

# REDUCING CAR USE: PROPOSALS FOR A BRENT CROSS RAILWAY

A massive expansion is planned for the Brent Cross area of north London, with high-density retail, housing and commercial developments that will create a new “Town Centre” on both sides of the North Circular Road.

According to the Development Framework document, there will be more than 29,000 additional vehicle journeys at Brent Cross per day. That will have a serious impact on an area where congestion can already be severe. As we start to tackle global warming, urgent discussion is vital to substantially reduce car use in massive developments like this.

While addressing the need for much better public transport at Brent Cross, there is an opportunity for a rapid transit system to *also* serve large parts of Barnet, Brent, Ealing, and beyond. Therefore this document proposes a **Brent Cross Railway**, as an east-west rapid transit system from Brent Cross (Northern Line), via the expanded Brent Cross Shopping Centre and Town Centre, to Neasden (Jubilee Line) and Harlesden (Bakerloo Line and Euston-Watford Overground). Possible extensions southwards are to North Acton (Central Line), and/or Park Royal (Central and Piccadilly Lines), and/or Acton Main Line (Crossrail). **A major project!**

It would rely on financial contributions from the twenty-year development of Brent Cross Town Centre, and provide local regeneration, connection between underground lines, and access to the proposed Brent Cross Thameslink station, and to trains to Heathrow. It would also contribute generally towards a shift towards public transport, since much of it parallels the North Circular Road.



**The future Brent Cross, looking west.**

*Picture taken from the developers' web site.  
(See [www.brentcrosscricklewood.com](http://www.brentcrosscricklewood.com))*



Picture from developers' web site.

**Stephen Joseph:**

“ DEVELOPMENT proposals, especially when they are on the scale of the scheme for Brent Cross, need to address much more imaginatively how car use can be reduced and the alternatives improved.

The Brent Cross Railway is an example of the sort of project that needs to be considered as part of a wider sustainable transport strategy, that also includes minimising parking and allowing as many journeys as possible to be made on foot and by bicycle. ”



Stephen Joseph is executive director of the Campaign for Better Transport.

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# Introduction

THE Brent Cross development meets the Mayor of London’s desire for new high-density “Town Centres” around London. This one is promoted by a consortium of Hammerson, Multiplex and Standard Life Investments, working with Barnet council.

The outline planning permission is for a 14 million square feet (1.3m sq m) development of a new town centre at Brent Cross, with 27,000 jobs, 7,500 homes, a greatly-expanded Brent Cross Shopping Centre, hotel, cinema, new Thameslink station, bus station, new roads and bridges.

Extracts from the Mayor’s planning document **The London Plan** are given overleaf. The Mayor and Transport for London are very aware that proposals for major new developments must be matched by increased transport capacity, both at a corridor and a local level.

Extracts from the **Brent Cross Development Framework** then follow, together with our response. We believe the framework shows that car access will continue to dominate for decades to come, unless transport and land use policies are changed *now*.

We then suggest one particular alternative. The amended “tube map” below shows Phase One of our proposed **Brent Cross Railway** (and stations on a possible extension into the Park Royal estate).

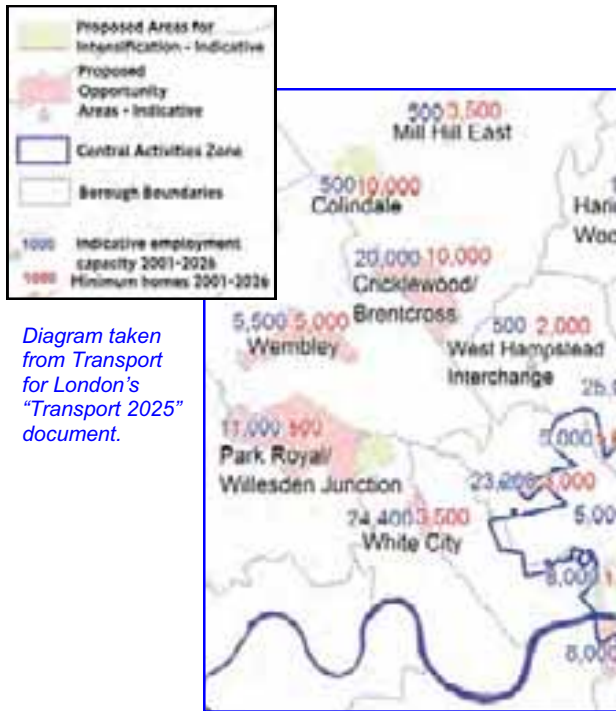


Diagram taken from Transport for London’s “Transport 2025” document.

Note: Brent Cross, Neasden and Harlesden stations below do not currently have step-free access.



# The London Plan

## Spatial Development Strategy for Greater London

“ THE Mayor is responsible for strategic planning in London. His duties include producing a Spatial Development Strategy for London – called the London Plan – and keeping it under review.

*vi)* Housing, transport, office stock, skills and the public realm have all experienced under-investment. The benefits of economic buoyancy have not been shared between all Londoners.

*vii)* The result has been:

- increased difficulties in travelling around London, with heavy traffic and slow and unreliable journey times
- increasing pollution, damaged environments and chronic underinvestment.

*xiii)* ... Growth can only be accommodated without encroaching on open spaces if development takes place more intensively, leading to higher densities and plot ratios on existing brownfield sites. In short – London must become a more compact city.

*xiv)* The future scale and phasing of development should be integrated with the capacity of the public transport system and accessibility of different locations.

*xvi)* Clear spatial priorities are needed. ... Suburban town centres will also accommodate considerable growth.

### Residential car parking standards

12) Public transport accessibility should be used to assist in determining the appropriate residential density and the appropriate level of car parking provision, particularly for major developments.



February 2004

Various extracts from planning documents are in this report — they all have a blue flash across the top corner, like above.



### Policy 3C.2 Matching development to transport capacity

The Mayor and boroughs should consider proposals for development in terms of existing transport capacity, both at a corridor and local level. Where existing transport capacity is not sufficient to allow for travel generated by proposed developments, and no firm plans exist for a sufficient increase in capacity to cater for this, boroughs should ensure that development proposals are appropriately phased until it is known these requirements can be met. Developments with significant transport implications should include a Transport Assessment and Travel Plan as part of planning applications. ”

## The Brent Cross Railway

# The Brent Cross Site

The following five pages are taken from the **Brent Cross Development Framework**. They indicate the extent of the development and its transport connections. On the last page, we also give our response.

That is followed by an overall plan from the developers, produced in Spring 2007, and our proposed route and first four stations of the Brent Cross Railway (BCR).



All kinds of ultra-light-rail must be considered for the BCR. It is *possible* that Docklands Light Railway technology may provide the best solution — with tight curves and steep gradients possible, the proven intensive use of single track for parts of the route, and a high-quality and vandal-free environment.

We also believe (but cannot yet demonstrate) that likely usage levels of the line justify this high level of investment, since many public transport journeys become feasible for the first time.

DEVELOPMENT  
FRAMEWORK  
EXTRACTS (1 of 5)

Cricklewood, Brent Cross and West Hendon  
REGENERATION AREA  
DEVELOPMENT FRAMEWORK



This map is taken from the “Development Framework” document. [This page’s text is our wording.]

The main east-west road is the A406 North Circular. This is of motorway standard (at one time it was to be called the “M15”).

The north-south A5 Edgware Road, and the Midland/Thameslink railway are on the left.

The A41 Hendon Way, and the Northern Line Edgware branch are on the right.

The M1 starts from the big North Circular Road roundabout (there were originally plans to continue further south).

Barnet owns the freehold of Brent Cross Shopping Centre (light blue above).

Apart from West Hendon (top left) [Barnet](#) is to the east of the A5, and [Brent](#) is to the west.

The [Highways Agency](#) controls the M1, [Transport for London](#) the A406 and A41, and the [boroughs](#) the rest of the roads.

DEVELOPMENT  
FRAMEWORK  
EXTRACTS (2 of 5)



## Cricklewood, Brent Cross and West Hendon REGENERATION AREA DEVELOPMENT FRAMEWORK

DECEMBER 2005

CRICKLEWOOD has for a number of years been recognised, both at strategic and local levels as requiring regeneration. The 1970s Brent Cross shopping centre is in need of recreating itself, providing a much wider range of uses, and being fully integrated with its surroundings.

This Development Framework represents the fruitful co-operation of public and private sectors. The 20-year period it covers means that it must include flexibility, whilst ensuring it uses up-to-date best practice. It provides the necessary guidance for the private sector to secure the financial investment that will deliver successful and sustainable development.

**Ken Livingstone** Mayor of London

To bring [regeneration] about, the Council and the Greater London Authority adopted a unique partnership approach with the key stakeholders to devise this Development Framework.

The heart of this urban area will be a new town centre, with major new shopping and leisure developments. Up to 10,000 new homes will provide high quality accommodation for the future population. A commercial district set within the public realm will provide places of employment. The area will be accessible, and will benefit from community initiatives, including new schools and primary health care facilities.

Significant improvements to transport infrastructure are proposed, including a new [Thameslink] station, a new bridge over the A406 North Circular Road, and better connections to Brent Cross Underground station.

**Councillor Brian Salinger** Leader of Barnet Council

The Council appointed a team of designers led by consultants EDAW, to prepare a comprehensive plan for the area. The Framework has been prepared in collaboration with landowners and developers and their supporting technical teams. The Greater London Authority and Transport for London have provided inputs into the Framework, to provide the strategic context for decision-making by the Council.

It is intended to facilitate **innovative and creative proposals** [our emphasis] in the spirit of the overall vision, and provide a coherent planning and policy context for all future planning applications.

Travel in outer London is, and will remain, predominantly by car. This places significant pressure on available road space. Sustainable development on the scale envisaged within the Development Framework is only feasible if a high proportion of new trips can be made by non-car modes.



*Extracts from this and other documents have been edited for brevity, in a hopefully reasonable way. This full document is at [www.barnet.gov.uk](http://www.barnet.gov.uk)*



**Continued...**

(continued...)

## A New Town Centre

The regeneration area will be the heart of a new mixed-use development, and provide a new town centre for Barnet. The new town centre will be developed on both sides of the A406 North Circular Road, along a new High Street.

Radical alterations to the existing Brent Cross Shopping Centre are required. Existing surface car parking will be consolidated into multi-storey and/or underground car parking, and existing highway infrastructure will be rationalised. The existing Brent Cross Shopping Centre will be integrated with new uses, creating an outward-looking development, based around a new network of streets and squares.

The River Brent will be realigned to the south to create a new urban river, as well as providing more flexible development opportunities.

The new High Street on the north side of the A406 North Circular Road will be an open-air, car-free environment. New shops will complement and add to existing ones. Potential exists for residential apartments to overlook the new High Street.

The High Street will cross the A406 North Circular Road on a new bridge to a major new commercial district, located close to a new Thameslink railway station. On completion, there will be over 20,000 jobs in offices, media, IT and construction.

In the region of 10,000 new homes, for about 20,000 people will be built, using the latest thinking and technology in the design of modern homes.

## Accessibility

The transport vision is based on encouraging people to come to the area by public transport. This will be achieved by improvements in the accessibility of the area that will include:

- an additional main line railway station and associated public transport interchange
- a new bus station with modern facilities and improved services
- a high-quality transit system from Cricklewood Station to Brent Cross Shopping Centre and Brent Cross Underground Station, via the new town centre.

