4,071	11.5%	839	13.3%
	Taxi or minicab	Persons	21,808	0.7%	9,580	0.8%	12,028	0.6%	1,453	1.8%	1,485	2.2%	420	0.6%	464	0.4%	207	0.6%	21	0.3%
	Driving a car or van	Persons	1,111,762	36.7%	250,012	21.9%	861,750	45.6%	11,809	14.6%	12,748	19.5%	14,921	19.7%	38,643	36.8%	12,721	36.0%	2,126	33.6%
	Passenger in a car or van	Persons	83,378	2.7%	18,234	1.6%	65,144	3.4%	1,103	1.4%	1,084	1.7%	857	1.1%	3,222	3.0%	797	2.3%	152	2.4%
	Motorcycle, scooter or moped	Persons	47,147	1.6%	19,454	1.7%	27,693	1.5%	1,123	1.4%	1,278	2.0%	1,828	2.4%	1,139	1.1%	753	2.1%	147	2.3%
	Bicycle	Persons	77,330	2.5%	43,494	3.8%	33,836	1.8%	2,496	3.1%	2,130	3.3%	3,942	5.2%	1,933	1.8%	1,471	4.2%	280	4.1%
	On foot	Persons	279,340	9.2%	137,384	12.0%	141,956	7.5%	17,969	22.6%	9,529	14.6%	10,068	13.3%	7,614	7.1%	4,047	11.5%	934	14.8%
	Other	Persons	13,888	0.5%	6,690	0.6%	7,198	0.4%	869	1.1%	685	1.0%	428	0.6%	409	0.4%	149	0.4%	31	0.5%
	Not currently working	Persons	1,981,198		842,759		1,138,439		57,005		49,298		46,769		80,008		30,739		6,367	



NOTE:

Information extracted from the Census 2001 using 2003 Administrative Boundaries

Local Wards consist of the following wards:

- Golborne
- St Charles
- Notting Barns
- Colville
- College Park & Old Oak
- Kensal Green
- Queens Park
- Queen's Park
- Harrow Road
- Westbourne

Study Area consists of the following wards:

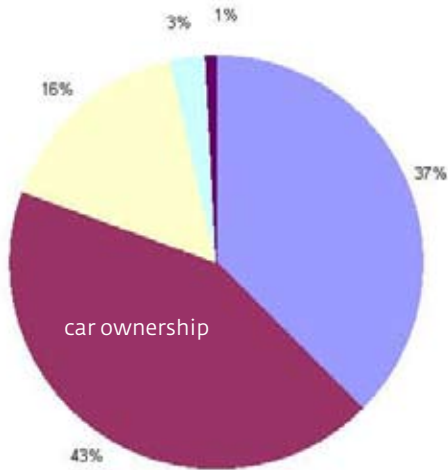
- Golborne
- St Charles



census extract (2)

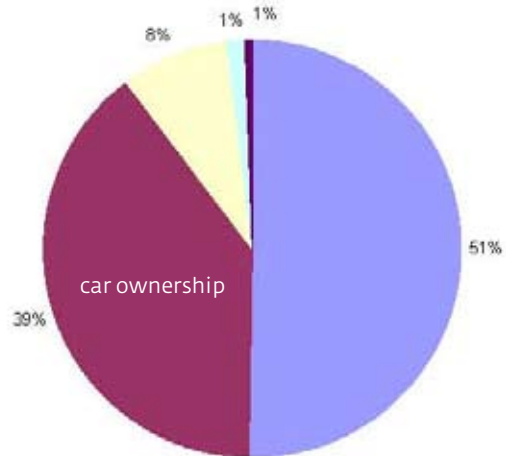
LONDON

Cars or Vans - London



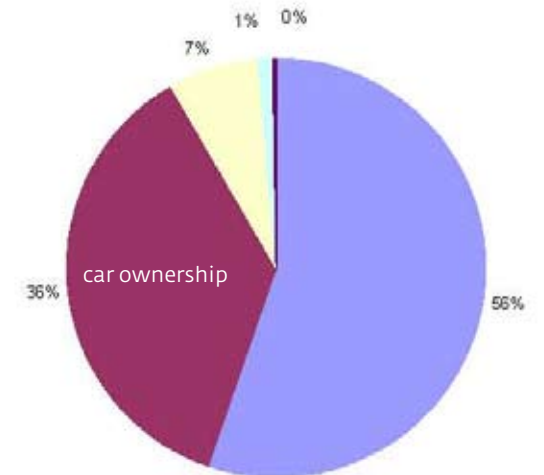
KENSINGTON & CHELSEA

Cars or Vans - Kensington & Chelsea



LOCAL WARDS

Cars or Vans - Local Wards



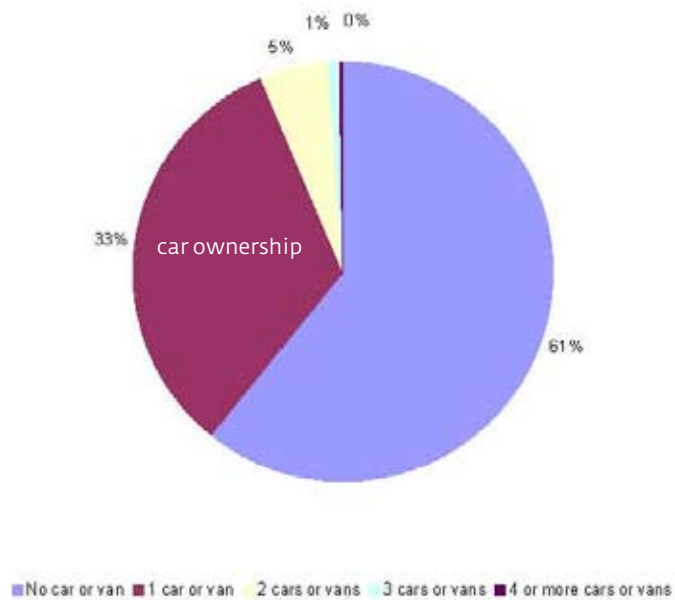
■ No car or van ■ 1 car or van ■ 2 cars or vans ■ 3 cars or vans ■ 4 or more cars or vans

