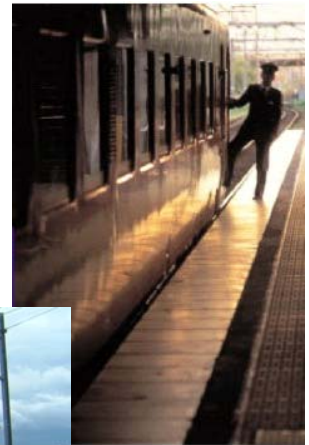


Laying the foundations

A New Station at North Pole Road

Report for the Royal Borough of Kensington and Chelsea

February 2008



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Summary

There is a one minute allowance built into the timetable for changeover from third rail dc supply to/from overhead 25Kv ac supply in the North Pole Road area. This time can be used to stop at the new station, therefore it **will not increase journey times** on the West London Line and so will not cause a disbenefit to current rail users.

A new station at North Pole Road would significantly improve access to rail services provided by the new London Overground Network and consequently would improve the journey opportunities to residents in the North Kensington Area. An initial estimate of the potential footfall based on trip rates at similar stations is **326k trips per annum** which would generate approximately **£456k per annum** although some of this will be abstracted from other modes. A number of scenarios covering development options have been tested.

Based on the cost of other recently completed new stations we estimate the construction cost to be at least **£4m** although from the experience of Imperial Wharf the actual cost is likely to be higher. We estimate the operating costs of the new station to be approximately **£330k per annum**.

To progress a new station it will be **vital to gain the backing of Transport for London (TfL)**. TfL will be interested in the financial implications, the contribution to their T2025 objectives, the operational impacts and ultimately whether the station has a **robust business case**.

We suggest the next step to progress the case for North Pole Road is to approach TfL to gain an understanding of whether they would consider a new station and the evidence they would require to approve the scheme. After gaining an approval in principle from TfL an approach to Network Rail can be made to secure operational approval. It is then likely that it will be necessary to build a robust business case, produce a benefit cost ratio (BCR), explore possibilities for funding, and conduct a stakeholder consultation. Kensington and Chelsea should be prepared to cover the cost of developing the case for the new station as TfL are unlikely to fund this unless they are very enthusiastic about taking it forward or were already planning to look at it.

1 Background

1.1 Scope of this report

- 1.1.1 In November 2006 MVA submitted a pre-feasibility report into the possibility of building an additional station on the West London Line at North Pole Road. The purpose of that report was to explore whether a station was technically and operationally feasible. Our conclusion from the study was that a station at North Pole Road is feasible on the West London Line (WLL).
- 1.1.2 We have since been commissioned to explore a number of further issues regarding the building of a new station at North Pole Road which will lay the foundations for a full scale appraisal. This report contains our analysis of:
- the costs of maintaining and staffing the proposed station;
 - the likely catchment area at North Pole Road and the improved travel options a new station would bring; and
 - the criteria Transport for London (TfL) are likely to use to assess the station.
- 1.1.3 For the purposes of our analysis of population, cost and revenue estimates we have assumed that the station will open in 2013. This provides a realistic timescale for building the case, putting the funding in place and building the station.
- 1.1.4 Our analysis assumes that four London Overground services per hour will stop at the new station. Due to the uncertainty surrounding Southern services on the WLL, we have assumed they will not stop at North Pole Road for the purposes of this analysis. This service would open up the potential for interchange at Watford for the West Coast Main Line (WCML). If required, these services could be added back in at the full appraisal stage and would improve the case as again there will be no time disbenefit for existing rail users.

1.2 History

- 1.2.1 A station has been situated at North Pole Road in the past. St. Quintin Park and Wormwood Scrubs station was constructed largely of wood but was damaged by bombs in 1940 and was closed thereafter. The original station was sited to the north of North Pole Road bridge.

1.3 The North Pole Area

1.3.1 Figure 1.1 shows the area in the immediate vicinity of the proposed station at North Pole Road. The North Kensington area is bounded by the Great Western Mainline (GWML) to the north, the Westway to the south and WLL to the west.

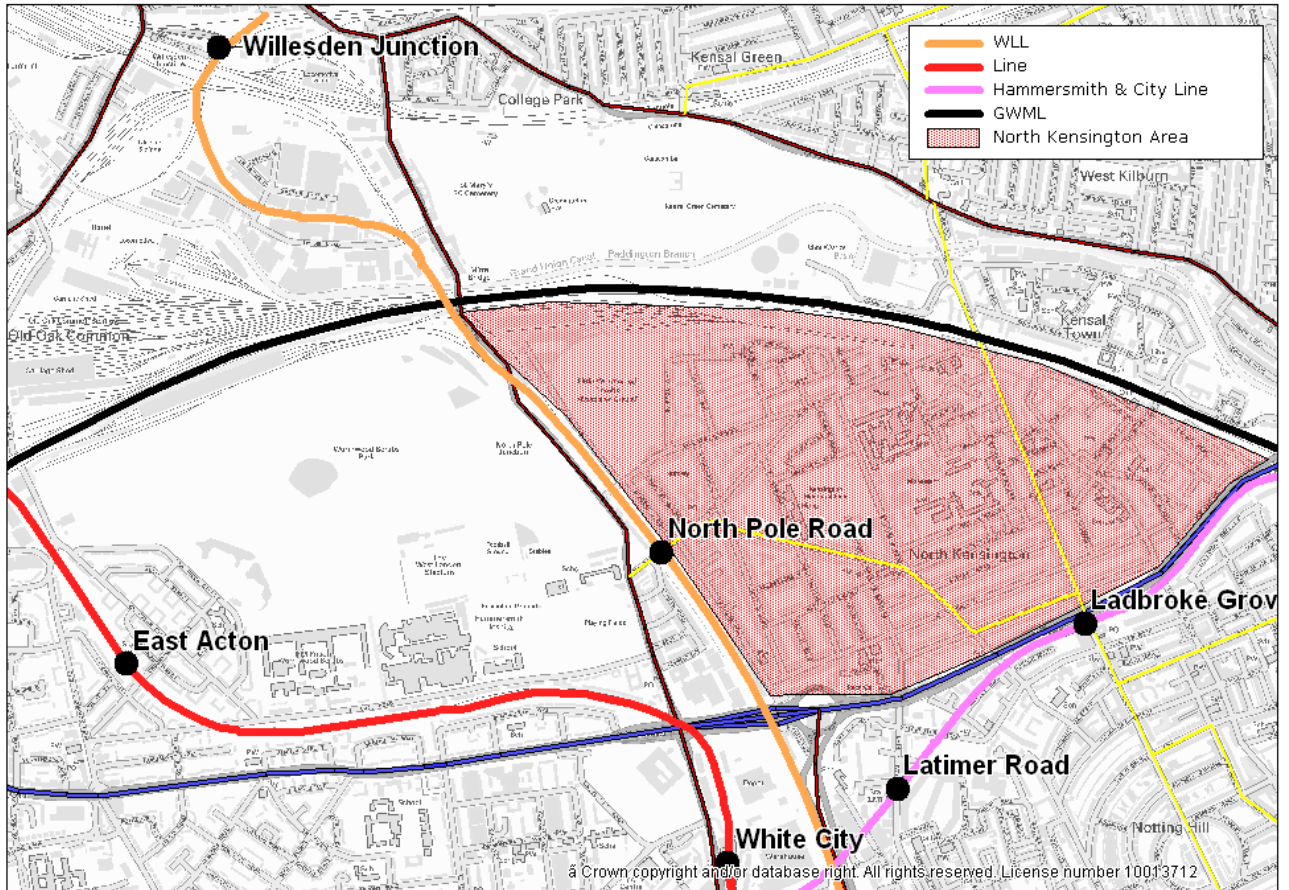


Figure 1.1 North Pole Road Area

1.3.2 The area is currently poorly served by London Underground with the two nearest stations being White City on the Central Line and Latimer Road on the Hammersmith and City Line (journey times to Central London are shown Section 3). The nearest stations on the West London Line are Willesden Junction to the north and Shepherd’s Bush to the south although this station is not open yet. A new station at North Pole Road would become the only underground or national rail station in the North Kensington area.

2 Operational Feasibility and Costs

2.1 Introduction

- 2.1.1 On 11th November 2007 London Overground took control of the routes previously run by Silverlink Metro which includes the WLL from Clapham Junction to Willesden Junction, the North London Line (NLL) which includes services from Richmond to Stratford and Gospel Oak to Barking, and the Euston to Watford Junction service. The service is run as a concession by London Overground Operations Limited (LOROL) whose contract runs until November 2014. LOROL was a joint venture between Laing Rail and the MTR Corporation. It was announced in January 2008 that Laing Rail's stake in LOROL had been sold to Deutsche Bahn along with the Chiltern Railways franchise and the open access operator, Wrexham and Shropshire Railways.
- 2.1.2 This section covers the following operational issues surrounding the proposed new station:
- traction current changeover;
 - station construction cost;
 - staffing costs; and
 - other operating costs.