**Some people will continue to come to the area by car, as they do at the moment, and improvements to the highway network and new car parking are therefore proposed.** *[our emphasis]*

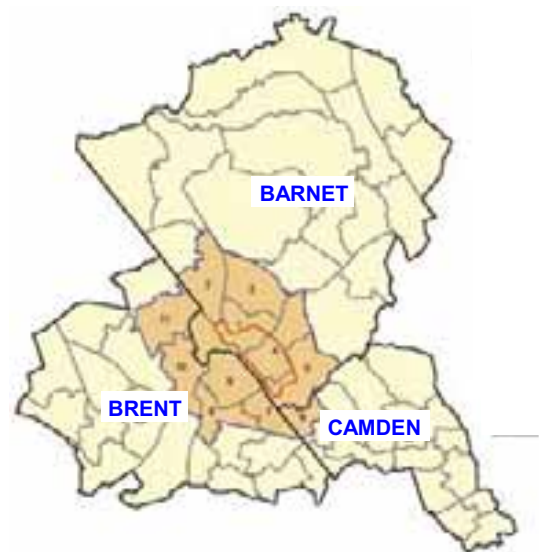
Some of this parking will be underground, and some will be on-street car parking or in multi-storey car parks.

Pedestrian and cycle links will be improved throughout the regeneration area, including a new pedestrian route that will link the High Street and Market Square to Brent Cross Underground station.

Cricklewood, Brent Cross and West Hendon  
REGENERATION AREA  
DEVELOPMENT FRAMEWORK



*The commercial district.*



*North of the North Circular Road, looking east.*

Continued...



(continued...)

## Movement Strategy

Overall, new trips to the area by different modes will be as shown in the table. A proportion of the rail and underground trips will access stations using the proposed Rapid Transit System (RTS). Walking trips are based on observations and are likely to include some longer distance movements from Hendon Central and Brent Cross underground stations.

Trips to commercial office developments have a greater proportion of public transport based trips (64%) than those to residential (37%).

In total, it is forecast that the land use proposals within the Framework will generate **132,800** new person trips per 12-hour weekday into the area, including **29,100** additional vehicles. An additional **35,800** passengers per day will arrive by bus, and **28,900** passengers will arrive by rail or underground. Walking and cycle journeys will be shorter in distance, and many of these will be made entirely within the area. The modal split relates to movement of people and does not include service vehicles. *[emphasis is in the report]*

## Integration

The improvements delivered by the transport vision will assist the integration of the new development with surrounding areas. This will include new and improved local access roads and pedestrian cycle links. The improved and extended Brent Cross bus station, the interchange at the additional railway station, and the existing Brent Cross Underground Station represent the key transport interchanges in the Framework.

The replacement Tempelhof Bridge over the A406 North Circular Road with improved provision for road users, including pedestrians, will be the key link within the new town centre.

## Delivering the Vision

Brent Cross bus and Underground station and the additional railway station will provide public transport interchanges through which a number of existing and new bus services will operate, thus extending links into surrounding areas. A Rapid Transit System (RTS) will serve the existing Cricklewood and additional station, the Market Square, Brent Cross Shopping Centre, the Eastern Lands, and Brent Cross Tube Station.

The construction of the railway station does not result in technical reasons why trains cannot continue to stop at the existing Cricklewood station.

## Rapid Transit System (RTS)

The service will operate with modern low floor and low emission vehicles providing dual entry and exit points. The service will run mainly on newly constructed or widened roads within the regeneration area to facilitate reliable operation.

Cricklewood, Brent Cross and West Hendon  
REGENERATION AREA  
DEVELOPMENT FRAMEWORK

|                                    |     |
|------------------------------------|-----|
| Public Transport                   | 49% |
| Bus                                | 27% |
| Rail                               | 16% |
| London Underground                 | 6%  |
| Private car (including passengers) | 34% |
| Walk                               | 13% |
| Cycle                              | 2%  |
| Other (including taxis)            | 2%  |



High Street bridge over North Circular Road.

Development proposals must provide additional traffic capacity at the following junctions:

- M1/A406 North Circular Road
- A406 North Circular Road/ A5 Staples Corner
- A406 North Circular Road / A41 Hendon Way

Quote (in this format) from the report.

Continued...

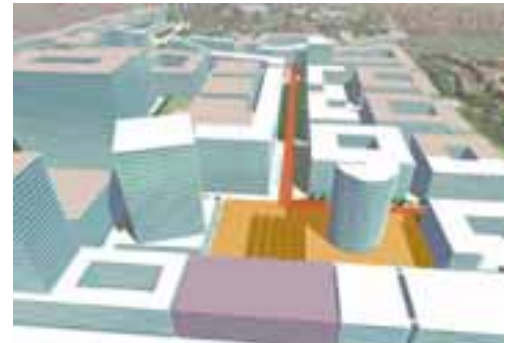
**DEVELOPMENT FRAMEWORK EXTRACTS (5 of 5)**

(continued...)



**Parking:** The following standards will be applied:

|   |   |
|---|---|
| Residential                             | 1 space per unit                                |
| B1-B8 Employment                        | 1 space per 300 m2                              |
| Retail and leisure in Town Centre North | 7,600 spaces (No more than currently permitted) |
| Other town centre retail                | As set out within the London Plan               |
| Hotels                                  | 1 space per 2 beds, plus per 5 conference seats |
| New Mainline Railway Station            | Only for disabled, and pick up and set down     |
| Community Facilities                    | 1 space per 3-5 Staff                           |
| Leisure (excluding Town Centre North)   | 1 space per 22 m2                               |
| Commercial (Freight & Waste Depots)     | Operational Parking                             |



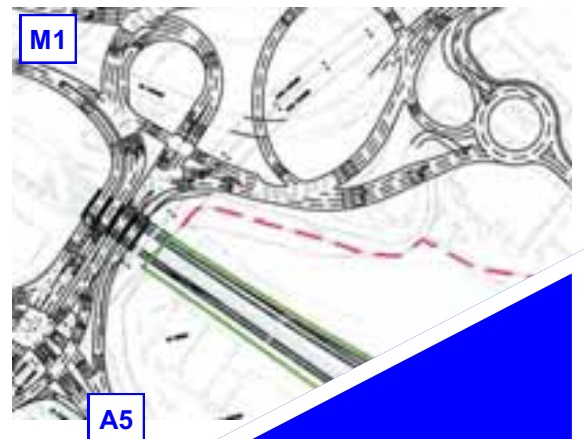
South side, looking east from Thameslink station.

**North of North Circular:** Surface car parks will be replaced by multi-storey and underground car parks. Improvements will be made to the west and east roundabouts.

**South of North Circular:** A dedicated public transport route along the High Street should be investigated. Parking will be provided in underground car parks.

**Commercial district:** Parking will be provided in basement car parks across the area. A multi-storey car park should also be provided close to the site entrance from the reconfigured M1 motorway junction *[on the road exiting right-hand side of this diagram]*.

**[South] Eastern Area:** A new road junction on the A41 Hendon Way will enhance access. Two new pedestrian bridges will be provided (across North Circular Road, and to Brent Cross tube station).



**What we say**

Behind the impressive presentation, this is still a “business as usual” scheme— based on massive car parking, and changes to the road network to provide more capacity for yet more traffic.

Thousands of parking spaces will be created – maybe 7,500 for the housing and many more in the commercial development. Many people will ignore bus services, which jam up as soon as they venture out of the spacious bus lanes and dedicated routes of the development area. The Underground station is still isolated, and will not be used by Shopping Centre visitors. A “rapid transit system” is proposed — we have been told this is a limited-stop bus service, and “probably withdrawn as demand falls”.

The current proposals neglect the transport impact, and the huge potential not just for improving, but for *transforming* urban transport. In an age of growing concern about climate change, the Brent Cross scheme must be designed as part of a land use pattern that minimises parking, encourages public transport use for longer journeys, and allows many more journeys to be made on foot and by bicycle.

We badly need an example of what can be done to cut traffic and create a sustainable urban fabric in outer London. It would be criminal to squander the chance that Brent Cross offers.

## What is proposed



This is a published map from the developers, in Spring 2007.

North of the North Circular Road, the Shopping Centre will double in size, and a multi-screen cinema, hotel and housing are planned.

To the south, the eastern side is mainly for housing, and the western side (last to be finished) for housing, offices, and a new Thameslink station.

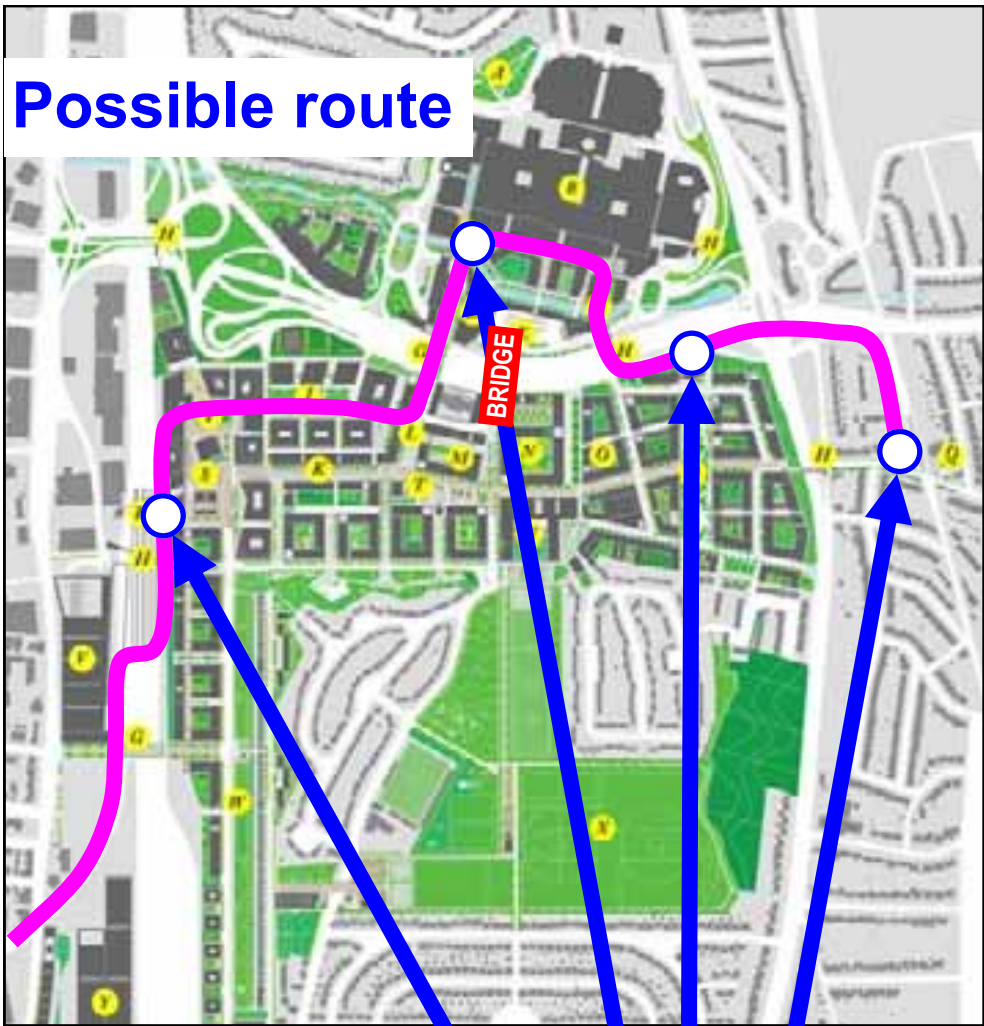
The plan is to unite the two sides of the North Circular Road, by building a new four-lane “High Street Bridge” (G) over the road. The current Tempelhof Avenue bridge there (see photo) would be demolished.