■ No car or van ■ 1 car or van ■ 2 cars or vans ■ 3 cars or vans ■ 4 or more cars or vans

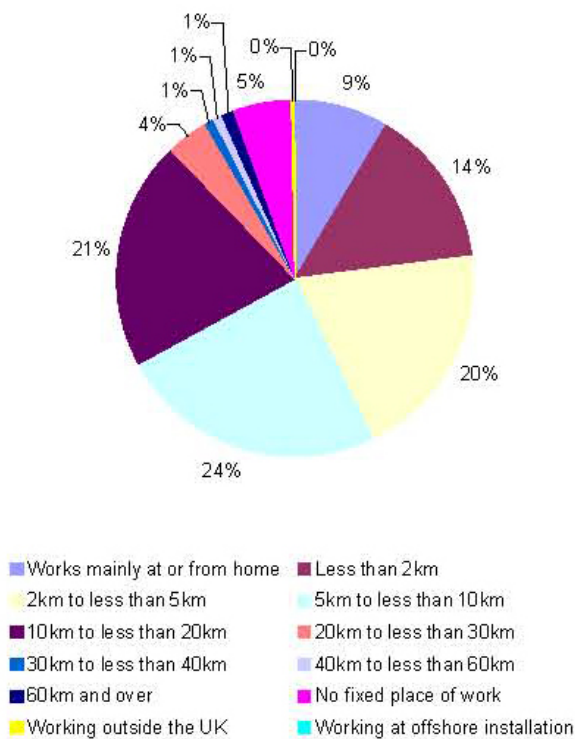
■ No car or van ■ 1 car or van ■ 2 cars or vans ■ 3 cars or vans ■ 4 or more cars or vans

STUDY AREA

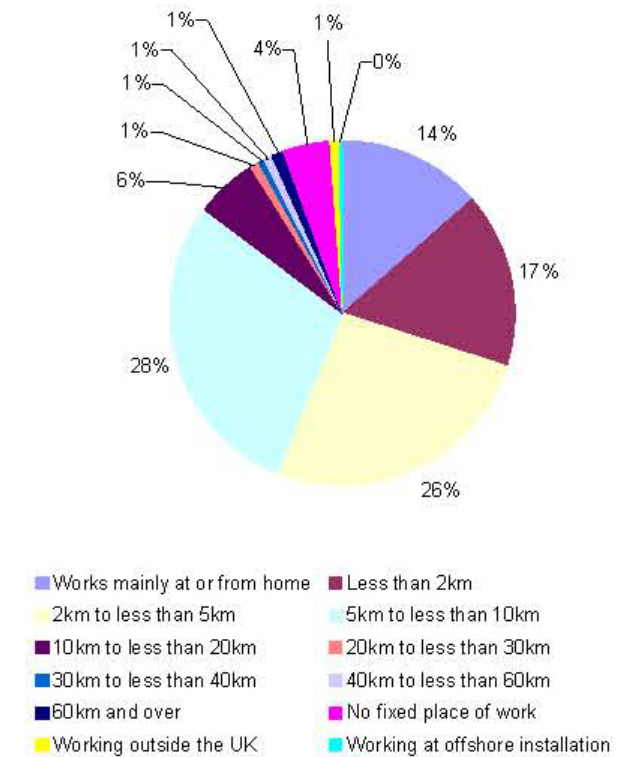
Cars or Vans - Study Area



Distance Travelled to Work - London

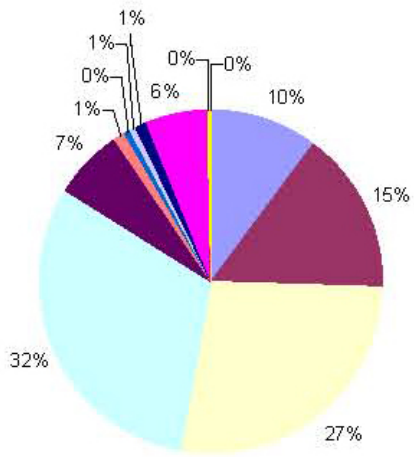


Distance Travelled to Work - Kensington & Chelsea



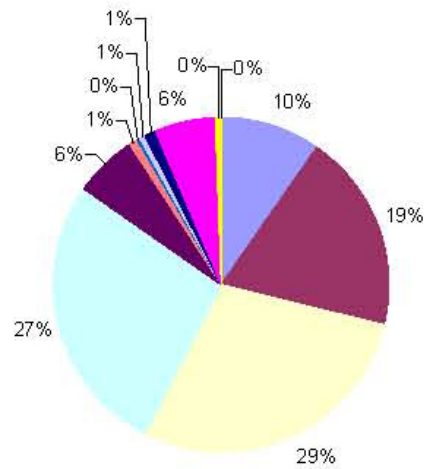


Distance Travelled to Work - Local Wards



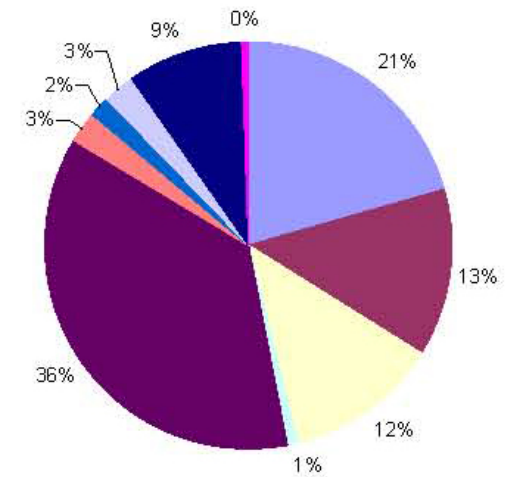
- Works mainly at or from home
- 2km to less than 5km
- 10km to less than 20km
- 30km to less than 40km
- 60km and over
- Working outside the UK
- Less than 2km
- 5km to less than 10km
- 20km to less than 30km
- 40km to less than 60km
- No fixed place of work
- Working at offshore installation