2.2 Traction Current Changeover

- 2.2.1 At present, a one minute allowance is built into the timetable for the traction changeover from third rail dc supply to/from overhead line 25Kv ac supply. This takes place at signal VC813 Northbound and VC 818 Southbound. The section that is equipped with both electrification systems extends from just north of the A40(M) bridge to a point beyond the access lines into and out of the former Eurostar depot at North Pole. Signal VC813 is located just south of North Pole Road at a position where it would effectively become a platform starting signal for the station.
- 2.2.2 This section of track is the location for the proposed North Pole Road station and we have therefore included a planning assumption that the traction changeover would in future, as at locations on the NLL, take place during the station dwell time. This would mean that there would be no additional time incurred in the schedule by making a stop at the new station.
- 2.2.3 There have been suggestions made, including in the Cross London Route Utilisation Strategy (RUS), that the traction changeover should be undertaken on the move. The new electric rolling stock (Class 378) ordered by TfL for the London Overground network has been designed with this facility incorporated. However, we understand that this still requires the driver to initiate the changeover, as it is not automatic. This has given rise to concerns that changeover on the move could lead to the pantograph running off the end of the overhead wire, and coming into contact with overhead structures, if the changeover was carried out late. While technology exists to enable the process to be automated, the cost of equipping the trains and infrastructure to achieve this are understood to be unaffordable. We therefore feel that it is more than likely that the change over will require trains to stop in the North Pole area for the foreseeable future.

2.3 Station Construction Cost

- 2.3.1 Examination of a number of recently opened new stations around the UK leads us to the view that a station at North Pole Road, requiring four-car length platforms against both tracks and with a station building on one side (the south west side of the line appears to offer the best site) would cost about £4m. However, the experience at Imperial Wharf indicates how station costs can escalate significantly, thus £4m is likely to be the lowest estimate.
- 2.3.2 Due to the proposed site being on an embankment the method adopted for accessing one side of the station to the other will have further implications for the final construction cost.
- 2.3.3 Other recently completed stations include Edinburgh Park (£4.5m) and Glasshoughton (£3m) and the planned station at Kirkstall Forge for which a developer contribution of £4m is promised. An earlier station, at Chandlers Ford, opened in 2003 but with only one four car platform, but including a footbridge, cost £2m at that time.

2.4 Costs of Operating North Pole Station – staffing

- 2.4.1 All the stations on the WLL are staffed, in accordance with TfL's requirement that staffing is provided during the hours that the train service is in operation. Each of the stations on the route is equipped with access gates and the staffing levels include the required provision of a member of staff to supervise the gates during the time they are in operation.
- 2.4.2 We have assumed that neither TfL or LOROL would accept a situation where a new station was provided on the WLL that weakened the revenue protection position on the line. The provision of gating at the station would also contribute to the overall security of the station as well as preventing those without a ticket from gaining access to the platforms.
- 2.4.3 A number of stations on both the WLL and NLL are comparable with North Pole, an example being Hampstead Heath. At the latter a total of six staff are required to provide the required coverage of rosters in the ticket office and gate line over seven days. We estimate that, including National Insurance and Pensions such staffing would equate to an annual cost, at present prices of £117k.
- 2.4.4 The configuration of the station, with the track level on an embankment and the line crossing North Pole Road on a bridge, could influence the staffing cost. If separate gate lines have to be provided on each side of the station then an additional two members of staff would be required. This may arise if the method of access to the southbound platform were to be direct from North Pole Road with the station building on the northbound side of the line on the corner of North Pole Road and Eynham Road. The provision of any form of footbridge crossing the line would, in conjunction with the height gain already required from street level to platform level result in a significant climb to reach the southbound platform from the northbound side or vice versa.

2.5 Costs of Operating North Pole Station – other costs

2.5.1 In addition to the staffing costs for the station, there are several other cost elements that need to be taken into account. These include:

- station Long Term Charge;
- utility costs;
- British Transport Police costs;
- station equipment ; and
- routine cleaning and maintenance costs.

Long Term Charge

2.5.2 The principal cost at most stations on the network is the 'Long Term Charge' (LTC), effectively a rental payment made to Network Rail. This relates to the model on which almost all stations on the network are funded. The majority of new stations have, irrespective of their funding source for construction, been handed over to Network Rail on completion and thereafter been subject to a long term charge to cover ongoing repair and maintenance.

2.5.3 This charge varies with the level of facilities provided at the station and the age and condition of those facilities. In the case of a new station, the level of facilities may be higher than that at historic locations, as the provision of step free access to platforms (to comply with the Disability Discrimination Act) is now mandatory and would require either lengthy ramps or lifts to achieve.

2.5.4 We estimate that a charge for a station such as North Pole would be in the region of £60k per annum, but this would be subject to negotiations with Network Rail.

Utility Costs

2.5.5 The level of utility costs for the station will be heavily influenced by the extent of lighting provision for the station. Standards exist for station platforms and in other areas security considerations dictate high lighting levels. Against this a new station will be able to take advantage of the latest energy saving technology. Our estimate for utility costs is £8k p.a.

British Transport Police

2.5.6 British Transport Police (BTP) costs are funded through all the industry players. This is a not inconsiderable cost borne by each Train Operator. The method of calculation of this cost is not clear to us, but we do know that overall the BTP budget for 2007/8 was £187.8m. While the opening of one additional station would not, in itself, appear to place a major additional burden on the BTP resources, the metrics used to calculate the individual contributions of each industry player can be expected to require some level of incremental funding. We would therefore suggest a figure of £50k is included in the business plan.

Station Equipment

2.5.7 Station Equipment includes the provision of Customer Information Systems, CCTV, Passenger operated ticket machines and ticket office equipment. We estimate an expenditure of £30k p.a to equip the station to an adequate standard.

Maintenance Costs

2.5.8 While structural maintenance and repairs are covered by the LTC, the routine cleaning and maintenance of the station is the responsibility of the 'Station Facility Owner' i.e. the Train Operator responsible for the station. LOROL have set up mobile cleaning and repair gangs to cover their stations and have placed contracts to ensure that they can meet the target levels set by TfL for a range of environmental standards. These include such issues as removing graffiti, cleaning signage, removing litter and cutting back foliage. While there may be some scope to benefit from economies of scale from adding a further station to the workload of the existing team, it may also be the case that an additional station would trigger an incremental increase in the size of the team. We therefore consider that £65k p.a to be a prudent figure to allow for this group of activities.

2.6 Summary of Operational costs

Table 2.1 Summary of Operational Costs

Cost area	Amount (£k) p.a.
Staffing, including NI and pensions	117
Station Long Term Charge	60
Utility Costs	8
British Transport Police	50
Station Equipment	30
Cleaning and maintenance	65
TOTAL	330

2.7 Network Rail Processes

2.7.1 Network Rail has in place a comprehensive project appraisal process known as the Guide to Railway Investment Projects (GRIP). At the initial stage Network Rail will wish to examine both the operational and engineering feasibility.

2.7.2 Operational feasibility is normally handled by the development of a revised timetable incorporating the new station or service and simulating the timetable using Network Rail's standard simulation tool, RailSys. In this case, as the station dwell time would not increase the overall journey time and therefore the presentation (arrival) at junctions on the route, it may not be necessary to model the timetable impact. The West London Line has been extensively modelled in connection with TfL's recent Track Access Option application to the Office of Rail Regulation to support their North London Railway Investment programme.

2 Operational Feasibility and Costs

- 2.7.3 Network Rail will also wish to examine the engineering feasibility of the construction of a new station and its interface with the existing railway infrastructure. This will examine issues such as whether there are any requirements to make changes to the signalling system, electrification systems as well as construction issues.
- 2.7.4 Network Rail will require funding to undertake this development work. For this reason we suggest that it would be advantageous to approach TfL first to establish their position on the provision of a new station at North Pole Road before contacting Network Rail. Assuming TfL will support the concept, this would give greater credibility and possibly priority to the proposal.

3 Catchment Analysis

3.1 Introduction

3.1.1 This section builds on the previous analysis carried out in our report “Additional station on the WLL” from autumn 2006. The aim of the analysis is to provide an insight into whether it is worth spending further resources on a full appraisal which would include in-depth forecasts and stakeholder consultation. The catchment analysis is split into the following sections:

- identifying the catchment;
- analysing the catchment; and
- analysing the trip potential of a new station.

3.1.2 Being a largely residential area the catchment for the proposed station at North Pole Road will primarily be a generator rather than an attractor of trips.

3.2 Identifying the catchment

3.2.1 To identify where the catchment for the station will lie, we have compared the location of North Pole Road with other stations in the area. Figure 3.1 shows the results of a nearest walk time analysis and a 10 minute walk contour.