Later, an eastern pedestrian bridge over the North Circular Road would also be built (H).

The isolated Brent Cross (Northern Line) is on the extreme right (Q). The Shopping Centre bus station would be rebuilt on a new site (E).

The new Thameslink station is on the left (R). Note the two curving branches of the Dudden Hill freight-only railway, lower left, east of the planned goods transfer facility (Y). Cricklewood station is below that (Z).

*(The West Hendon area, off the map further north, is being dealt with separately by Barnet council.)*



# Possible route

This drawing shows a possible route for the Brent Cross Railway.

**Brent Cross (Northern Line) station** is next to the tube platforms, at the same level.

**Brent Cross South station** is sited near the new residential area. The track then turns north, sharing the proposed pedestrian bridge.

A possible site for **Brent Cross Shopping Centre station** is shown. Since it needs to be near to the bus station, that is moved to the west.

The track then uses the existing Tempelhof Avenue bridge, so the proposed High Street bridge is relocated to the east (shown in red above).



**Brent Cross Thameslink station** is sited close to the office development, next to the main line railway. It also has pedestrian access to the existing multi-screen cinema and retail park to the west, on the A5.

The railway is *single-track* eastwards from Brent Cross South station.

It is also *single-track* westwards, from the western side of the main line, which does not have to be crossed exactly where shown. (There also used to be a railway track *under* the Midland line, using one of the arches of the railway viaduct, shown right.)

The Brent Cross railway takes over the northernmost track-bed, of the northern branch of the Dudden Hill freight line, in order to pass underneath the A5 Edgware Road (bottom left of the main drawing above).





## Brent Cross (Northern Line) station

Brent Cross (Northern Line) is the nearest Underground station to the Shopping Centre. There are plans for a better bus connection, but that is still an unattractive proposition – and most people will continue to drive. We aim for a step change that will alter people's choice of transport.

Fortunately, Brent Cross (Northern Line) has existing space on its embankment for bypass lines, outside the two existing tube tracks and the island platform. (The extra tracks were removed in the 1930s.) One of these spaces will be used by the proposed Brent Cross Railway (BCR), to the west of the tube tracks, and at the same level.



The BCR platform will be on the western side of the single BCR track, partly supported on the existing embankment. Access will be from the intermediate level of the current station staircase, tunnelling under the northbound Northern Line track. A BCR passenger lift to street level will be needed, alongside another staircase, if the BCR station requires a second entrance independent of the Underground station.

A simple transfer (via the subway) will, for the first time, be an attractive proposition for travelling to the Shopping Centre and beyond.

Space for a BCR platform and track, alongside the northbound Northern Line (1923 pre-opening photograph!)

From the station, the BCR single track continues north as it descends from the embankment, and then turns west, next to the North Circular Road and a derelict house. Acoustic screening for the housing is probably necessary, also cutting noise from the North Circular.



The narrow slip road from the North Circular (shown by the red arrow) is due to be closed, so BCR trains will run unobstructed, to pass between the stilts of the Brent Cross A41 roundabout (yellow arrow) and head west.



## Brent Cross South station

The single BCR track will emerge from under the A41 roundabout (shown by the arrow) and become double track. It is proposed to build a Brent Cross South two-platform station somewhere in the area, to serve the new residential blocks to the south.

The BCR will be an attractive way for the residents to access the Northern Line or Thameslink to reach central London, and to generally use public transport instead of a car. This needs to be reflected in reduced provision of parking spaces in the new developments.



After the station, the BCR remains double track, and shares the new pedestrian bridge over the North Circular Road (roughly where the green line is shown). For economy, a single-track bridge could be built instead.

Even though Brent Cross South station is near to the end of the line, two platforms are necessary there for trains to pass, although perhaps not when the line first opens.

This section is similar to the Bow-Church-to-Pudding-Mill-Lane-to-Stratford single track on the Docklands Light Railway. However, distances on that line are much greater.

The A41 roundabout was built in 1965, and badly needs maintenance. Any remedial work needs to preserve the proposed route under the structure.



## Brent Cross Shopping Centre station

After crossing the pedestrian bridge (shown in green on the right) the BCR reaches the Shopping Centre station.

This needs to be close enough to the shops to be considered part of the Shopping Centre, but with independent out-of-hours access to the new bus station, multi-screen cinema, hotel, and new housing to the west.

The Shopping - Centre - station - to - Thameslink - station BCR track should be considered the core section of the railway. But public transport will (hopefully) be transformed in the years ahead, so the Shopping Centre station should be on a north-south axis (maybe the green circle shown) to permit *another* BCR branch to head off north-west in the future (the yellow arrow). Passive provision should be made at the station for a third or even fourth track.

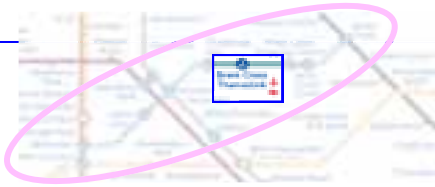
The railway through the site could be at basement or first floor level. The use of bridges over the North Circular Road, and the crossing of the River Brent clearly favour the latter. The route must be safeguarded by the developers while the scheme is being developed.



Impression of new Woolwich DLR station.

The bus station is currently going to be rebuilt further south, but now needs to be moved south-west instead.

The BCR tracks take over the current Tempelhof Avenue road bridge, so the new "High Street Bridge" must be built to the east (the red line) and could possibly be *exactly* aligned with the Shopping Centre main axis, if there were any design merit in doing so.



# Brent Cross Thameslink station

The main line Thameslink station (roughly the red rectangle shown here) would be built when the commercial office area was developed. That can only fully happen when various current leases expire. The commercial development will no doubt be marketed as only a few minutes away from St. Pancras International, and its Channel Tunnel connections.

The station will be for twelve-car trains. Hendon and Cricklewood stations, to the north and south, were going to be restricted to eight cars, but they are now going to be lengthened. There will be both eight- and twelve-car trains indefinitely, since some south London platforms are *not* being extended.

The Brent Cross Railway might precede the Thameslink station by some years, somehow getting from the top yellow arrow to the bottom yellow arrow, but using a route that minimised expenditure later. (There is also the old railway route *under* the main line viaduct, currently used by a North Circular Road slip road.)

A possible expansion of the BCR, within a future “pro-public-transport world”, would be to take a branch towards Cricklewood (the green arrow). This could use one and then both of the underused freight lines, which run alongside the four main lines from Hendon in the north, to the Hampstead tunnels in the south.

There is a relocated waste transfer depot, and a new freight transfer depot proposed for sites to the west of the main line railway, and the BCR must not compromise those facilities in any way.

The Dudden Hill freight branch, which heads off to the west, would need to give up part of its northernmost track-bed to the BCR, in order for the BCR to pass under the A5 Edgware Road (visible bottom left, in the bottom photograph).

As long as the depots mentioned above retained sufficient access and marshalling space, the loss of this track would not jeopardise their success, since even highly successful depots would only require infrequent trains, and the use of a single Dudden Hill track would be manageable (even if not ideal).

There would still be double track on the *other* Dudden Hill branch connection to the main line, a little further south.

The recent “Freight Route Utilisation Strategy” by Network Rail sees no significant extra freight traffic passing through the area, other than possibly servicing these new depots.





## The Brent Cross Railway

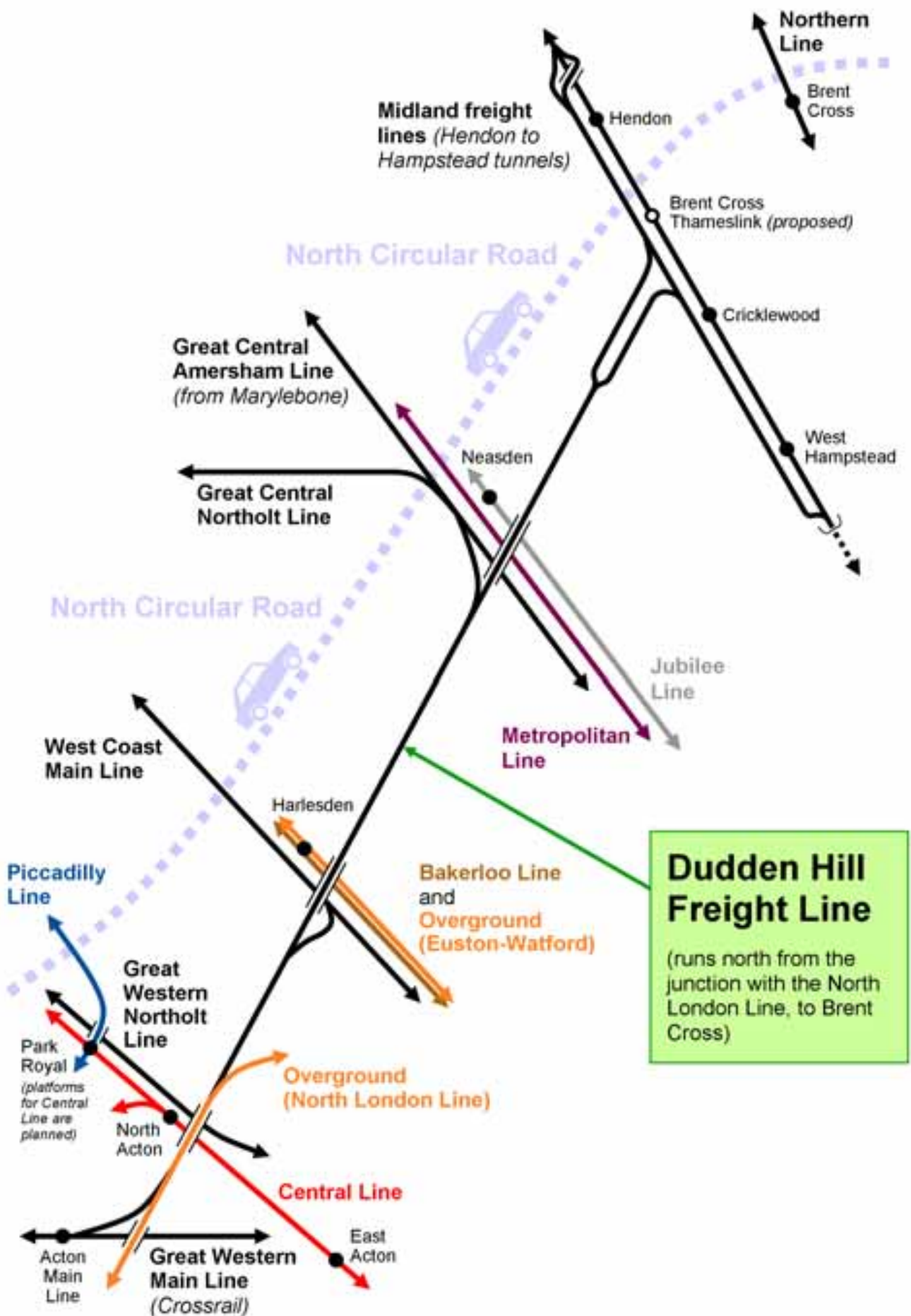
# Western Section



The following two pages describe the Dudden Hill (or “Dudding Hill”) freight line corridor through north-west London, which we would use.