Distance Travelled to Work - Study Area



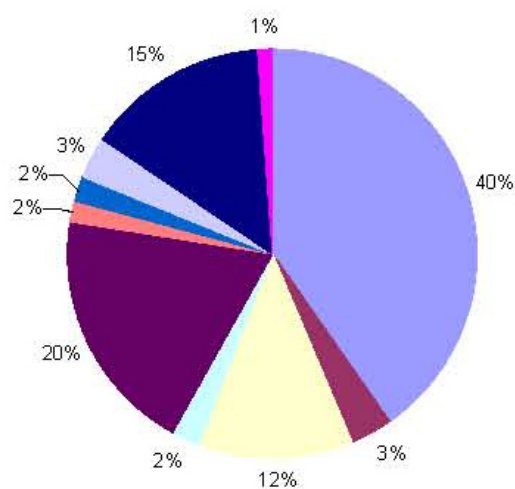
- Works mainly at or from home
- 2km to less than 5km
- 10km to less than 20km
- 30km to less than 40km
- 60km and over
- Working outside the UK
- Less than 2km
- 5km to less than 10km
- 20km to less than 30km
- 40km to less than 60km
- No fixed place of work
- Working at offshore installation

Method of Travel to Work - London

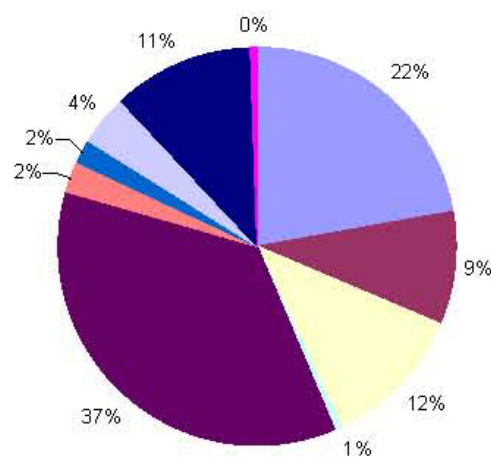


- Underground, metro, light rail or tram
- Bus, minibus or coach
- Driving a car or van
- Motorcycle, scooter or moped
- On foot
- Train
- Taxi or minicab
- Passenger in a car or van
- Bicycle
- Other

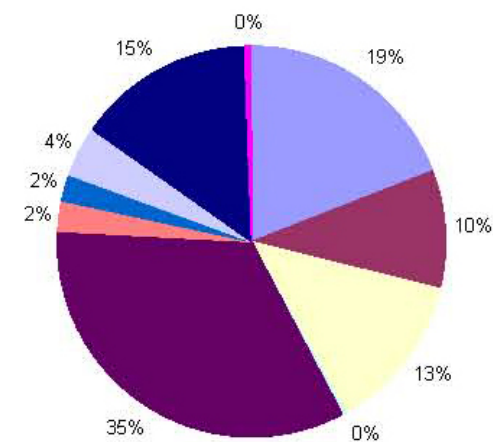
Method of Travel to Work - Kensington & Chelsea