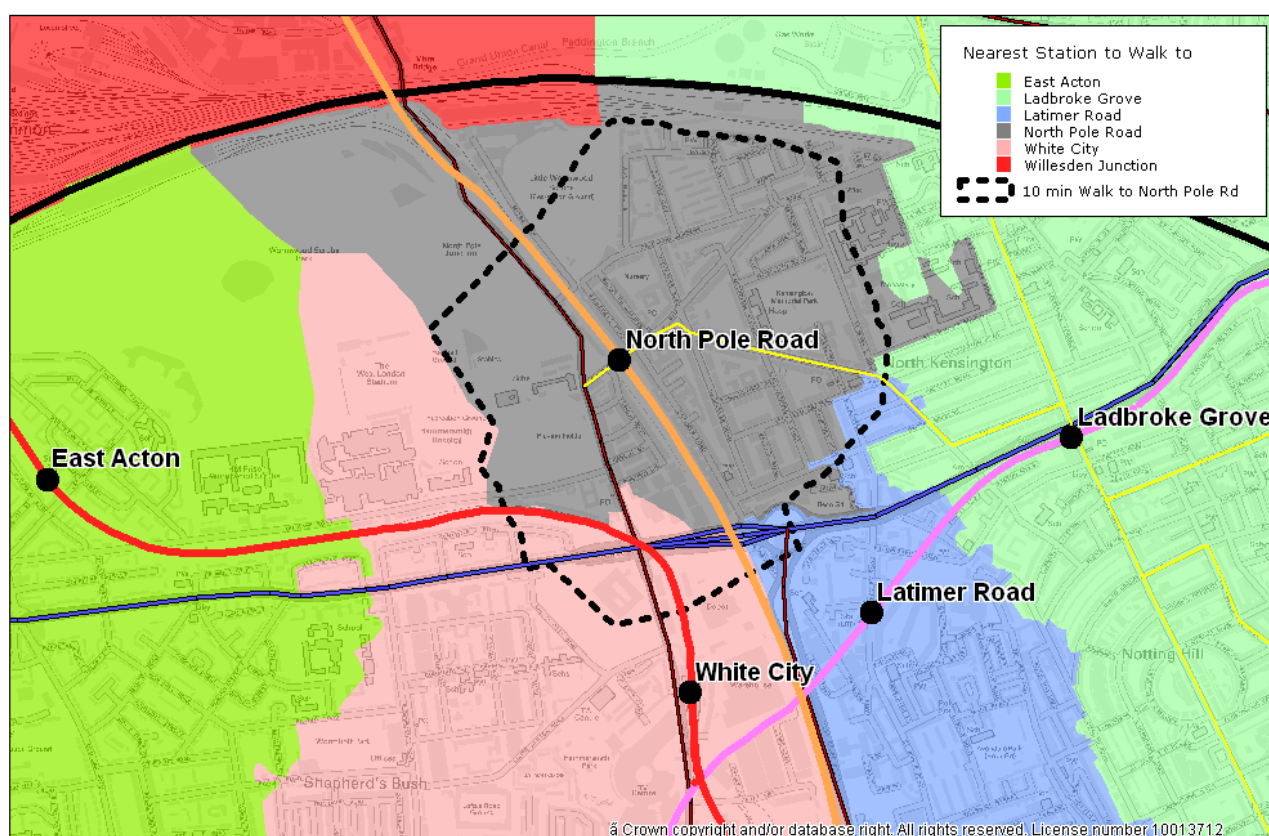


Figure 3.1 Nearest Station Analysis

3.2.2 The Census Output Areas in the West London area were imported into ACCESSION and the walk times calculated to North Pole Road, Willesden Junction, East Acton, White City, Latimer

Road and Ladbrooke Grove. The output areas have then been coloured depending on which station is the closest on foot.

- 3.2.3 A 10 min walk contour has been drawn around the proposed station; also calculated in ACCESSION. Using these two indicators of accessibility to the station we can start to visualise the likely catchment area. Figure 3.1 shows a very good fit between the area that is nearest to North Pole Road and the 10 minute walk catchment. We have therefore identified Output Areas within 10 minute walk to North Pole Road as the areas where most of the trips will be generated from.
- 3.2.4 North Pole Road will provide a north-south service to destinations not currently served by the other main line or Underground stations in Figure 3.1. The catchment area of North Pole Road may therefore extend beyond the 10 min walk area where bus access is taken into account. This is discussed in more detail in para 3.3.11. Access to a station at North Pole by different modes would be analysed best using a multi-modal model and would need to form part of a detailed appraisal.

3.3 Analysing the Catchment

- 3.3.1 This section analyses the North Pole Road catchment by identifying the:

- people who live within the catchment;
- catchment areas of similar stations on London Overground; and
- current travel options open to residents living in the North Pole Road area.

Population Analysis and Benchmarking

- 3.3.2 Figure 3.2 shows the majority of people living within the catchment of the proposed station to be located to the east of the WLL. A large proportion of the area within ten minutes walk of the station lies within Wormwood Scrubs Park and the sparsely populated areas surrounding the intersection with the A40 Westway. These geographical limitations have resulted in the total population living within 10 min walk of the station being about 9,100 of which 7,000 people are over 16 years age. The most densely populated area is to the north of the catchment where more modern developments exist. The area in the immediate vicinity of the station is less densely populated Victorian terrace housing stock with a small parade of local shops.

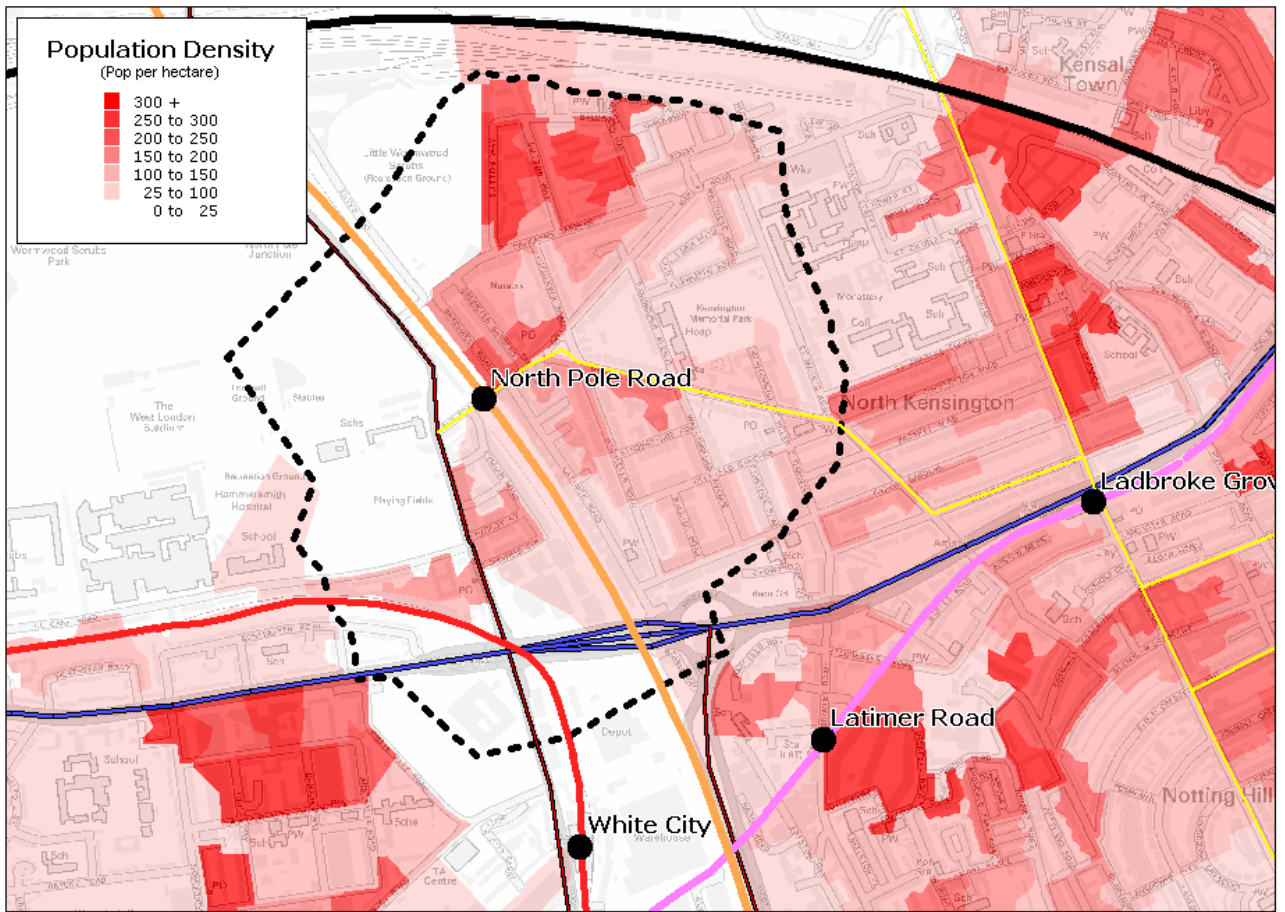


Figure 3.2 North Pole Road catchment – Population Density

- 3.3.3 Table 3.1 compares the catchment of North Pole Road with the 10 min walk catchments of five other London Overground stations. These stations have been selected as they have orbital London Overground services (not direct service to London) and do not have an interchange with London Underground. These stations also have a current service frequency of 4 trains per hour (from 2011 service frequencies will increase at these stations – see Figure 3.7) which is the proposed frequency of WLL services in 2013.
- 3.3.4 Annual footfall has been obtained from the Office of Rail Regulation (ORR). Annual Trips per person range from Homerton at 31 trips per person over 16, to 53 for Camden Road. The five stations in Table 3.1 will be used as the basis for estimating the footfall of North Pole Road in the next section.