We then include extracts from two recent reports, the **Cross-London Route Utilisation Strategy** and the **London Rail Freight Strategy**.

Finally, we describe four stations for the Brent Cross Railway. *More* stations are possible (see the next section) although that is more likely with ultra-light-rail options than with the higher costs of Docklands Light Railway technology.



# Dudden Hill\* Freight Line

\* Railway usage is usually "Dudding Hill", but there is a "Dudden Hill" Lane and a "Dudden Hill" Brent council ward.

"Dudding Hill" was historically regarded as the more genteel spelling of the name!

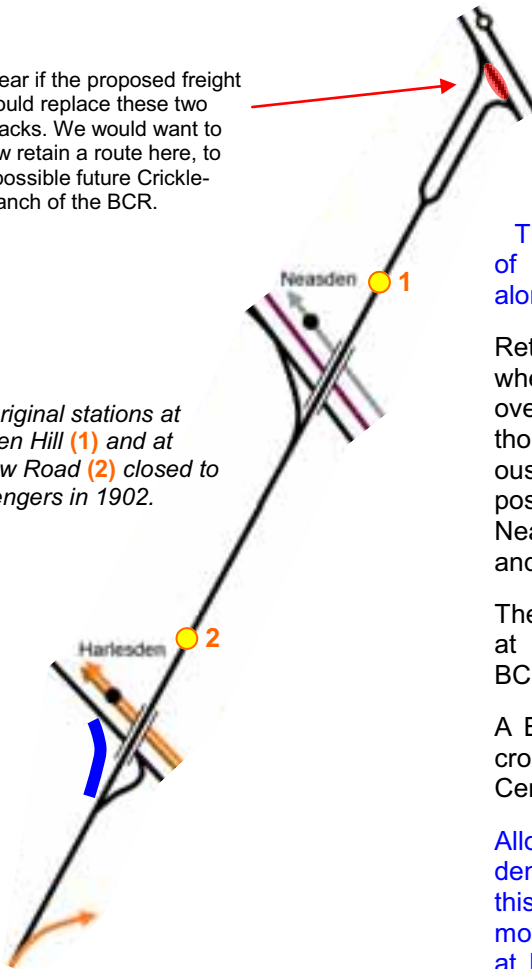
Like the Midland Main Line freight tracks, the heyday of this line was providing coal from Derbyshire and bricks from Bedfordshire to north and west London.

The Dudden Hill Line figured briefly in the 1990s Crossrail plan, and a later Heathrow-to-St-Pancras shuttle. Since any "High Speed 2" line might use the Great Western Northolt Line, to Euston and to "High Speed 1" via Camden Road, there is unlikely to be a third chance of fame. (Any expansion of Crossrail would only happen after the Crossrail 2 line, and would now probably use a tunnel to reach Neasden, for Harrow-on-the-Hill.)

There is heavy freight traffic on the North London Line to Stratford and Barking, but any diversion via the Dudden Hill Line and then south is unattractive (even if possible). Such journeys need to share the Midland Hampstead tunnels, then cross over to join the Gospel-Oak-to-Barking line at Kentish Town.

It is unclear if the proposed freight depot would replace these two freight tracks. We would want to somehow retain a route here, to allow a possible future Cricklewood branch of the BCR.

The original stations at Dudden Hill (1) and at Harrow Road (2) closed to passengers in 1902.



Day-to-day Dudden Hill Line traffic includes compacted household waste for landfill, cement trains for the London Cement depot at Neasden, various other mineral trains, and, once in a blue moon, a chartered passenger train.

The Brent Cross Railway (BCR) would take over some of the northernmost Dudden Hill track-bed, but run alongside the existing two tracks where possible.

Retaining a second track for Network Rail is only useful where whole train lengths are possible. This allows overtaking while trains wait to move off elsewhere (not thought possible at present) as well as the more obvious trains passing in opposite directions. It would be possible to retain certain two-track sections, but north of Neasden it is probably not needed, given the few trains and the long stretches of track in the triangular junction.

The Network Rail semaphore signalling, while adequate at present, would presumably be replaced when the BCR was built alongside.

A BCR flyover (or under) is necessary at Neasden, to cross the single-track Network Rail chord to the Great Central, the London Cement depot, and other sidings.

Allowing the BCR to take over the **southernmost** Dudden Hill track-bed instead cannot be ruled out, because this Neasden flyover would then not be needed. A removed chord (shown in blue) could **also** be reinstated at Harlesden. However, reaching the southern side of the Brent Cross triangular junction would be difficult, and station locations along the line would be worse.

The BCR will ideally run a 10-minute-minimum service, for "turn up and go", and to minimise vandalism. *More frequent* service patterns will partly depend on how many two-track BCR sections are possible. Trains pausing too much, to await oncoming trains at passing loops or stations, will detract from the image of a fast service.



Dudden Hill Line, through Gladstone Park, maybe in 1960s.

(Brent Archive)

CROSS-LONDON  
R.U.S.  
EXTRACTS (1 of 1)



“

2.1.1 The Cross London RUS focuses on the orbital routes around London rather than looking at those routes which cross, or which are planned to cross, the capital.

Morning peak capacity utilisation based on December 2004 timetable



Dudden Hill Line shown by blue arrow.

- The **Dudding Hill Branch** is a freight only line linking the Midland Main Line to the North London Line at Acton Wells Junction. It is 2-track and is unelectrified. Line speed is up to 30mph. Signalling is controlled from three mechanical and electromechanical signal boxes.

3.8.4 Care should be exercised in interpreting the maps. It should not be assumed that a low Capacity Utilisation Index on a given section of route means that more trains can be run on it in practice. For example, whilst the Dudding Hill line appears under-exploited, it is the availability of spare capacity on the routes at each end of the line that would determine how many more trains could operate.

3.11.1 The North, South and West London Lines, together with the Dudding Hill route, act as important freight diversionary routes when other lines are closed for maintenance.

Table 5.9: Freight path requirements in 2014 and 2023 (paths each way per day)

| Section                        | Average paths used in 2005 | Maximum paths used in 2005 | Planned paths 2005 | Additional paths required by 2014 | Additional paths required by 2023 (with diversion to Cross Country route) |
|--------------------------------|----------------------------|----------------------------|--------------------|-----------------------------------|---|
| Acton Canal Wharf – Neasden Jn | 10                         | 17                         | 25                 | 31                                | 59  |

| Acton Canal Wharf – Neasden Jn |           |           |
|--------------------------------|-----------|-----------|
| COMMODITY                      | Av paths  | Max paths |
| Aggregate                      | 7         | 10        |
| Automotive                     | 0         | 1         |
| Channel Tunnel                 | 0         | 0         |
| Intermodal                     | 0         | 1         |
| Infrastructure                 | 0         | 1         |
| Light engines                  | 1         | 2         |
| Other                          | 2         | N/A       |
| <b>Total</b>                   | <b>10</b> |           |

4.4.23 In the **rail infrastructure maintenance and renewal** market, in addition to Network Rail’s own traffic, Metronet is investing in a new fleet of engineering trains which are scheduled to enter service in August 2006. They will work on track renewals on surface sections of the Metropolitan, District and Piccadilly Lines where they can be accessed from Network Rail infrastructure.

The fleet will be stabled at Wellingborough and will access the Underground system only during possessions, using existing boundary points at Amersham, Harrow-on-the-Hill, Gunnersbury, East Putney, Wimbledon and a new link at Upminster. This will, in particular, give rise to an increase in the use of the Dudding Hill Line at weekends.”

**What we say:** There are currently only ten trains a day (as far as Neasden) and diversionary use is minor. **It would be possible to use the line for another valuable purpose, with little or no impact on existing services.**

LONDON RAIL FREIGHT STRATEGY EXTRACTS (1 of 1)



OVER the last year, encouraging progress has been made in planning how the future growth [of freight] can be accommodated on the rail network. Network Rail's Freight Route Utilisation Strategy, published in March 2007, has helped set the agenda, while the Government has recognised the case for funding infrastructure enhancement schemes.

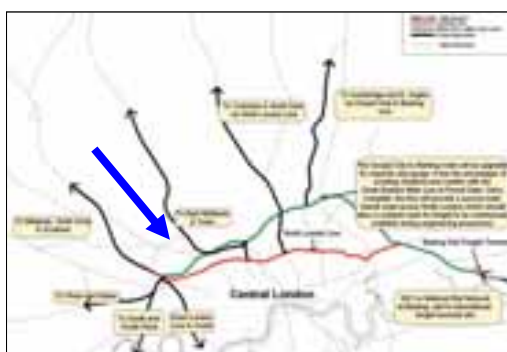
Transport for London supports freight on rail because it helps deliver progress with a number of the Mayor's priorities. For example; per tonne carried, rail freight produces nearly 90% fewer emissions than HGVs and it is also considerably safer than road freight.

The strategy ... demonstrates a commitment to growing the railways' contribution, passenger and freight, making London a more sustainable and liveable city.

By **increasing rail's mode share**, rail can make the transport system more sustainable by meeting reduction targets for CO2 emissions, as set out in the Mayor's Climate Change Action Plan. This will increase the demand for capacity on the rail network which serves London, and at terminals in and around the city.



Dudden Hill Line is arrowed above and below.



Rail routes after Channel Tunnel transshipment.

Initiatives to promote **terminal development**:

- Increase the opportunities for using rail in logistics operations, by encouraging the development of large-scale rail connected distribution facilities in appropriate locations
- Identify and promote suitable sites in appropriate locations in London to support the construction and other industries that rail can serve.

The following approach will be required:

- Joint business cases that capture benefits from enhancements to both freight and passenger users
- Ensuring that new freight facilities are included in London's strategic planning frameworks, and existing terminal sites safeguarded where appropriate.



**What we say:** Cricklewood figures as both a waste and a freight transfer facility. **We must ensure nothing proposed for our Brent Cross Railway reduces ease of access or capacity.**



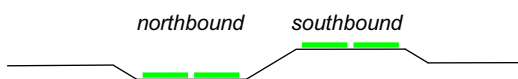
# Gladstone Park station

The two branches of the Dudden Hill Line (one *under* the A5 Edgware Road, one *over* it) run parallel a considerable distance (A) before joining at a road bridge in Gladstone Park. It might be possible to join the two branches sooner (once at, or nearly the same height) thereby giving the BCR two of the four track-beds (B).

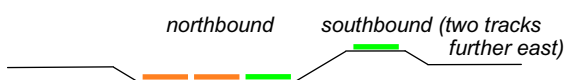
Assuming the road bridge was not widened, Gladstone Park station could then be built to the east of the bridge, with an island platform reached from it, and maybe sloping down, to avoid needing a lift. The BCR would then narrow to one track to pass under the bridge.