Method of Travel to Work - Local Wards



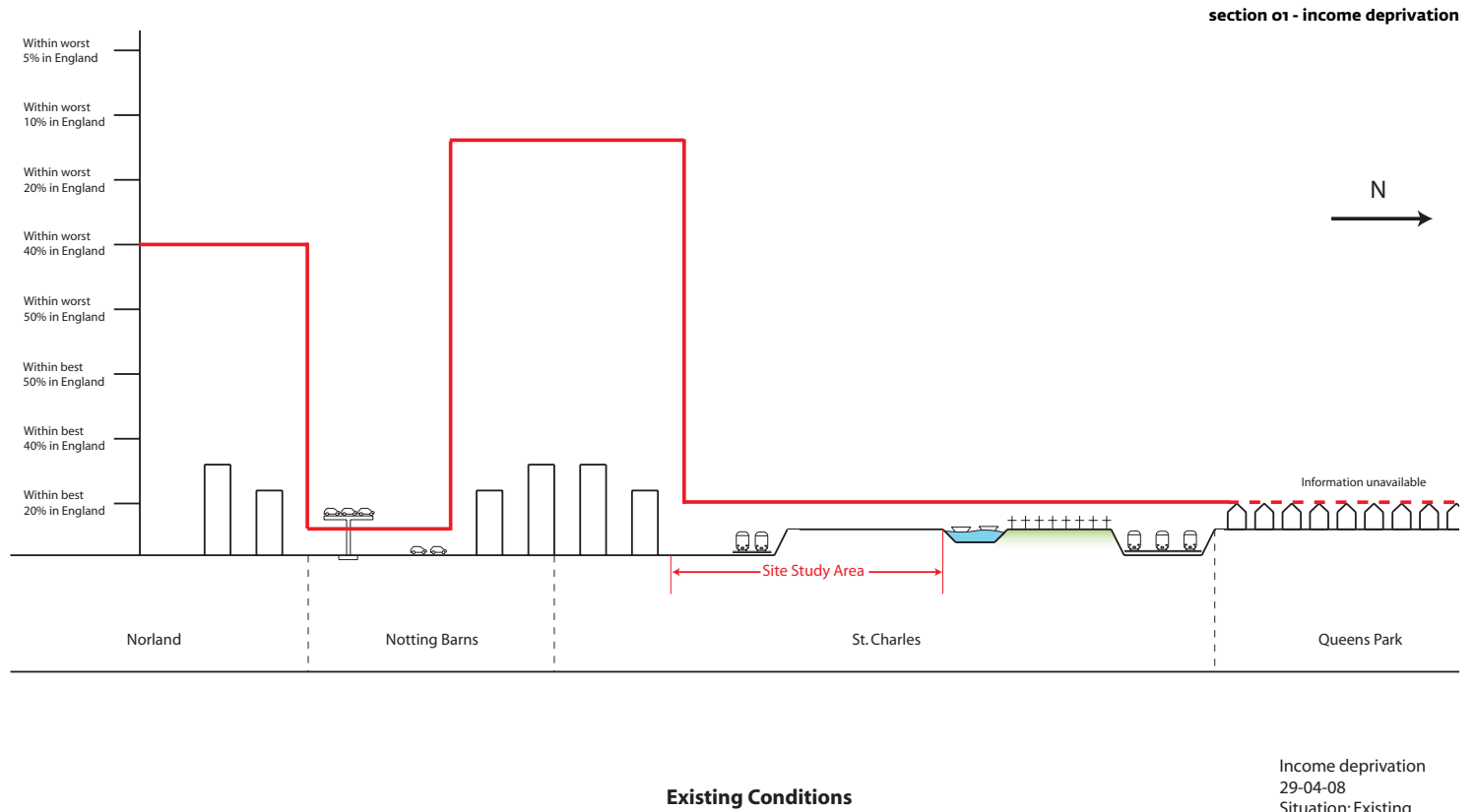
Method of Travel to Work - Study Area



- Underground, metro, light rail or tram
- Bus, minibus or coach
- Driving a car or van
- Motorcycle, scooter or moped
- On foot
- Train
- Taxi or minicab
- Passenger in a car or van
- Bicycle
- Other

- Underground, metro, light rail or tram
- Bus, minibus or coach
- Driving a car or van
- Motorcycle, scooter or moped
- On foot
- Train
- Taxi or minicab
- Passenger in a car or van
- Bicycle
- Other

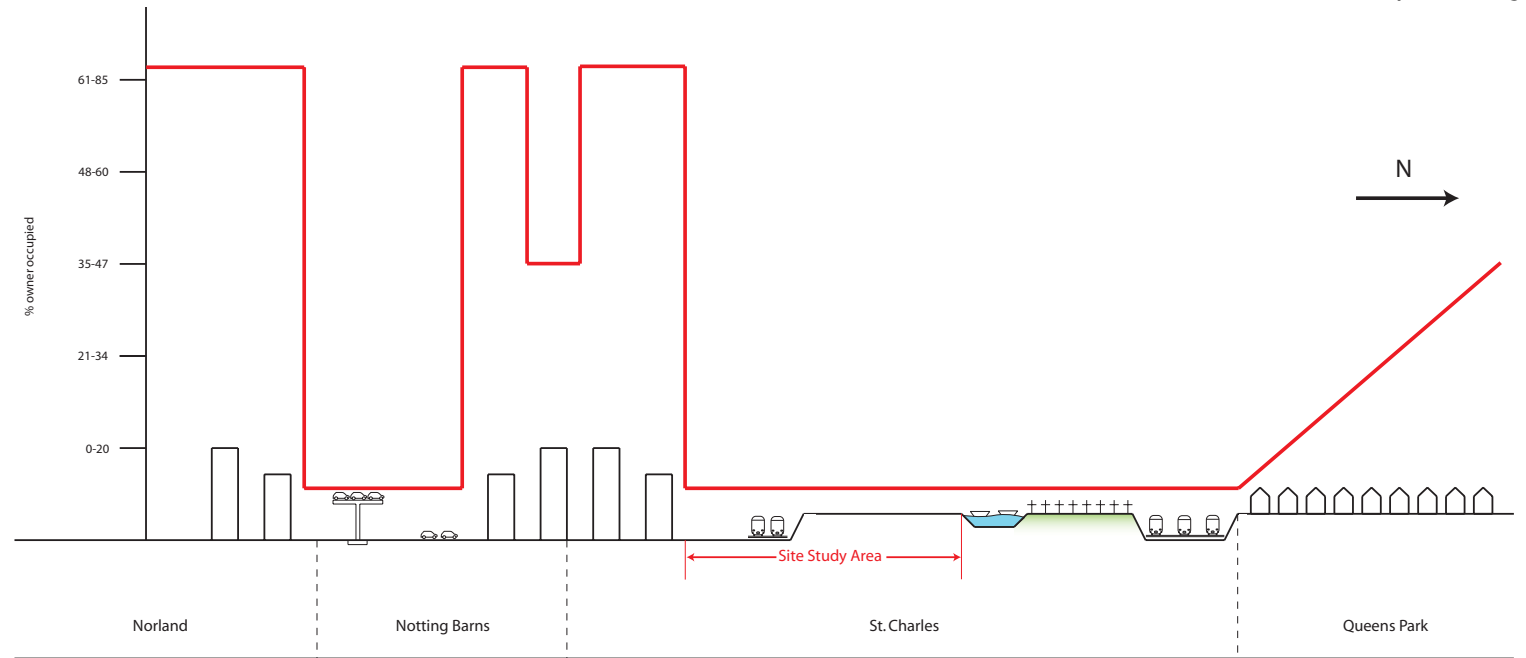
- Underground, metro, light rail or tram
- Bus, minibus or coach
- Driving a car or van
- Motorcycle, scooter or moped
- On foot
- Train
- Taxi or minicab
- Passenger in a car or van
- Bicycle
- Other