Table 3.1 Station Footfall and Catchment Population (2008)

	Entries and Exits 2006*	Weekday Footfall	Population	Population Over 16	Annual Trips per person 16+
North Pole Road	?	?	9,100	7,000	?
Homerton	359,920	1,200	15,360	11,560	31
Camden Road	688,609	2,295	17,090	13,070	53
Acton Central	416,037	1,387	10,860	9,000	46
Brondesbury Park	125,507	418	4,660	3,880	32
Hampstead Heath	388,289	1,294	9,620	7,710	50

*Station footfall sources from ORR

3.3.5 Figure 3.3 and 3.4 give an indication of how the catchment compares with the benchmark stations in terms of social breakdown. The Passenger Demand Forecasting Handbook (PDFH) states that “the propensity to make rail trips will vary across social classes”. Generally, the higher the socio-economic class the higher their value of time and so will result in journey time being more important than fare. The main benefit of a new station will be to dramatically reduce journey times to many destinations (see Figure 3.8).

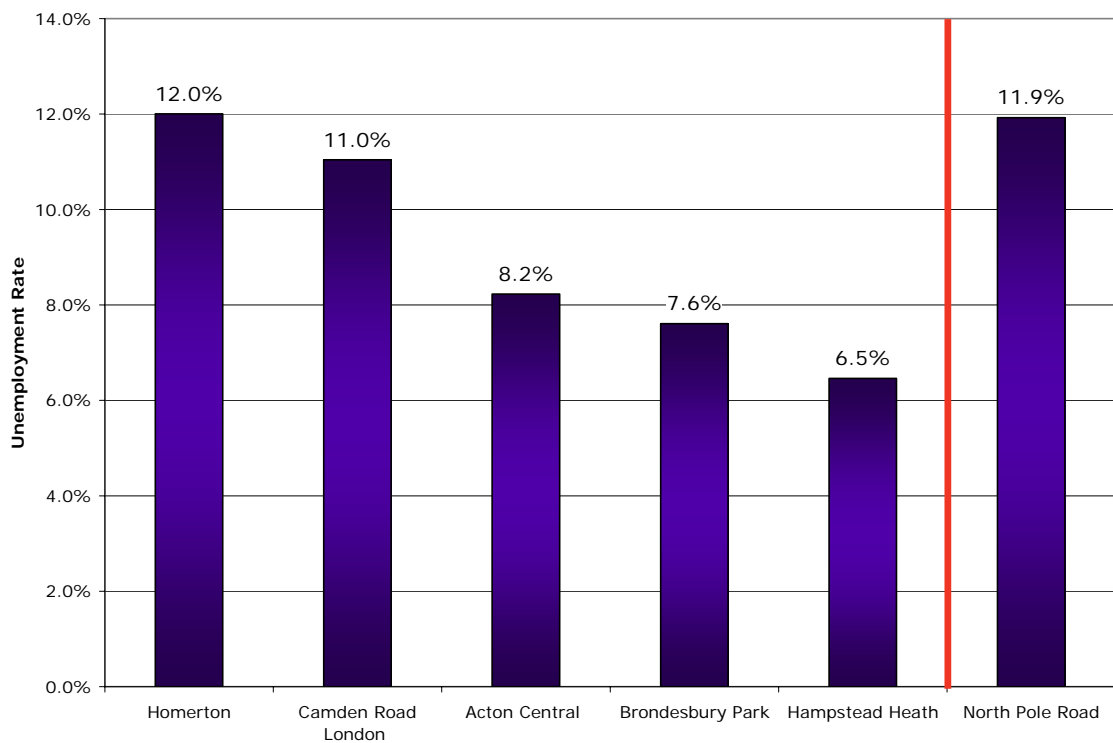


Figure 3.3 Unemployment Rate of Station Catchment

3 Catchment Analysis

3.3.6 It should be noted that Homerton currently has a similar London Overground service to that proposed for North Pole Road but unemployment remains at 12%. This gives weight to the argument that a new station needs to be part of a wider regeneration/development plan to deliver significant improvements to the lives of residents and that a new station in the middle of a deprived area cannot, on its own, regenerate the surrounding area.

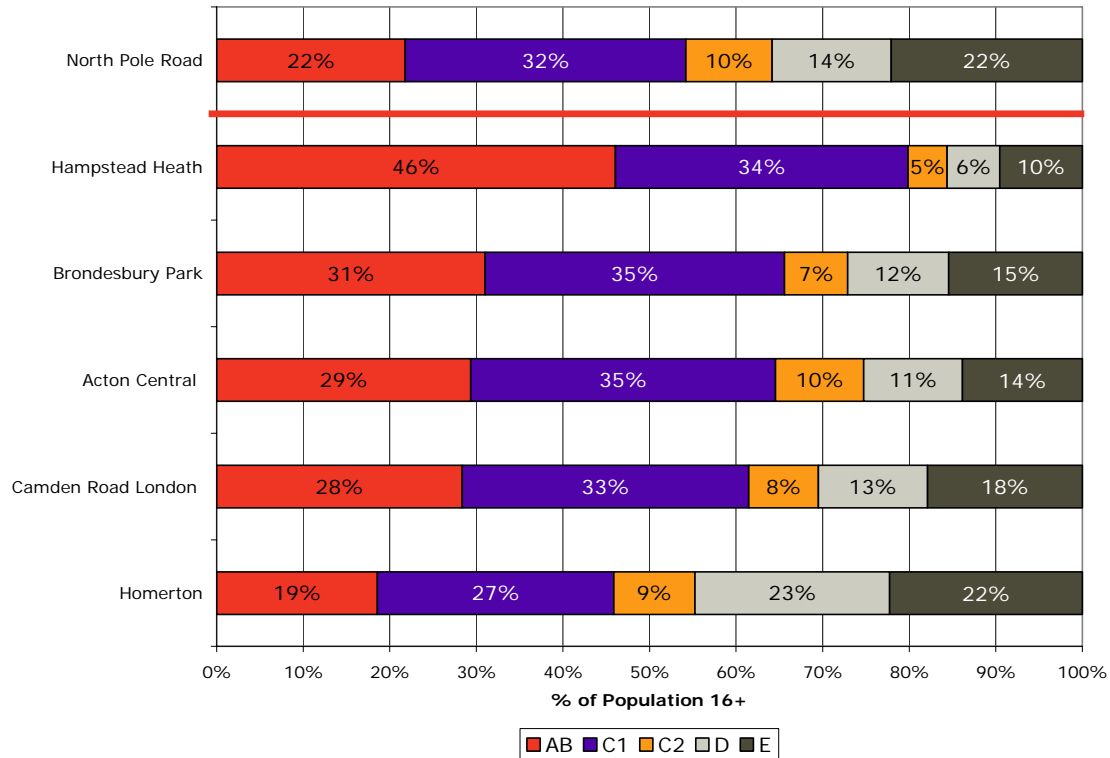


Figure 3.4 Socio-economic breakdown of station catchments

3.3.7 The socio-economic make-up of the North Pole Road catchment is roughly similar to Homerton although it is also worth noting that the most affluent of the catchment areas is that of Hampstead Heath. The range of benchmarked stations allows the relationship between trip rate and affluence to be taken into account when estimating a likely trip rate for North Pole Road.

Current Travel Options

3.3.8 The travel options in the North Kensington area are severely limited compared to other parts of the borough. There are currently no Underground or Overground stations within the area and only three bus routes. This section puts the addition of a new station into context by looking at the current travel options available to residents.

3.3.9 The only north-south bus route available to North Pole Residents is route 220 which provides a service every 7-8 mins. This route provides the easiest access to White City and therefore the Central Line to Central London. After White City the route travels due south to Hammersmith and so does not provide a service to South Kensington and the rest of the borough.

3.3.10 Routes 7 and 70 run east-west past the location for the proposed station every 7-8 mins and every 10 mins respectively. Route 70 terminates in the Knightsbridge area with Route 7 continuing on to Paddington, eventually terminating at Russell Square. The journey time from North Pole Road to Oxford Circus using Route 7 is about an hour depending on traffic congestion.