(A) CURRENT: four Network Rail tracks



(B) POSSIBLE: two BCR tracks, two Network Rail



It is true that this is “in the middle of nowhere”, but there is considerable housing to the north and the south-east without good public transport, and as long as personal security is considered adequate, a station here is certainly justified. Thames Water, which has offices and workshops on its land nearby, might be persuaded to contribute to the cost.

It is undesirable to widen the railway corridor through the very attractive park. Hopefully, Network Rail only needs one track here. The BCR would need a *second* track if the station were built to the west of the bridge instead of the east, or if the bridge were widened. Local park supporters might possibly accept the “net public good” for this *local* railway, which would also bring more park visitors. At best, the BCR only needs one track here, leaving the park’s railway corridor untouched.



To the west, the housing means that only one BCR track (or two interwoven tracks, to avoid points) is possible.



## Neasden station (for Jubilee Line)

A station here cannot be as close to the Underground station (the purple arrow) as at Brent Cross, but only a short walk is necessary.

The lowest cost BCR station would be to build a single platform (shown in yellow) with a ramp (the red line) up from Neasden Lane, to avoid the need for a lift. However, a single platform would be inadequate here.



There are existing bridge piers for two extra tracks over the Jubilee / Metropolitan / Great Central lines. A second BCR track can start just after (or on, or before) these piers, and two tracks then reach Neasden BCR station, alongside the single Network Rail track.



The island platform can still be reached up the slope, with just pedestrian headroom needed under the northbound track, and maybe still no lift. An extra railway bridge is then required over Neasden Lane. Visual screening is needed to stop overlooking of the housing, perhaps using wooden fencing and thickening the tree line with conifers.

After Neasden Lane, the two BCR tracks pass over (or under) the single-track Great Central chord. There is then sufficient room for *two* BCR tracks, alongside *two* NR ones, as far as the next station.

Notice in the second photo the closeness of the North Circular Road (top left). A BCR **diversion**, via new platforms at Neasden (Jubilee Line) station, to an additional "IKEA / Tesco" station and back to the Dudden Hill Line, would cut car use, but is presumably unaffordable. There is also enough land to build a **triangular junction** at Neasden for a BCR branch to Wembley, maybe serving the housing to the south, and then the development area, using remaining parts of the 1923 loop-line and "Never-Stop Railway" track-beds.



## Taylors Lane station

Four tracks, if required, are possible all the way to the Taylors Lane road bridge and beyond. However, only two tracks in total are possible just off the bottom edge of the large photograph, so Network Rail would probably be down to one track by the bridge. The smaller photograph of the bridge itself shows the possibility of slewing the NR track to the right on the bridge, if necessary.

Note that the old sidings to Taylors Lane power station have been severed, but provide an excellent possible site for a Brent Cross Railway stabling yard and depot.



*(The alarming state of the track on the bridge is because Google has joined together two photographs rather badly!)*

The station, with an island platform between two BCR tracks, will be located to the south of the bridge. It will provide considerable social inclusion benefits for this low-income area with very poor public transport. Visual screening of the housing may be necessary.

The road directly west from the bridge continues as a footpath past allotments, and then to Brentfield Road and Neasden Temple. This could be improved (with temple funds?) to provide a safe and attractive route to the station for the large residential area to the west, and the many temple visitors who currently travel by car.







## Harlesden station (for Bakerloo Line and Overground)

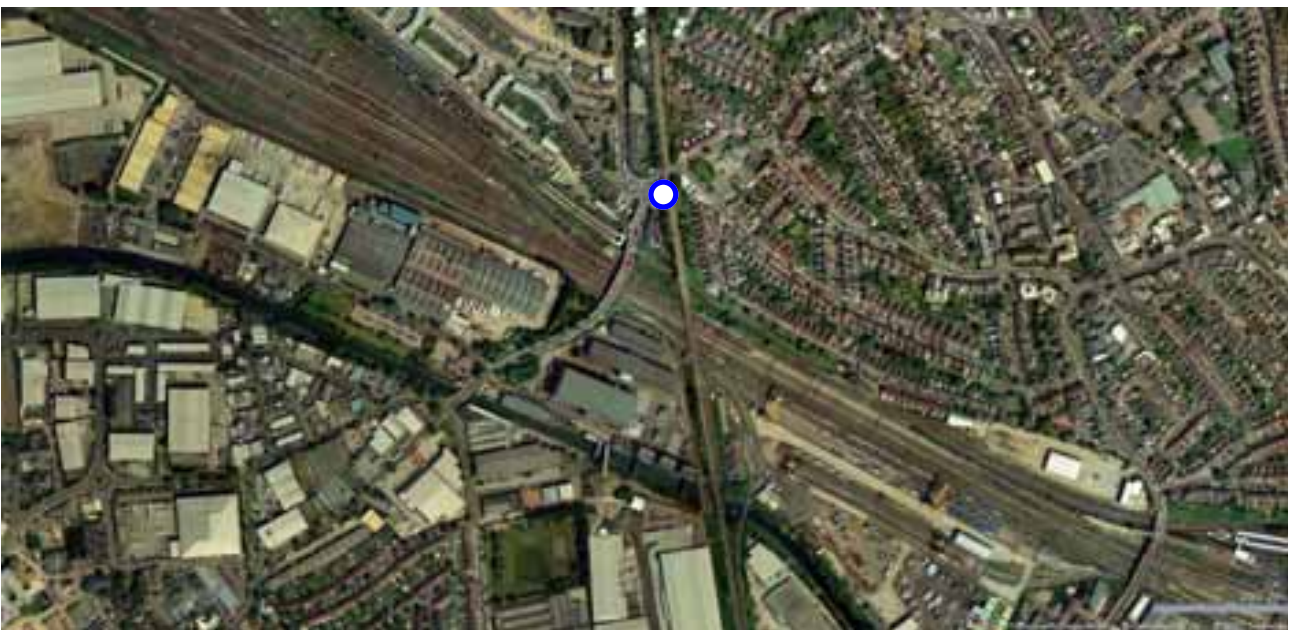
After a single-track BCR section, the single-platform station is reached just south of the Acton Lane bridge. This is only a short walk from the Bakerloo Line / Overground station on the other side of the road, and also gives walking or bus access to Park Royal to the south.

A zig-zag pathway up to the platform, maybe with steps straight up the middle, could possibly avoid the need for a lift. This site is just opposite a busy T-junction, so visibility for personal security is excellent.

Providing a second platform later on the embankment is possible, so the design needs to take that into account.

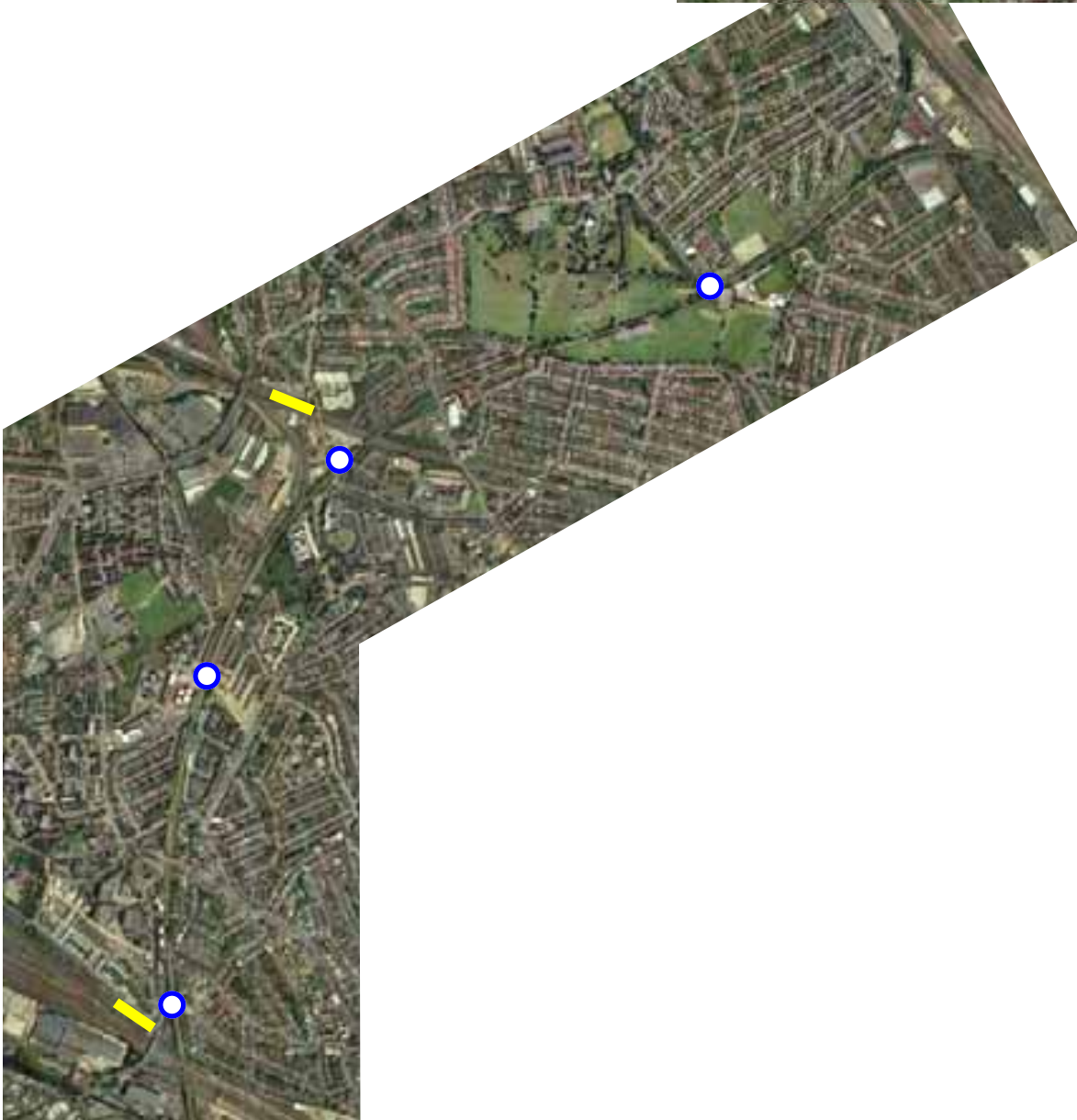


Network Rail retains the rest of the Dudden Hill Line, unless a BCR extension were to be built, or a BCR stabling yard and depot provided, south of the West Coast Main Line and Grand Union Canal, in Park Royal.