Income deprivation
29-04-08
Situation: Existing
Not to scale
Battle McCarthy

Source: Local Development Framework and North Kensington Area Action Plan

section 02 - owner occupation housing



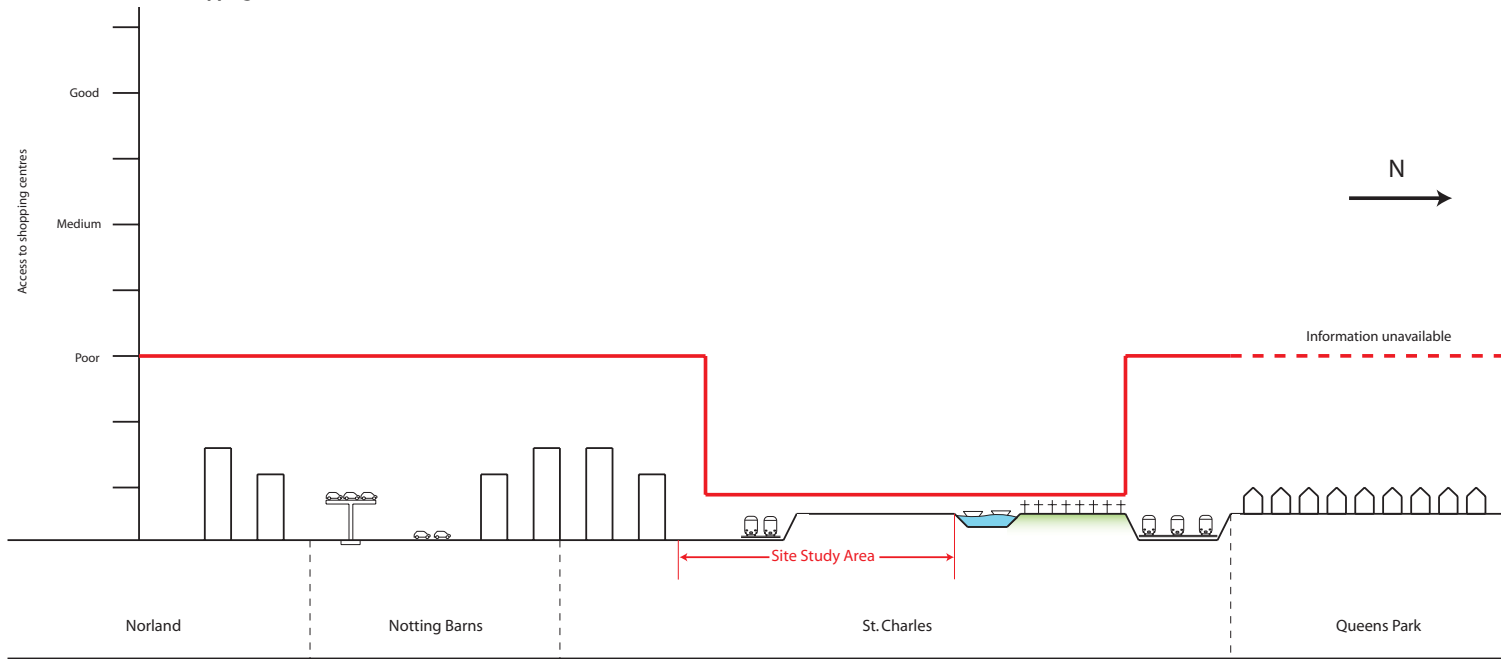
Existing Conditions

Source: Local Development Framework and North Kensington Area Action Plan

Owner occupation housing
29-04-08
Situation: Existing
Not to scale
Battle McCarthy



section 03 - access to shopping centres

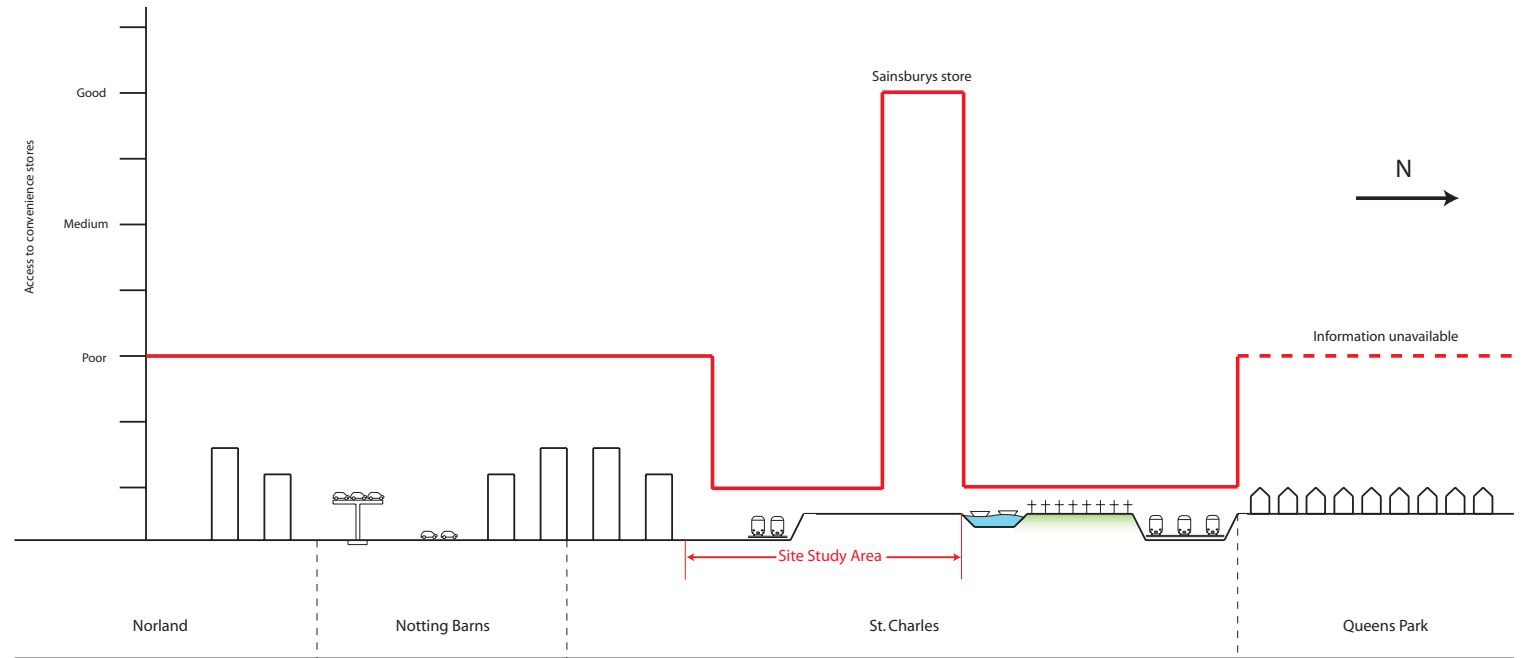


Existing Conditions

Access to shopping centres
29-04-08
Situation: Existing
Not to scale
Battle McCarthy