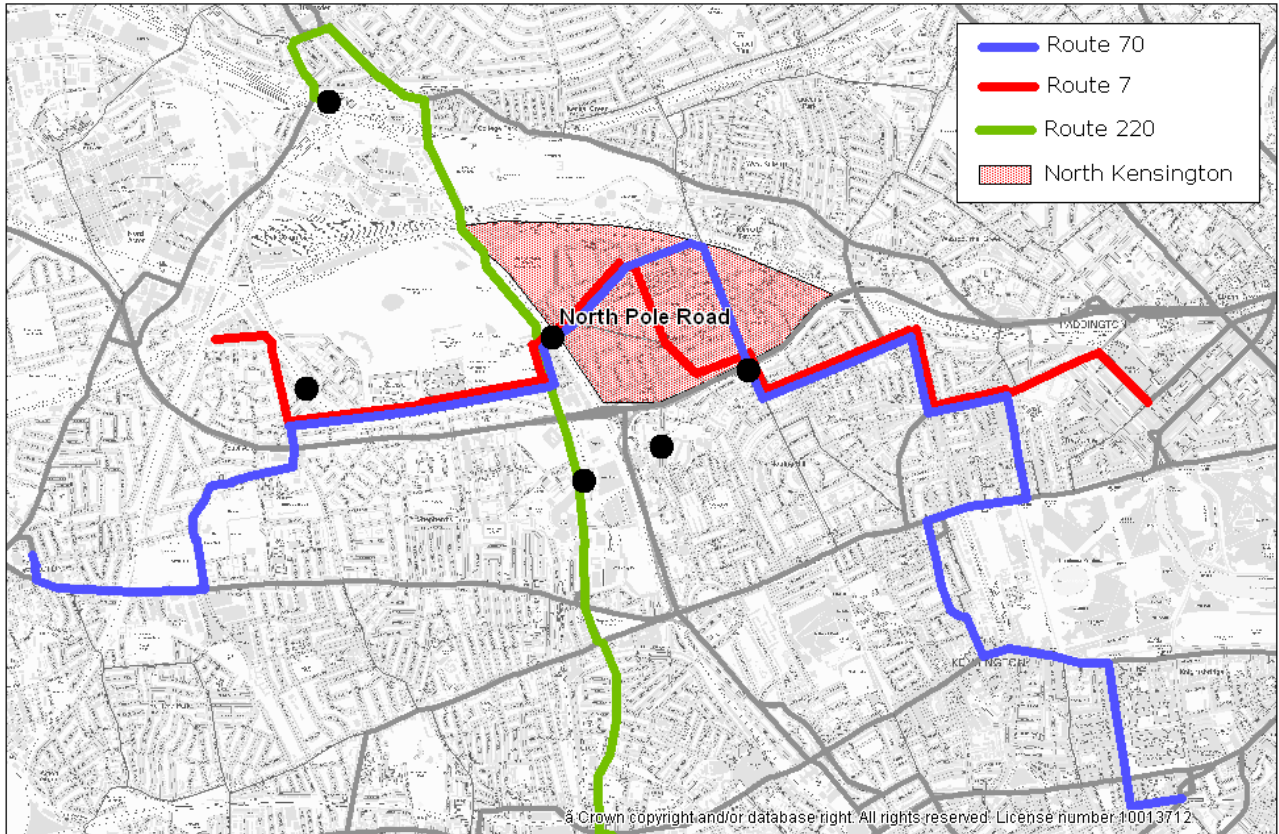


Figure 3.5 Bus routes serving North Pole Road

3.3.11 It is unlikely that a large number of people will use buses to access the station at North Pole Road. Considering the bus routes shown in Figure 3.5, people are unlikely to use route 220 to access North Pole Road from the north as they can more easily access the network at Willesden Junction. People accessing the WLL from the Acton area would be most likely to use the Central Line and interchange at Shepherds Bush for London Overground services. It is possible that a small number of residents living just outside the 10 minute walk catchment in the Ladbrooke Grove area would take route 7 or 70 to North Pole Road to access London Overground.

3.3.12 Table 3.2 shows the current travel options to Central London (assumed to be Oxford Circus) open to people living in the vicinity of North Pole Road Station. The current best option is to take bus route 220 to White City and use the Central Line. If travelling to Baker Street the best option is the Hammersmith and City Line which is a journey time of 11 mins from Ladbrooke Grove on top of the access time by bus of 19 mins. The new station at North Pole Road will not improve the journey time to Baker Street; the only improvements to Central London are likely to be via an interchange with the Central Line at Shepherds Bush or the District Line at West Brompton. Journey times to Central London via Willesden Junction and the Bakerloo Line will improve but travelling via the Central Line will still be more attractive due to the shorter journey time.

Table 3.2 Access to Underground Stations and Journey Times to Oxford Circus

	Access to the station from North Pole Road	Total Journey time to Oxford Circus*
East Acton	Bus (25 mins)	44 mins
Ladbroke Grove	Bus (19 mins)	53 mins
Latimer Road	Bus (35 mins); Walk (20 mins)	55 mins
White City	Bus (13 mins)	34 mins
Willesden Junction	Bus (16 mins)	51 mins

* Includes time for interchanges between modes.

Journey to Work Data

3.3.13 Figure 3.6 shows the location of the usual workplace of residents of the North Pole Road station catchment.

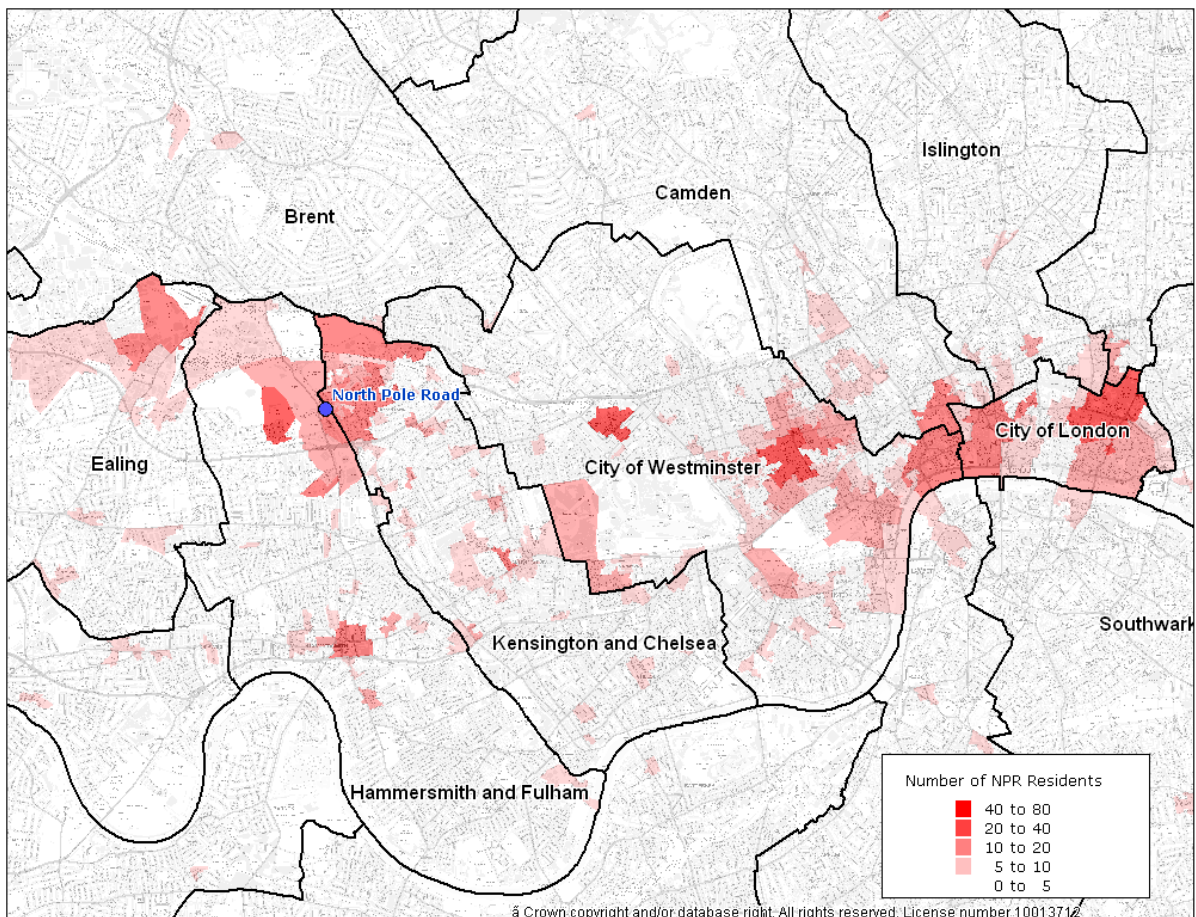


Figure 3.6 Workplace locations of North Pole Road Catchment Residents

3.3.14 Table 3.3 shows that the largest proportion of North Pole residents work in Kensington and Chelsea and, using Figure 3.6 it can be seen that the majority are located in North

Kensington itself. The City of Westminster is the most popular place to work (660 residents) outside Kensington and Chelsea with a concentration of people working in the Oxford Circus and Victoria areas. The majority of these residents travel to work by Bus (40%) despite the long journey times offered by this mode. Better access to the Central Line via North Pole would encourage these bus passengers to switch modes. This could be analysed using a multi-modal model.

Table 3.3 Workplace location and access mode of North Pole Road residents

	All People	Tube	Bus	Car	Walk	Other
Kensington and Chelsea	1,142	7%	12%	24%	25%	32%
Westminster	660	32%	40%	11%	4%	12%
Hammersmith and Fulham	490	10%	21%	23%	26%	20%
City	181	77%	2%	13%	0%	8%
Camden	180	48%	22%	20%	0%	10%
Other	894	31%	15%	39%	3%	12%
Total	3,547	24%	19%	25%	13%	19%

Source: Census Journey to work data (2001)

3.4 Analysing the trip potential of a new station

- 3.4.1 By analysing the improved travel options this section starts to build up a picture of where the new journey opportunities are likely to be.

Improved Travel Options to Central London

- 3.4.2 As discussed in the previous section the main benefits to travel to Central London are likely to be via an interchange between London Overground and the Central Line at Shepherds Bush or the District Line at West Brompton. Table 3.4 shows a comparison between the best journey option to Oxford Circus today and with a station at North Pole Road.