# The Brent Cross Railway

## Running trains

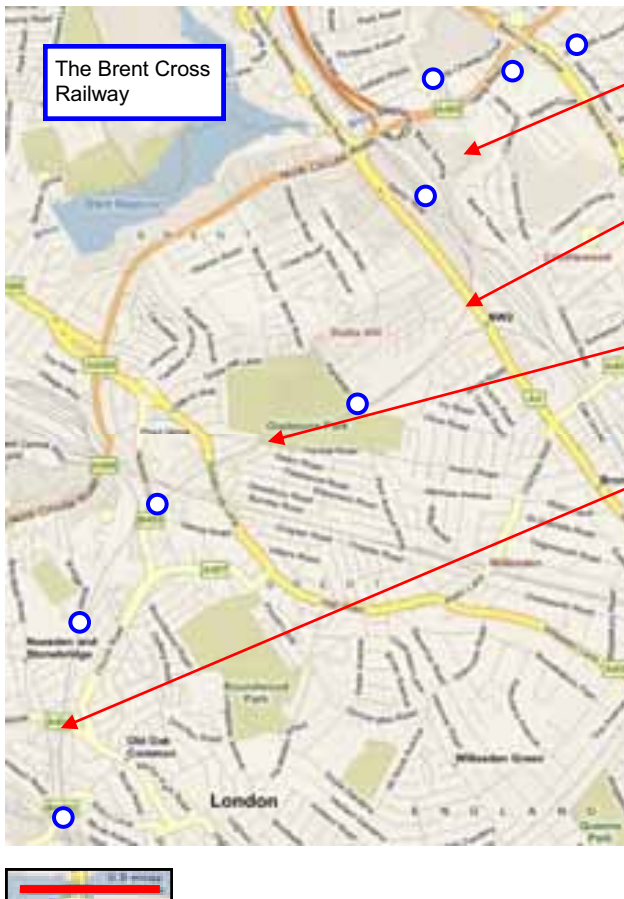


## Number of stations

The two maps below are to the same scale (half-a-mile is shown in the separate box below).

It is clear that the Brent Cross Railway (BCR) is planned with a comparable but somewhat lower density of stations, compared to the Docklands Light Railway (DLR).

There is potential for extra *or alternative* stations, although only one is likely to be fundable at first:

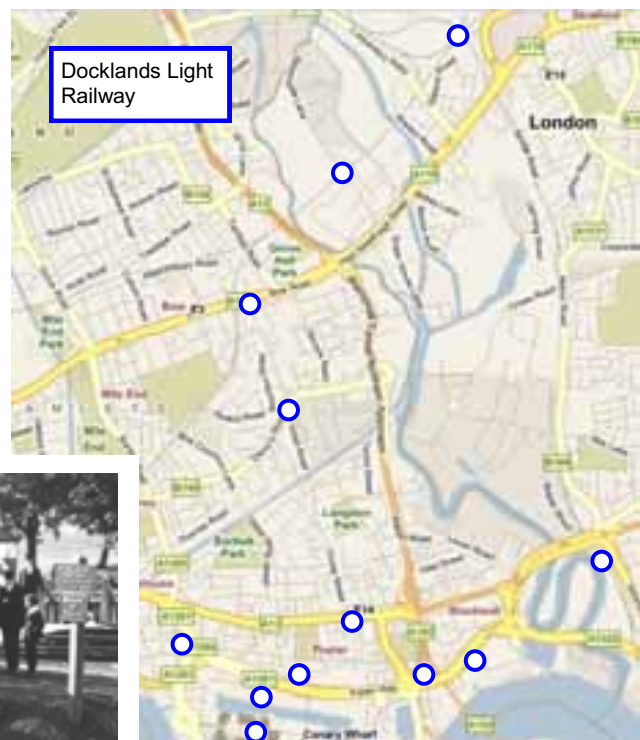


(the most likely) A **Business Quarter station**, which would also serve the west of the residential area

An A5 **Edgware Road (Dollis Hill) station**, to the west of the main road

A **Gladstone Park West station**, at an existing foot-bridge over the tracks (east of the original station)

A **Harrow Road station**, site of the *other* old station, with easy access but on a single-track BCR section.

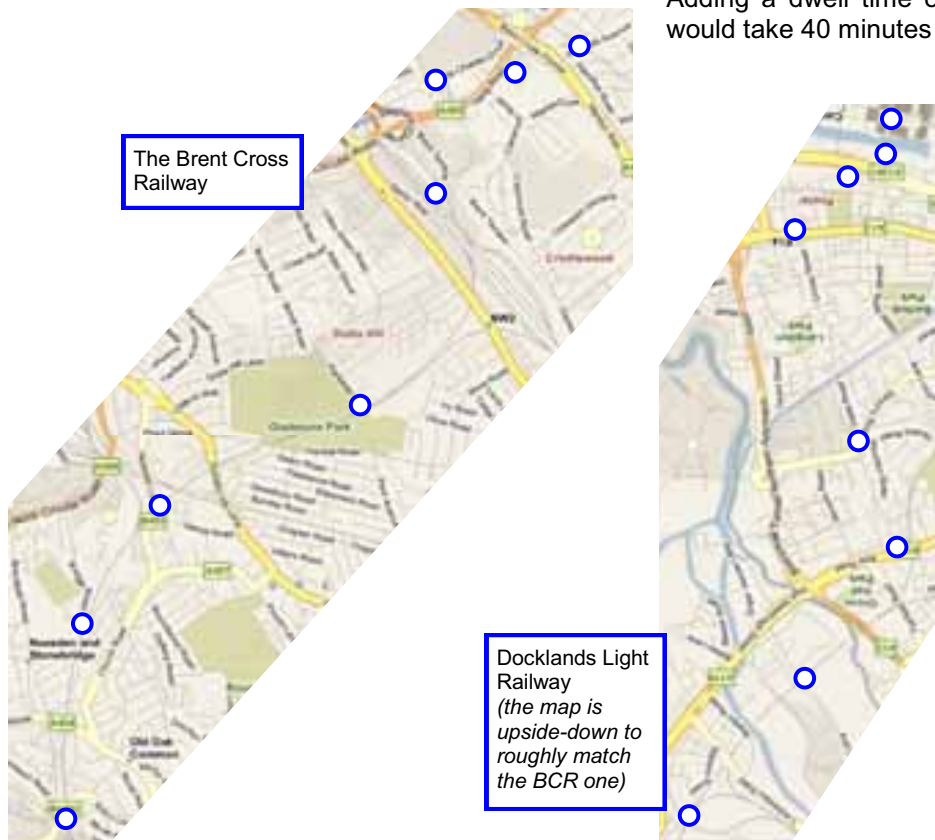


"Gladstone Park West" BCR station, in 1901. (Brent Archive)



(Langdon Park station has opened in December 2007, but is not shown)

## Number of trains



The two maps below, to the same scale, show a similar eight-station section of the BCR and DLR.

The journey between Stratford and Canary Wharf (on the right-hand map below) takes 13 minutes.

Assuming slightly longer distances, and perhaps a nominal addition for single-track constraints, that might become 16 minutes on the whole of the BCR, between Harlesden and Brent Cross (Northern Line).

Adding a dwell time of 4 minutes at each terminus, it would take 40 minutes (16+4+16+4) for a round trip.

This suggests that *four* BCR trains could provide a 10-minute service, and *five* trains an 8-minute peak service, assuming there were enough passing places. (Alternatively, five trains could provide a 10-minute service with an extra Business Quarter station, and/or extending into Park Royal).

There could therefore be five or six trains in the fleet, allowing one to be under maintenance. Even an extra train failure would still allow three or four trains to operate an acceptable service, using shorter dwell times than usual.

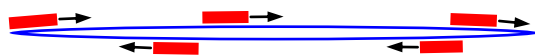
The DLR currently operates two-car trains, each car being two articulated sections. The trains are being lengthened to three cars by 2010, and various disruptive platform extensions are needed.

The BCR should be built with two-car-length platforms, with a high expectation that extensions beyond that will never be needed.

The BCR will start with only one-car trains. Only peak-hour overcrowding would force that to change, but a 6-minute peak service (with 7 trains in use) would seem to be a much cheaper option, if the signalling, power supplies, and single-track sections could cope (and with a second Harlesden platform).

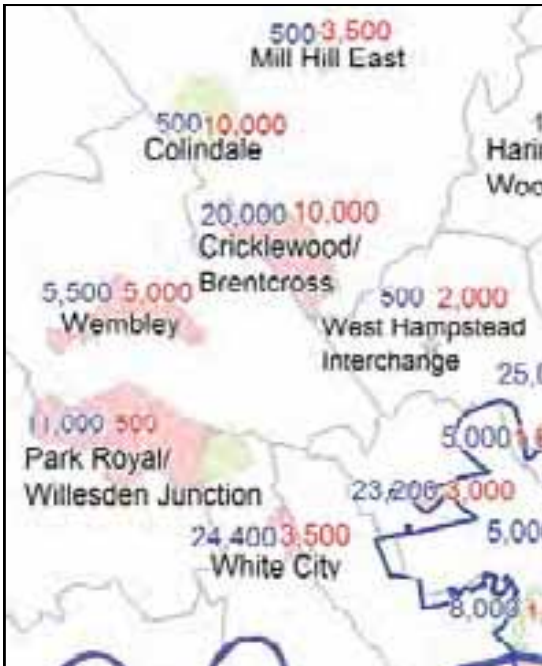
It is reported that high re-signalling costs (and maybe overcrowded junctions) on the DLR helped tip the balance towards longer trains, not a more frequent service.

Transport for London has twenty years of experience with the DLR to apply to the design of the BCR. This includes how the length of single-track sections and passing loops can be fine-tuned, to allow various possible service patterns.



(X) trains need (X-1) passing places!

## Risks, costs, threats, politics



In promoting an expensive “DLR” solution for the Brent Cross Railway, we must not ignore ultra-light-rail solutions. The DLR will only ever be a segregated railway (indeed that was one reason Stratford station was chosen for one branch, instead of the Mile End Road).

An ultra-light-railway could have on-road sections, and be cheaper, perhaps allowing the project to proceed.

We do, however, want a high-quality environment, for wide acceptance by car users, and the desired modal shift. The single member of BCR staff on board should be **maintaining** that environment, however passively, not always sitting in a separate cab at the front.

The BCR could be built as “DLR-lite” to reduce costs. Train speeds or acceleration could be lowered, to reduce sub-station demands. All the old NR track could be reused, platform canopies shortened, step-free access ramps used, not lifts, and only single-car platforms built.

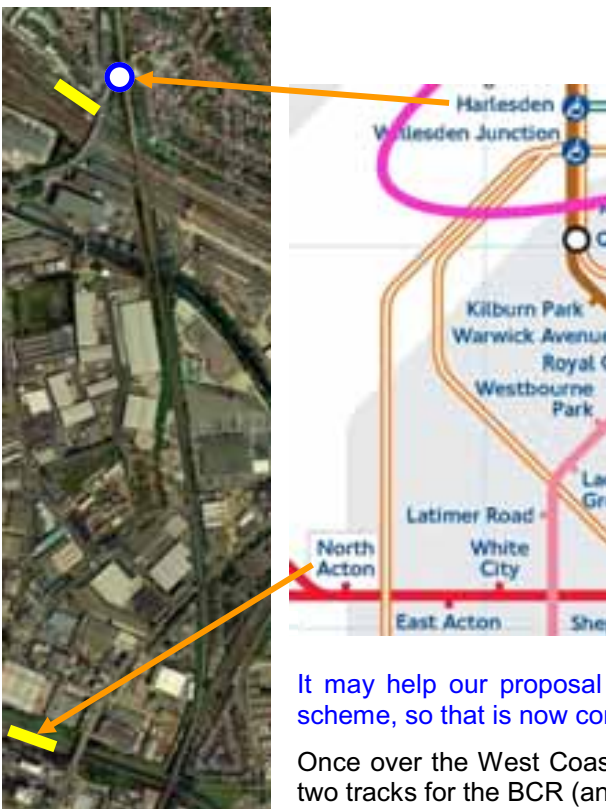
Yet there is much to gain from common standards with the DLR, with an interchange of personnel (under a single new contract) and common trains, signalling equipment, power supplies and maintenance arrangements. (There could be a rail-based route between the two systems for major maintenance, if that lowered costs.)