Source: Local Development Framework and North Kensington Area Action Plan

section 04 - access to convenience centres



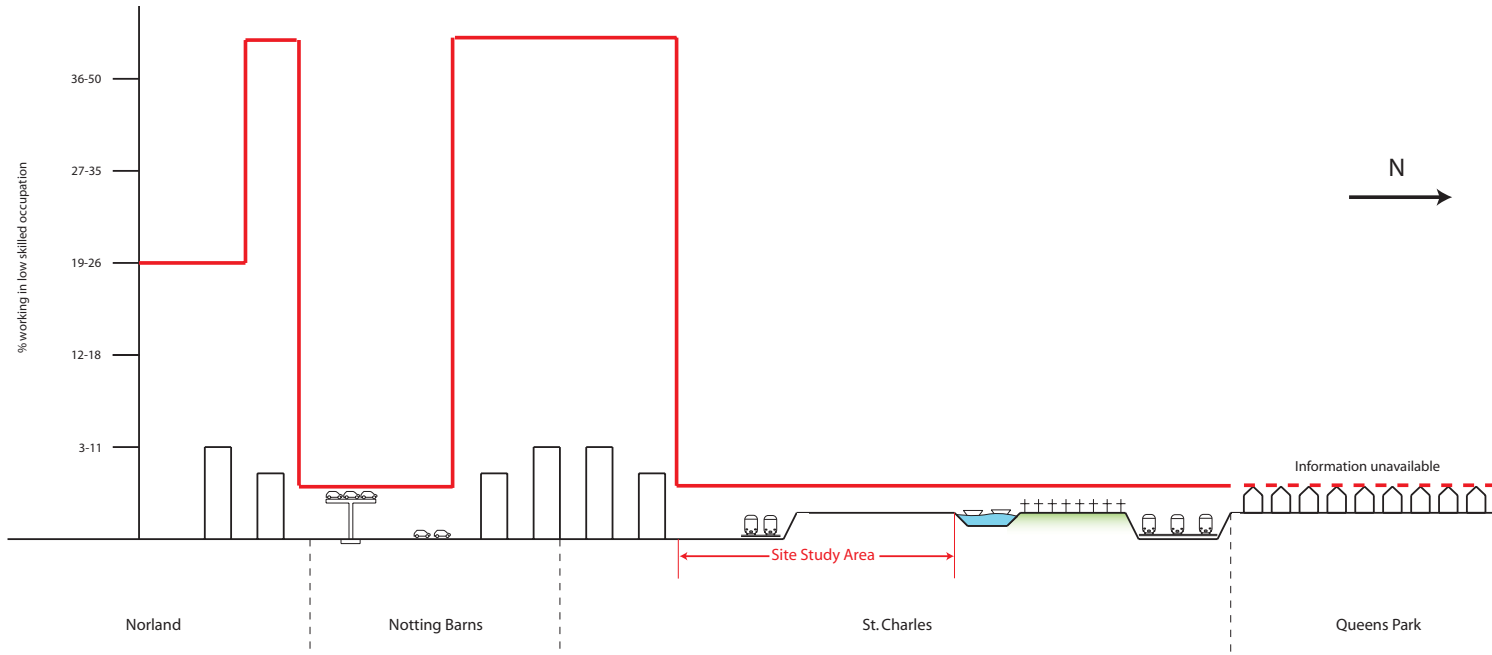
Existing Conditions

Access to
convenience centres
29-04-08
Situation: Existing
Not to scale
Battle McCarthy

Source: Local Development Framework and North Kensington Area Action Plan



section 05 - low skilled occupation



Existing Conditions

Low skilled occupations
 29-04-08
 Situation: Existing
 Not to scale
 Battle McCarthy