Table 3.4 Travel from North Pole Road to Oxford Circus

	Access to Central Line	Total Journey time to Oxford Circus*
Today via White City	Bus (13 mins)	32 mins (includes 5 mins interchange penalty)
2013 via North Pole Rd	WLL (3 mins)	19 mins (includes 5 mins interchange penalty)

* Includes time for interchanges between modes

- 3.4.3 As can be seen from the table above there is likely to be an improvement in journey time to Oxford Circus of 13 minutes between accessing the Central line by taking the bus from North Pole Road to White City today and using London Overground to Shepherd's Bush via North Pole Road in the future. However, the London Overground service will have a service interval of 15 minutes (4tph) so when generalised journey time (GJT) is considered there is likely to be less difference between the two journey options. GJT is used by multi-modal models to group together factors such as journey time, interchange, frequency and fare to gain an estimate of the likely choices people will make.

3.4.4 There are also likely to be similar benefits for commuting to the Victoria area. Table 3.5 shows the improvement to journey time is likely to be about 17 minutes although, like travel to Oxford Circus, this does not include a penalty for the service frequency on the WLL.

Table 3.5 Travel from North Pole Road to Victoria

	Access to Underground	Total Journey time to Victoria*
Today via White City	Bus to White City (13 mins)	42 mins (includes 5 mins interchange penalty)
2013 via North Pole Rd	WLL to West Brompton (8 mins)	25 mins (includes 5 mins interchange penalty)

* Includes time for interchanges between modes

3.4.5 There are also other factors that may affect mode choice. If the new station at North Pole Road is perceived as safer than waiting for a bus (ie a fully staffed station with CCTV), then people may choose to travel by rail. However, if travelling via North Pole Road station costs more it is likely to only be attractive to people in the higher socio-economic bands depending on the price difference.

3.4.6 As part of a full appraisal, the TfL Business Case Development Manual (BCDM) will be able to assist in putting a value on the perceived improvements to security of waiting for a train at a fully staffed station with CCTV verses waiting at a bus stop. This valuation could be built into a multi-model model that would be used to forecast the trip abstraction from other modes by the new station.

3.4.7 Although the TfL BCDM is not able to value reliability it will be possible to put a valuation on the perception of an infrequent timetabled service (London Overground) verses a frequent service (bus).

Improved travel options outside Central London

3.4.8 The majority of trips generated at the new station are likely to be due to the improved journey opportunities associated with the station being on the new London Overground network. Figure 3.7 shows the number of trains per hour for each of the sections of the network from 2011.

3.4.9 The WLL is to have an improved service from the current 2 tph to 4 tph from 2011. Two of these services will terminate at Willesden Junction with the other two going through to Stratford.

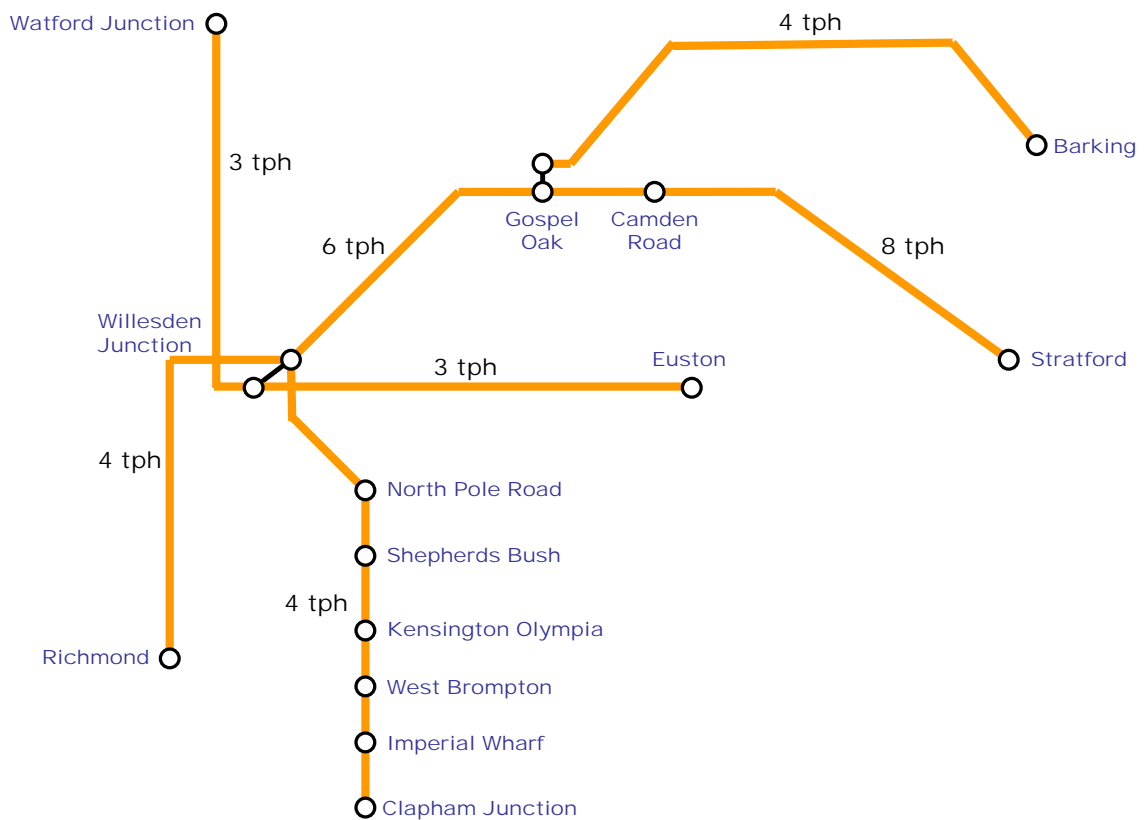


Figure 3.7 London Overground services from 2011

- 3.4.10 Figure 3.8 shows where the main improvements in journey times to destinations on London Overground are likely to be. We have added a 5 minute interchange penalty where an interchange is required. Please note that no frequency penalty has been added to these journey times. In reality, services with a higher frequency are perceived as faster. This would be taken into account by a multi-modal model such as Railplan which would estimate GJT rather than actual journey time.
- 3.4.11 The biggest reduction in journey time would be to Clapham Junction from its current 60 minutes to 17 minutes. Clapham Junction offers a wealth of onward journey options that are likely to generate a number of trips from North Pole Road.

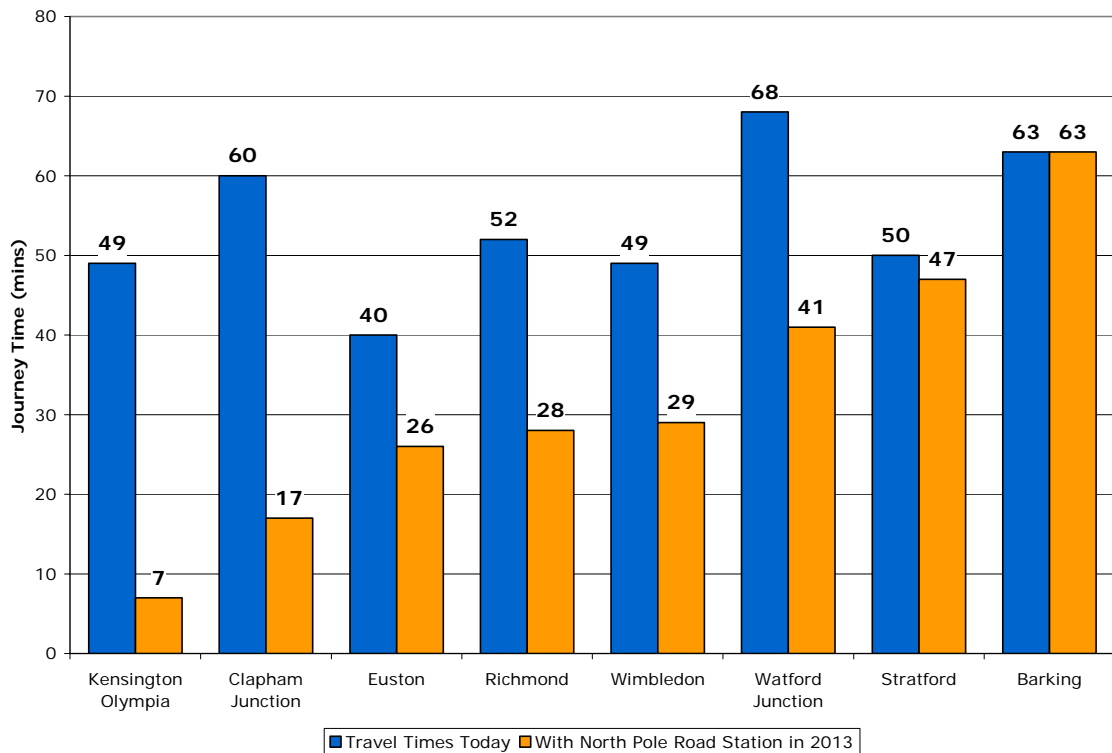


Figure 3.8 Journey Times from North Pole Road in 2013

- 3.4.12 The other major improvement in journey time would be to Kensington Olympia where the journey time is likely to fall from 49 minutes to 7 minutes. This not only dramatically improves North-South connections within the borough but it also makes destinations such as Kensington High Street and the Town Hall itself, via an onward bus journey from Kensington Olympia, more accessible to residents living in North Kensington. The journey time from North Pole Road to the Town Hall would be cut from 49 minutes to about 35 minutes.
- 3.4.13 Making use of the interchange between the WLL and the District Line at West Brompton allows the journey time from North Pole Road to Wimbledon to be cut from 49 minutes to 29 minutes. This will provide North Pole residents with both employment and retail opportunities.
- 3.4.14 The improved travel options shown here will allow the North Kensington area to be linked to places such as Wimbledon, Richmond and Hampstead which will form an important part in raising the profile of the area.