If the money were found, who might object to the new railway? There is certainly housing near some of the line. Generally there is no planning law to stop extra trains on a railway line, but if promoted as local light-weight trains (“**local trains for local people!**”) then criticism might be muted. Acoustic screening would be welcome in reducing heavy rail and North Circular Road noise in places, as well as any caused by the BCR.

Network Rail would need convincing that the loss of track proposed would still leave a workable railway, and that signalling changes were worthwhile investments.

Obviously, construction of the BCR will not happen without major financial support from the Brent Cross developers. They need to operate in a planning environment that greatly reduces the importance of the private car at Brent Cross, and increases that of quality public transport (“quality”, so people will want to use it!)

The BCR project will also rely on London-wide and local borough politicians maintaining, and increasing, the change of direction in planning policy.

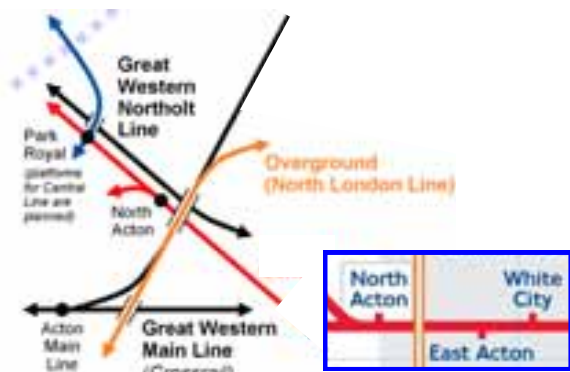
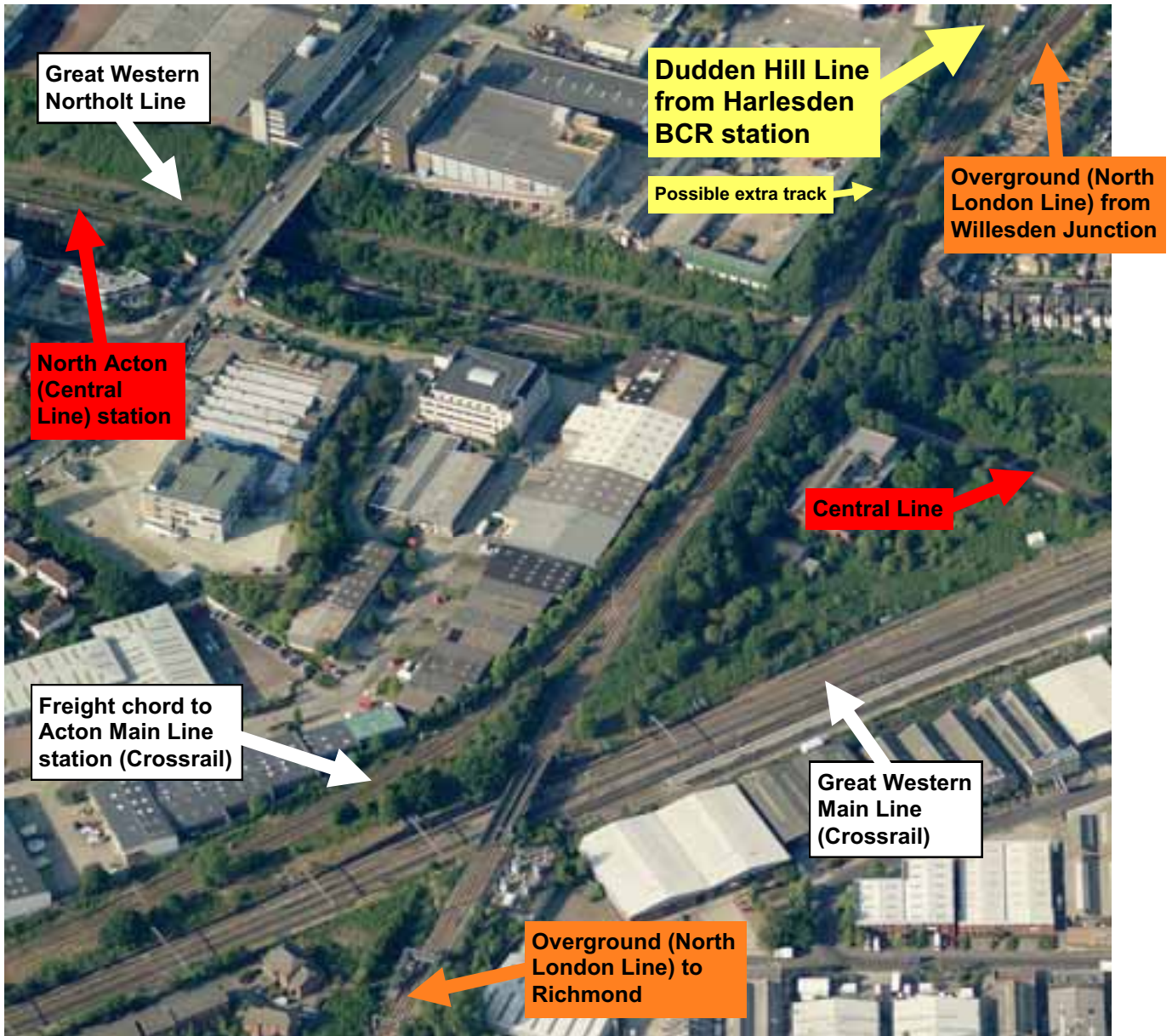


It may help our proposal by continuing south towards Park Royal in our Phase One scheme, so that is now considered.

Once over the West Coast Main Line bridge, and even before the Grand Union Canal, two tracks for the BCR (and one NR track) are possible.

# Park Royal options

The North London Line is too strategic to be disturbed by the BCR, but there is room to fit one or even two tracks alongside it, south from the Dudden Hill junction. There have been suggestions of a Bakerloo Line branch from Queens Park to North Acton, and/or moving North Acton (Central Line) station to the east of the Victoria Road bridge, for a North London Line interchange.



Discounting those possibilities, the BCR could either *continue* and take over the northernmost chord down to the Great Western Main Line, to terminate at Acton Main Line (Crossrail) — a very attractive idea, but probably unacceptable, due to freight traffic congestion — or turn west to North Acton (Central Line) station.

(Technically it could also turn east, since there is the unused track-bed of a branch from the Great Western Northolt Line to East Acton (Central Line) station, and originally on to White City, but there is little point in that.)

## North Acton station (for Central Line)

There are **six** track-beds at North Acton station. Starting from the north, two are for the Great Western Northolt Line, currently down to one track. This is being promoted as a route out of London for High Speed 2.

Next is the old freight line, forming the branch to White City and the West London Line just mentioned. The Central Line has taken over one of the track-beds at North Acton station, and converted its original single-face platform into an island platform.

To the west of the station, there is an unused bridge under the A40 Western Avenue from these freight lines to Park Royal factories, but it is hard to see any fresh use for this.

Finally, there are the two original Central Line tracks. The middle of what are now *three* platforms is used by terminating trains **(A)**. Beyond North Acton, to the west,

the Central Line splits into Ealing Broadway and West Ruislip branches at a flying junction.

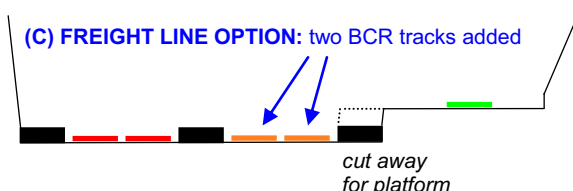
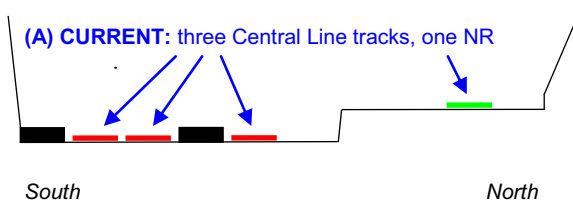
The next station on the West Ruislip branch is currently Hanger Lane, but a new interchange station at Park Royal (Piccadilly Line) is promised (and Hanger Lane station could possibly then be moved further west).

If the Brent Cross Railway is not to reach Acton Main Line station (for Crossrail and a Heathrow connection) then North Acton is a good alternative (with Crossrail reachable at Ealing Broadway by the Central Line).

To reach the station, the BCR could be built into the edge of the cutting, down to the Great Western Northolt Line. At the station, *two* BCR tracks, an island platform, and *one* (low speed) Northolt NR track would all just fit **(B)**. This would leave the BCR to the north of all other tracks, maybe useful if the line were extended west.

At greater cost, the BCR could descend to the central freight lines, and take over the northern of the three Central Line platforms. There is already a Central Line third track between North Acton and the flying junction, and another could be built to the east, so Underground trains could still terminate from either direction. A disadvantage is that the BCR might need to cross over (or under) the Northolt Line track, if extended further west.

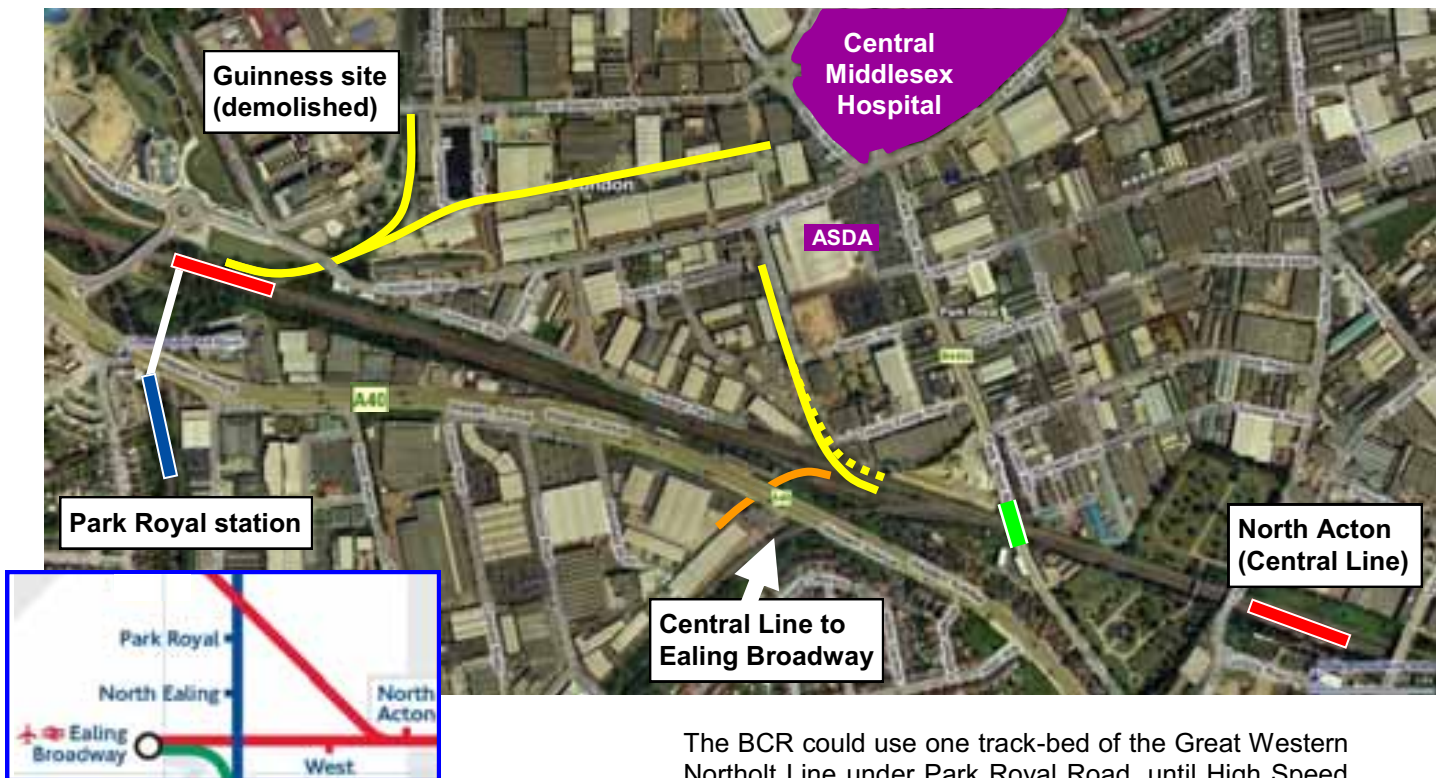
A second BCR platform could be cut into the space of the Northolt Line westbound platform, reached from the existing station footbridge, but not since the 1960s **(C)**. High Speed 2 would thunder past unaffected!