Source: Local Development Framework and North Kensington Area Action Plan

section 06 - access to community facilities



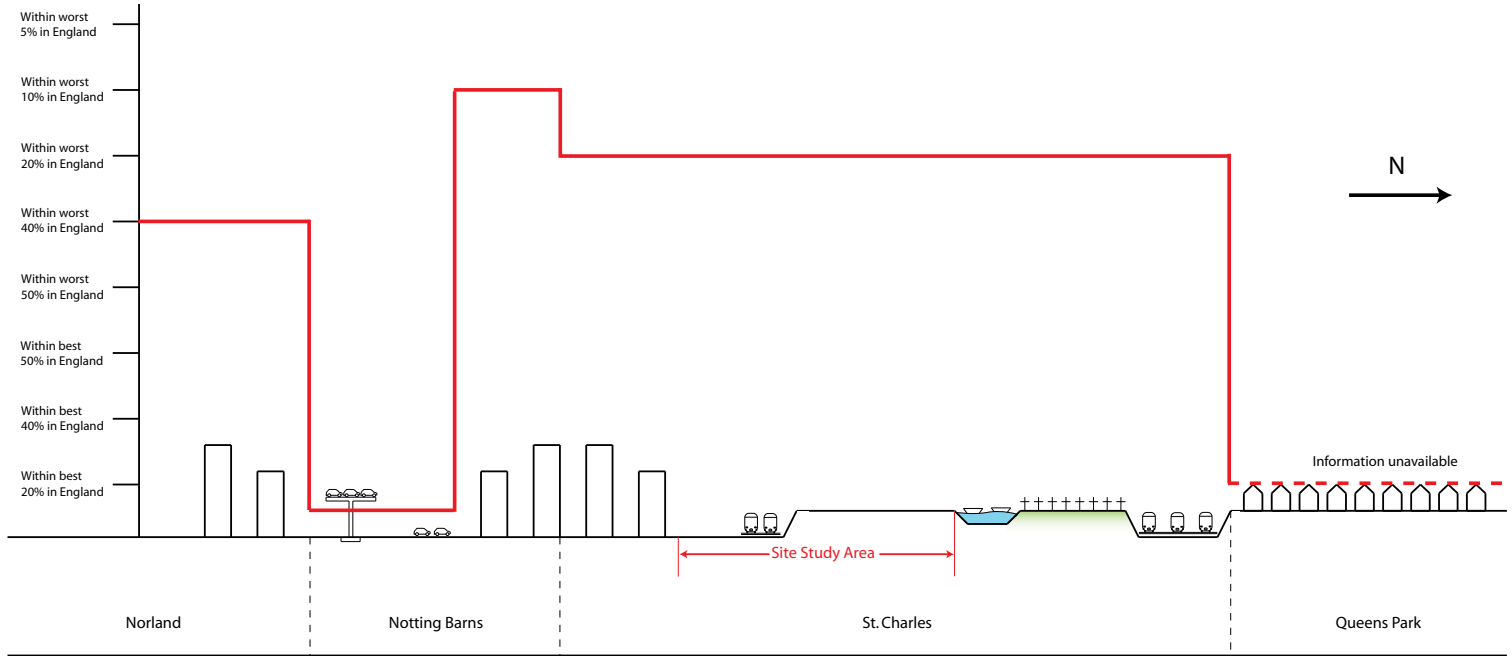
Existing Conditions

Access to
community facilities
29-04-08
Situation: Existing
Not to scale
Battle McCarthy