Kings Cross Opportunity Area

- 3.4.15 The area to the north of Kings Cross station is due to undergo a major redevelopment which will include office and residential developments. The proximity to international services from St Pancras will generate a large amount of growth in the area. From 2011 there will be two services from the WLL through to Stratford via Camden Road. Journey time to the Kings Cross Opportunity Area is likely to be cut from the current 43 minutes via Kings Cross to less than 25 minutes via Camden Road. This will provide an excellent employment opportunity for people living in the vicinity of North Pole Road station.

Estimating the Footfall at North Pole Road

- 3.4.16 As a general rule TfL London Rail assumes 43% of demand for a new scheme is from new generated trips i.e. 57% was from modal shift. When appraising the scheme the number of new trips will be important to TfL and only the revenue generated from these trips will be taken into account when assessing value for money.
- 3.4.17 However, we have found that the majority of the benefits a new station is likely to bring will come from the new journey opportunities brought about by access to the new London Overground network which the North Kensington Area currently has no access too. Therefore the new station is not going to abstract many trips from current markets (it will abstract some trips from the Central London market) and so will effectively create new markets to places on the London Overground Network and beyond via Clapham Junction. This makes it difficult to assess the trip generation effect of the new station (a percentage generation impact multiplied by zero current demand will give zero future demand).
- 3.4.18 To obtain an estimate of the footfall of the new station we have looked at stations with similar travel opportunities to North Pole Road. The stations are shown in Table 3.1. We have grouped the stations together and calculated an average trip rate for each socio-economic group. These have then been applied to the population of the North Pole Road catchment.

Assumptions

- 3.4.19 To estimate the footfall of the proposed station at North Pole Road we have made the following assumptions:
- 55% of rail trips are made by socio-economic classes AB (35%) and C1 (20%). These are estimates based on advice from PDFH (this could be checked using LATS if made available);
 - the benchmark stations have similar travel options to North Pole Road;
 - the population will immediately switch to using the station on day one of operation (in reality there would be a build up time period as people get to know the service offering; TfL suggests using the following build up: first year 35%, second year 75%, third year 90% and 100% thereafter);
 - average fare for journeys from North Pole Road will be £1.40 (2008 prices for comparison purposes); and
 - population grew by 4% across all benchmark stations between the 2001 Census and 2008.
- 3.4.20 Three scenarios have been selected to cover three possible positions the North Pole Area may be in come 2013 depending on the degree of change in population and socio-economic groups. The different trip rates for each social group allows the footfall to be estimated depending on the social make-up of the area or the change required to achieve a desired footfall. Please note the scenarios do not map directly across to the scenarios set out in the North Kensington Area Action Plan (NKAAP). The scenarios have been designed to show the sensitivity of the potential station footfall to various population changes.

Small Change Scenario

- 3.4.21 The socio-economic breakdown is as today with the population increasing by 6% as predicted by TEMPRO for the whole of Kensington and Chelsea. The TEMPRO model is used to predict population change and is based on planned developments and birth and death rates over a long term period. It is mostly used for macro-scale analysis and can underestimate population growth, especially at the micro level.

Medium Change Scenario

- 3.4.22 As small change scenario except the AB and C1 populations grow by 20% instead of 6%. This requires a large amount of inward migration to the area driven by development that changes the perception of the area. Increasing the number of AB and C1 people by 20% results in an overall population increase in the area of 14%.

High Change Scenario

- 3.4.23 Overall population grows by 14% but the socio-economic breakdown becomes the same as Hampstead Heath Station's 10 min walk catchment area. This requires the percentage of AB and C1 people to increase from the current 54% to 80%. The higher propensity of these people to travel by rail increases the potential trips from North Pole Road. The results of each scenario are shown in Table 3.6.

Table 3.6 North Pole Road Footfall

North Pole Road	Daily WD Trips	Annual trips	Revenue
Small Change Scenario	990	296,985	£415,778
Medium Change Scenario	1,086	325,829	£456,161
High Change scenario	1,389	416,679	£583,351

- 3.4.24 To achieve the high change scenario there would have to be major upheaval in the North Kensington area with a large number of class AB people moving in. This is unrealistic in the timeframe as it would require the number of AB people to double. The small change scenario requires doing very little to North Kensington other than that already planned. This would achieve about 296k trips per annum.
- 3.4.25 The medium change scenario requires a certain amount of regeneration in North Kensington to increase the number of AB and C1 people living there. This would achieve about 326k trips per annum; roughly 30k more trips per annum than the small change scenario.
- 3.4.26 These estimates are based on the average trip derived from the stations listed in Table 3.1. It is difficult to predict the number of trips generated from an area that has not historically had a rail link and so further research should be carried out to test the propensity to travel by rail.

3.5 Building the case

3.5.1 In the case of North Pole Road a large number of the benefits are likely to come from new journey opportunities via interchanges with the London Overground Network. A number of assumptions would need to be made regarding the switch from other modes and the generation of new trips to places not previously accessible. We recommend a market research study to support the full business case appraisal. This research would not only give more confidence in the forecasts but provide robust evidence to support your business case submission to TfL. We suggest that the research should allow an analysis of:

- current travel patterns;
- propensity of current residents of North Kensington to use the new station;
- the likely change in travel behaviour of residents including off-peak travel;
- likely trip frequency;
- popular destinations from the new station;
- attraction of trips to the area; and
- the proportion of demand likely to be abstracted from other modes.

4 Transport for London

4.1 Introduction

- 4.1.1 To progress the new station, TfL backing will be crucial, as they are ultimately responsible for the services and stations. It is likely that TfL would liaise directly with the operator to gain their support and work through the variation to the operating contract necessary to facilitate the calls. Some Southern services between Clapham and Watford use the line, but at this stage it is not anticipated that they will call at the station and therefore has no impact on this operator.
- 4.1.2 The agreement of the organisation who will sponsor the station through development and build, and who will own the station will be essential. Network Rail is normally the ultimate landlord for national rail stations and would be the likely delivery agent for the station, although in this case, it may make sense for TfL to be the owner and/or sponsor.
- 4.1.3 While it will be essential for Network Rail to carry out a feasibility study for the scheme, we believe it will be efficient to first discuss the scheme with TfL to gain their initial response. The cost associated with the feasibility work Network Rail need to do will therefore be avoided if TfL do not endorse the scheme, or have already found feasibility issues with it.
- 4.1.4 These discussions could also broach the subject of funding. TfL's current Business Plan is based upon a funding settlement to 2010, therefore they are unlikely to be able to commit funds after this point. Nevertheless they have a long term vision set out in their T2025 document, therefore should be able to discuss the station in this context and give an indication of their support.
- 4.1.5 We propose that the main objectives of the discussions are to find out whether TfL:
- are in favour in principle of the new station, albeit subject to Network Rail feasibility analysis and a good business case;
 - will be in a position to contribute funding;
 - would wish to be the sponsors of the station and take it forward, or whether Kensington & Chelsea should continue to champion it; and
 - agree the next steps, i.e. approaching Network Rail, assuming that they are in favour of it in principle.
- 4.1.6 It is unlikely that TfL will fund the development costs of the scheme and, depending on their funding position beyond the current TfL business plan, they may not be prepared to fund the actual construction of the station. **Kensington and Chelsea should be prepared to fund the scheme throughout its development and construction.**
- 4.1.7 This chapter discusses the process TfL will adopt in deciding whether to support the station whether or not they fund the station.

4.2 Transport for London's Assessment

- 4.2.1 TfL will want to know that the scheme represents a value for money solution to a transport gap or need. They will assess the following when considering the proposed station:

- the demand, gap or need for which the station is a solution;
- the operational feasibility and impacts on existing services;
- financial implications;
- contribution towards objectives;
- business case; and
- impact on other modes and stakeholders.

4.2.2 Each of these items are discussed in turn below.

4.3 Identifying the Need

4.3.1 The starting point for any proposed transport scheme should be to demonstrate the need or gap, then find potential solutions and arrive at the optimum solution which demonstrates the best value for money.

4.3.2 At North Pole Road it will be necessary to demonstrate that the area does not have adequate transport provision now, or in the future with planned developments, and that the station offers the improved accessibility required.

4.3.3 TfL London Rail has already briefly considered the need for a station at North Pole Road through their Route Corridor Plan (RCP) process. TfL's RCPs provided TfL's input into Network Rail's Cross London Route Utilisation Strategy. The process identified gaps in the transport provision under various headings, for example, capacity. The need for new stations to fill physical network gaps was also assessed. A potential station at North Pole Road was included in a long list of potential schemes to take forward. It was rejected at the short listing stage, on the grounds that there was not a significant spacing gap in the network. However, it is not clear how much the surrounding area and transport provision was taken into account and whether it was simply the station spacing on the railway line which was considered. Therefore TfL will be interested to understand if there are transport provision gaps in the area and how the North Pole Road station can contribute to fill the gap.