# And so to Park Royal

The Park Royal estate is huge, unattractive, and has never had good public transport. If the Brent Cross Railway reached North Acton (Central Line), then an extension there could dramatically improve access.

A suitable terminus for the BCR is the proposed Central Line station at Park Royal (on the left below) which is currently only served by the Piccadilly Line — the Rayners Lane branch, not the Heathrow one. There is an up-market office campus there, developed by Diageo on the Guinness site, which has yet to be successful.

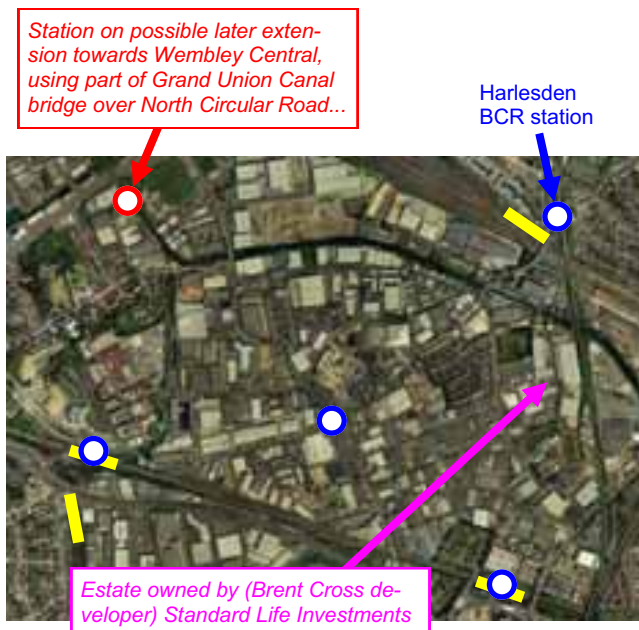


The BCR could use one track-bed of the Great Western Northolt Line under Park Royal Road, until High Speed 2 rebuilt the bridge (shown in green). There would then be an extra station between North Acton and Park Royal, but where?

The orange line shows the old freight track-bed under the A40 Western Avenue. There is a multi-screen cinema and other attractions along Western Avenue here, but not enough to send the BCR south of the A40.

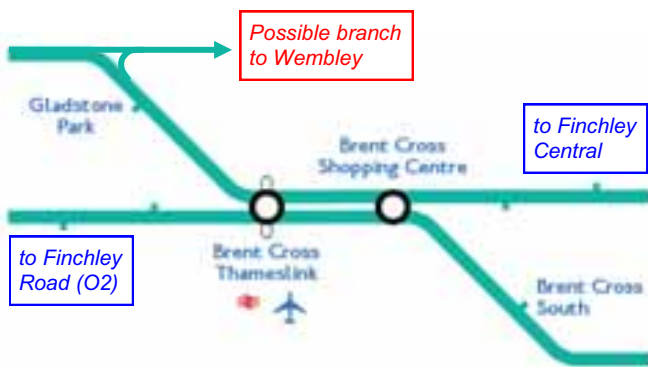
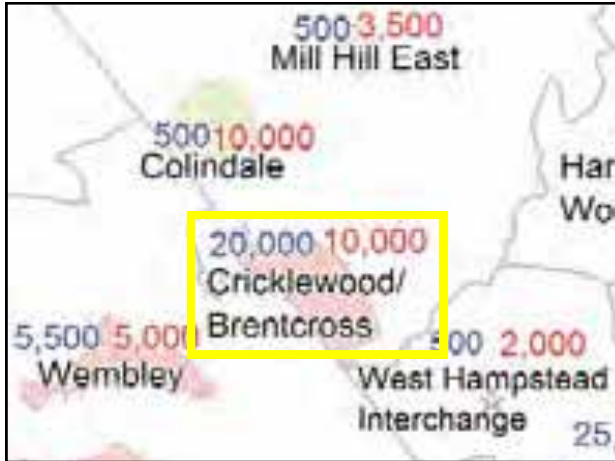
A station could be built on the main alignment, half-way, with pedestrian access from both sides of the A40, including the residential area to the south. However, such a station would still be underused.

The best choice would be to reuse old rail routes into Park Royal proper (in yellow above). The Northolt line might need bridging, depending on the choice made at North Acton. A "Park Royal Central" BCR station could then be built near Central Middlesex Hospital. The hospital would provide round-the-clock demand, and the centre of Park Royal (after being built around First-World-War ammunition factories) would finally be able to attract a better mix of commercial developments.





# Summary



Possible routes north to Finchley Central (Northern Line) maybe using part of A5 flyover, and narrowing A5 further north.

The Brent Cross Railway will only get built with a combination of two circumstances — the **Brent Cross developers** deciding that support for the railway was essential for their development scheme to progress, and **Transport for London** accepting the benefits of connecting together the radial Underground lines, providing a public transport “mesh” in north and west London.

There is always the North London Line (Overground) nearer central London, with new three-car and then four-car trains on the way. This *does* connect Willesden Junction (Bakerloo Line) with West Hampstead (Jubilee) and a Thameslink connection, but not to the Northern or Central or Piccadilly Lines. Also, it is not of *direct* benefit to Brent Cross (or most of Park Royal) redevelopment.

## Later expansion of the BCR

If there really will be 20,000 jobs and 10,000 homes (the developers say 26,000 jobs and 7,500 homes, maybe partly explainable by excluding West Hendon) then the new Brent Cross Thameslink station is inevitable.

However, the faster Thameslink trains might stop at an (up to) twelve-platform “West Hampstead Interchange” station instead, if that scheme goes ahead. The status of Brent Cross Thameslink station would be enhanced by the many Underground connections of the BCR, a possible extra reason for support from the developers.

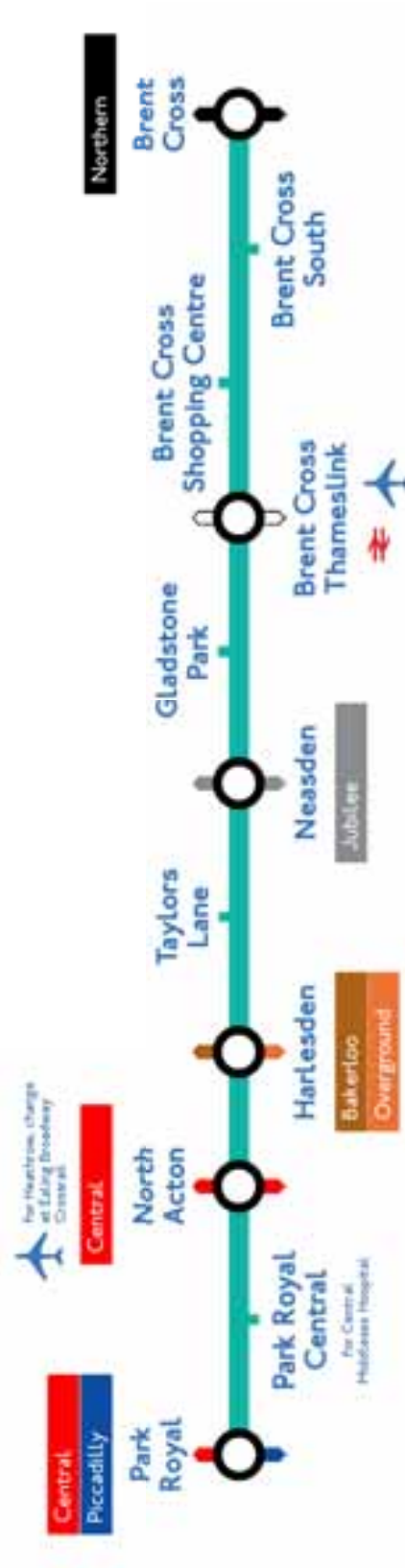
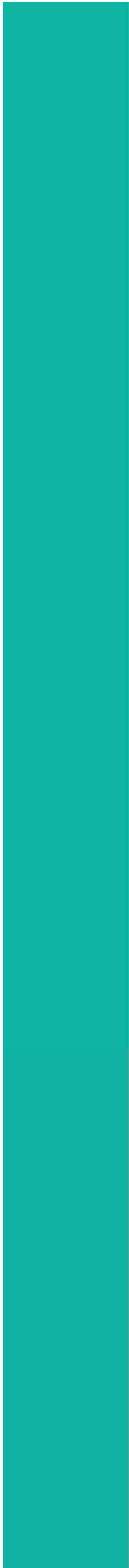
In any event, what are (completely unfunded) “wish lists” for the other two BCR branches?

**To the south**, from Brent Cross Thameslink station, the BCR would use the Midland freight line, first one then two tracks, to Cricklewood Thameslink, Mill Lane, West Hampstead Thameslink (for North London Line Overground and Jubilee Line) and maybe extend to terminate at Finchley Road O2 Centre (north of the Jubilee and Metropolitan Line station, at least until the Metropolitan moves to new platforms at West Hampstead).

**To the north**, from Brent Cross Shopping Centre station, the BCR would use one freight track to Hendon, then turn west to Colindale redevelopment sites opposite Kingsbury Road, then back east to the isolated Graham Park estate, to Cophall Stadium (nearby anyway, to increase demand), and then take over the Mill-Hill-East-to-Finchley-Central Northern Line, to reach the Northern Line High Barnet branch.

**TO DO NOW:** Safeguard Tempelhof Avenue bridge over the North Circular Road, the possible route underneath the A41 roundabout, and space for track to Cricklewood station — for whatever rapid transit plan turns out to be feasible. The new “High Street” bridge *must* cross the North Circular further east!

Transport for London should research the viability of the Brent Cross Railway. The London Borough of Barnet should demand tough restrictions on Brent Cross car use, as a result of this and other proposals.



Phase One of the Brent Cross Railway (with extension to Park Royal included)