Source: Local Development Framework and North Kensington Area Action Plan



section 07 - multiple deprivation

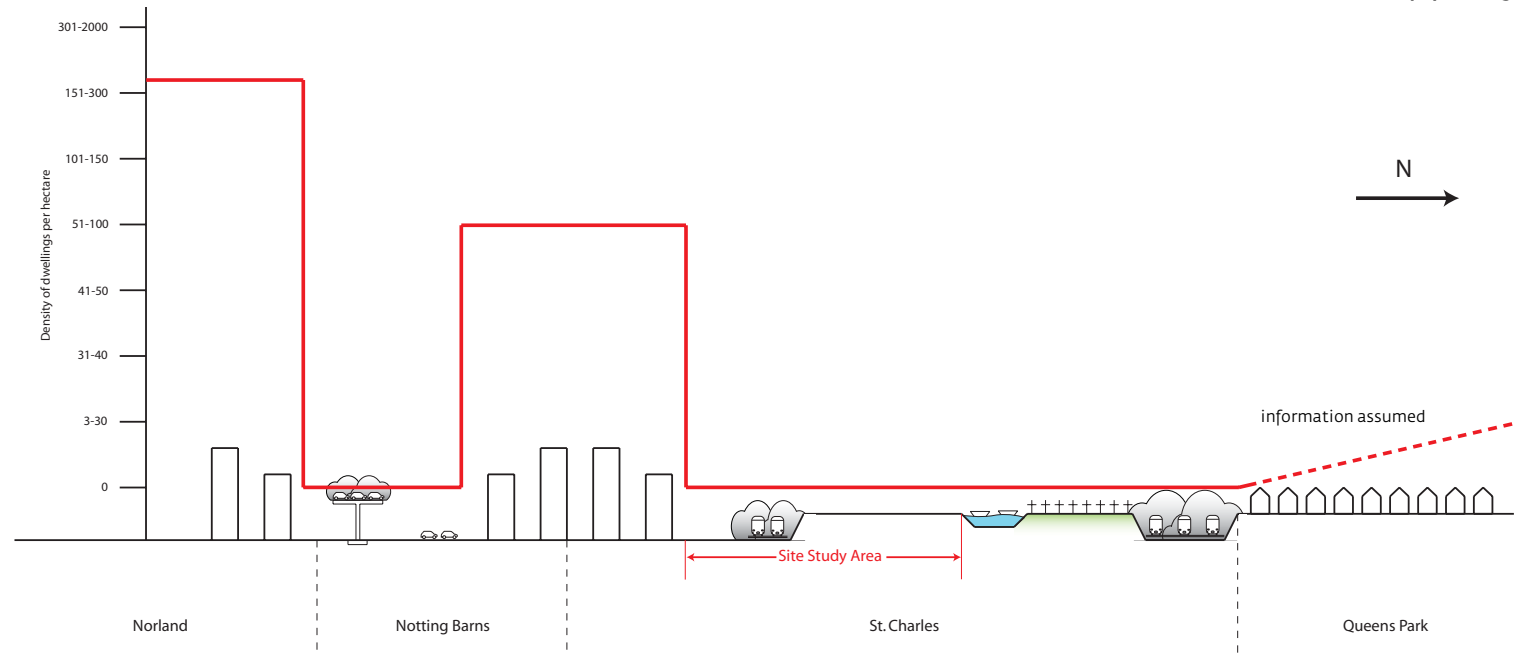


Existing Conditions

Multiple deprivation
29-04-08
Situation: Existing
Not to scale
Battle McCarthy

Source: Local Development Framework and North Kensington Area Action Plan

section 08 - density of dwellings



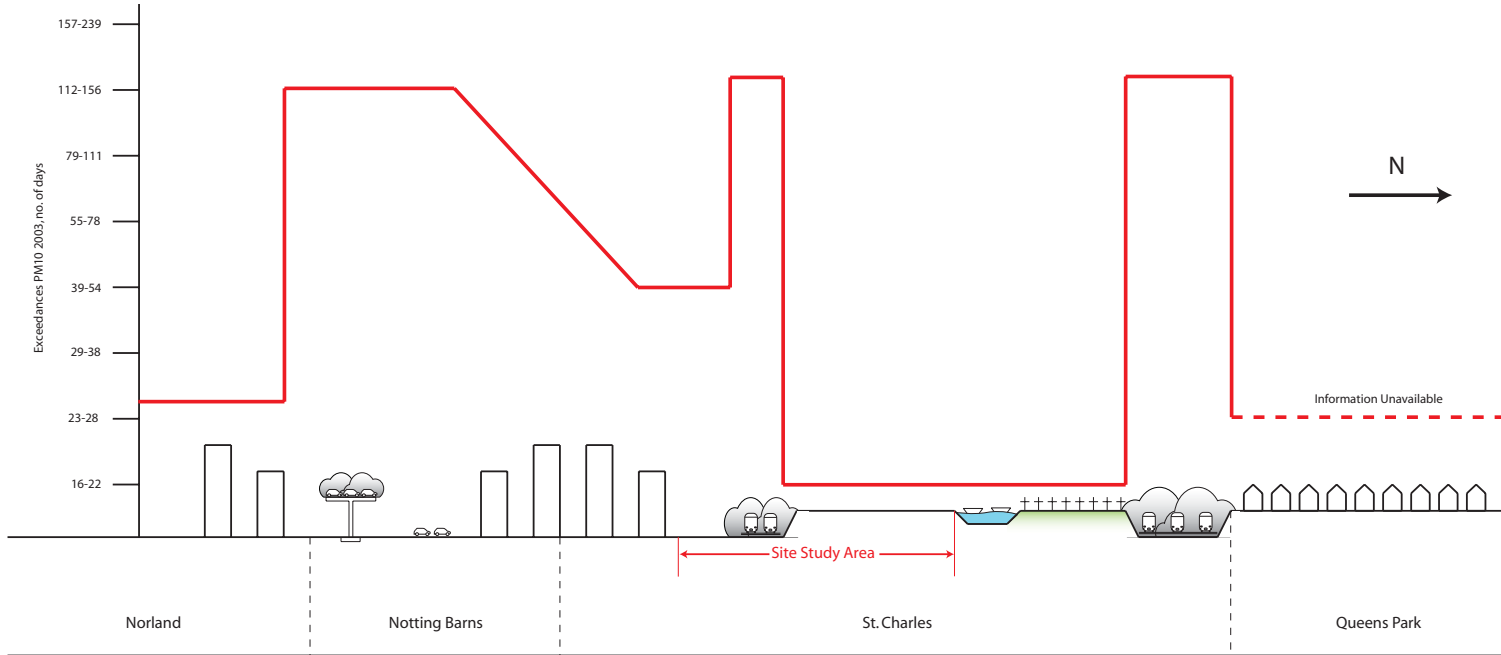
Existing Conditions

Density of dwellings per hectare
29-04-08
Situation: Proposed
Not to scale
Battle McCarthy

Source: Local Development Framework and North Kensington Area Action Plan



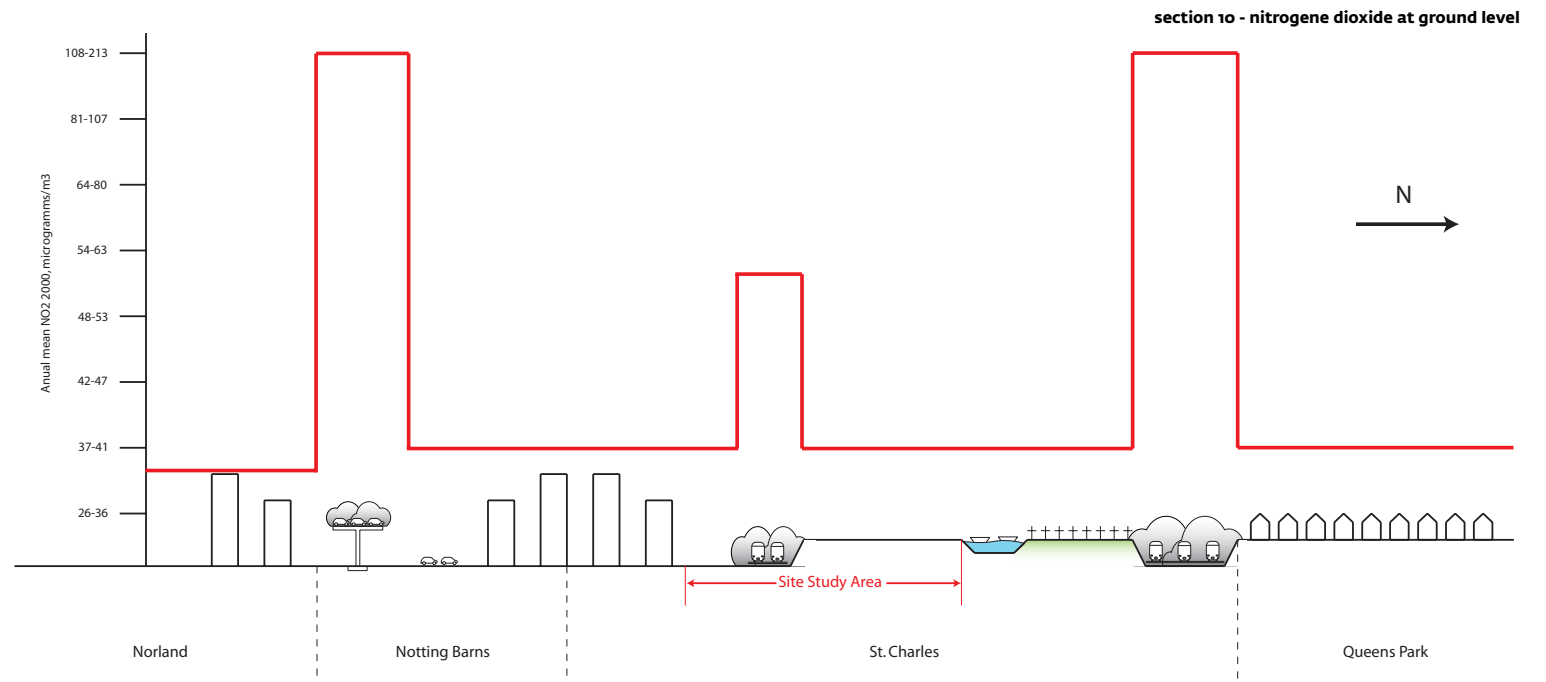
section 09 - particulate exceedance at ground level



Existing Conditions

Particulate Exceedences
(days)
29-04-08
Situation: Proposed
Not to scale
Battle McCarthy

Source: Local Development Framework and North Kensington Area Action Plan



Existing Conditions

Nitrogen Dioxide Readings
 Annual Average
 29-04-08
 Situation: Existing
 Not to scale
 Battle McCarthy

Source: Local Development Framework and North Kensington Area Action Plan



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