4.3.4 It should be noted that TfL are likely to also think about alternative solutions to improving accessibility such as improved bus links rather than a new station. As part of the case for North Pole Road station, its superiority as a solution should be demonstrated compared to other "low cost" schemes.

4.4 Operational Impacts

4.4.1 Once a transport need has been demonstrated, for which North Pole Road station is a possible solution, TfL will wish to understand the feasibility and operability of building the station and stopping the time tabled services at it. This is discussed in Chapter 2. It will be necessary to establish whether TfL agree with the fundamental conclusion that the station stop will add no time to the timetable.

4.4.2 TfL and the operator will assess the possible impact on the reliability of the services. As described in Chapter 2, we anticipate no adverse impact on the current services.

4.5 Financial Implications

4.5.1 TfL will need to understand the financial implications to them of the new station. We expect them to need answers to the following questions regarding the costs of the station:

- who is contributing the capital costs and are any contributions required from TfL, if so how much and when?
- how much will the incremental operating and maintenance costs be and will they be incurred by the current operator and therefore TfL in the long term; and
- assuming the station is built within the current concession contract period, how much will the current operator charge TfL to run the station and stop services at it? This will include consideration of the potential impact on performance and the premium they may charge given TfL will be adding a variation into the contract with no competition.

4.5.2 TfL will also want to forecast the impact on their revenue income. There will be an increase from demand attracted to the station, but a proportion of this will be abstracted from other modes.

4.6 Impact on Objectives

4.6.1 The positive and negative impacts the station has on TfL's objectives will be fundamental to making the case for the station. We have shown below the impact on the objectives set out in TfL's T2025 long term vision for London's Transport System. We also set out performance against TfL's strategic priorities and the criteria in the Government's New Approach to Appraisal (NATA) which are all assessed as part of TfL's business case process. We have given an indication of an assessment score against the objectives on a seven point scale ranging from significant beneficial to significant adverse. As can be seen by the table, the station offers a contribution to a board range of TfL's objectives. Although many of the assessments result in a moderate benefit rather than significant benefit it should be noted that this scale has been designed to cover a range of schemes ranging from a bus stop up to a scheme such as Crossrail. Therefore a moderate benefit for a small scheme such as this should be seen as a good assessment.

Table 4.1 Contribution of North Pole Road to TfL's Objectives

Objective	North Pole Road Impact on Objective	Assessment
T2025 Objectives		
Support economic development	provision of better transport links between a deprived area and areas of employment stations can act as a catalyst for improvement in an area, attracting business and housing development	Moderate beneficial
Tackle climate change and enhance the environment	providing better public transport journey opportunities which will remove some car journeys	Slight beneficial

Objective	North Pole Road Impact on Objective	Assessment
Improve social inclusion	<p>the station proposed serves a socially deprived area where 22% of the population are in the most deprived socio-economic group and 12% are unemployed</p> <p>the station will be fully DDA compliant</p>	Moderate beneficial
TfL's Strategic Priorities		
Maintain existing transport services	existing transport services will be maintained as the time taken to stop at the station will simply use the time taken to take down or put up the pantograph in that area currently – making better use of this downtime.	Neutral
Promote sustainable development	See support economic development above	Moderate beneficial
Improve safety and security	<p>Those transferring from road to use the station will be travelling by a safer mode of transport</p> <p>Those transferring from bus will be using a safe and secure station with good lighting levels, CCTV and staff</p>	Slight beneficial
Promote equality and inclusion	See improved social inclusion above	Moderate beneficial
Reduce crowding and congestion	<p>Although the services are currently crowded on the West London Line, with the delivery of new metro style rolling stock in 2009, extension to 4 car in 2011 and increase in service frequency in 2011 from 2 to 4 trains per hour, there should be enough capacity to accommodate the increase in demand from this station.</p> <p>There may be a slight reduction of crowding on tube, at tube interchanges and on bus as people use the rail services instead.</p>	Neutral
Expand network capacity	Network capacity is increased through the provision of an additional access point.	Slight beneficial
NATA Objectives		
Environment	See tackle climate change above	Slight beneficial

Objective	North Pole Road Impact on Objective	Assessment
Accessibility	improved accessibility to public transport and therefore to jobs improved DDA access to public transport	Moderate beneficial
Integration	The scheme contributes towards the borough's local implementation plan (showing how boroughs contribute to delivering the Mayor's Transport Strategy) e.g. 2.1.5 "parts of the north of the borough (that has no underground or rail links) still below the level that the Council would like to see" and 2.1.26 main issues currently facing the borough include: "improving public transport serving the north of the borough"	Slight beneficial
Economy	See support economic development above. Also the quantified business case is discussed below.	Moderate beneficial
Safety	See safety and security above	Slight beneficial

4.7 Business Case

- 4.7.1 For TfL to endorse the scheme, value for money will need to be demonstrated. If they are providing any funding, a business case will be necessary to meet their investment approvals process. If they are not providing capital funding, an appraisal will still be required to ensure that the station has a positive impact on overall transport provision.
- 4.7.2 The value for money is demonstrated by the Benefit to Cost Ratio (BCR) which is comprised of the change in revenue, change in costs and quantified social benefits of the scheme. The BCR calculation TfL use is:

$$\text{BCR} = \frac{\text{monetised social benefits}}{\text{costs} - \text{revenue}}$$

- 4.7.3 The monetised social benefits include:
- the impact on passengers time, monetised using the value for time, including the change in crowded time;
 - ambience benefits from improvement or provision of station facilities and staffing quantified using TfL's willingness to pay valuations; and
 - congestion, accidents and emissions benefits if there is significant mode shift from road.

- 4.7.4 If TfL are required to contribute funding, they will also consider the relative value for money of other proposed projects and prioritise the funding towards projects that best meet its objectives or demonstrate the best value for money.

4.8 Impact on Other Modes and Stakeholders

- 4.8.1 TfL are unlikely to support a scheme that has an adverse impact on existing services unless the benefits significantly outweigh the costs. They will consider, for example, whether tubes and buses will become more or less crowded as a result of the new station and how significant the impact will be on nearby interchanges.
- 4.8.2 TfL will wish to understand whether the station will be supported by key stakeholders including passengers, the West London Line Group, West London Business, the Mayor and GLA. They will consider the potential disruption to passengers as well as the long term benefits or costs.

4.9 Parallels with Imperial Wharf

- 4.9.1 On the West London Line there are currently two other proposed new stations – Shepherd's Bush and Imperial Wharf. Shepherd's Bush is being built but the funding for Imperial Wharf is still uncertain. TfL have supported both stations.
- 4.9.2 We discuss here the business case for Imperial Wharf to show the method used and outputs to demonstrate what might be required for North Pole Road.
- 4.9.3 Demand for the new Imperial Wharf station was estimated using the Railplan model which uses the change in GJT to forecast a change in the number of rail, underground and bus boarders and passenger kilometres. The Railplan model predicted that around 1.2 million passengers would use the station per annum. However, as the need to interchange is reduced, overall revenue to providers declined as the total number of trips on the transport network was fewer. Our initial demand estimate for a station at North Pole Road is 326k trips per annum which is significantly lower than Imperial Wharf but is comparable with similar stations in the area. The Railplan outputs were used in the business case. Demand for the new station is assumed to build up with 35% of the total potential demand in the first year of opening, 75% in the second, 90% in the third and 100% thereafter.
- 4.9.4 The benefits quantified and included in the BCR were journey time savings, crowding, road decongestion and accident benefits. Although not quantified in this case, it could also be possible to assess the improvement in facilities for passengers who switch from other modes. For example, those who switch from bus change from an open waiting shelter to an enclosed staffed station which is beneficial. The overall BCR for Imperial Wharf was 1.8:1 based on cost estimates in late 2006, calculated over a 30 year appraisal period.
- 4.9.5 The case for Imperial Wharf was strengthened as the area has a poor accessibility with a 25 min walk to the nearest LU station and a Public Transport Accessibility Level (PTAL) rating of 2 (where 1 is the lowest, 6 highest). The need for the station was also linked with planned property development and the developer is therefore providing Section 106 funding towards it which also supports the case.

4.9.6 Drawing parallels with Imperial Wharf, the case needs to be made for North Pole Road in terms of:

- level of accessibility including assessment of transport provision in the area, showing the need for the station;
- the context of planned developments which can aid the case if the need for the station is greater because of planned developments, particularly if there is potential for Section 106 funding, or if it can be shown that the current level of accessibility is a barrier to development in the area;
- forecast demand for the station at a level which justifies it, and how quickly will it build up; and
- the overall value for money demonstrated by the BCR and contribution towards TfL's objectives.

5 Next Steps

- 5.1.1 We believe that approval of a robust business case by TfL will be required for this scheme to go ahead. We suggest the following steps to progress the case for North Pole Road station.

Strategy for approaching TfL and other stakeholders

- 5.1.2 It is vital to the case to have a strategy for approaching TfL and other stakeholders particularly Network Rail. Before approaching Network Rail and proceeding with a full business case we suggest gaining an understanding of TfL's level of support and an approval in principle. This will provide an opportunity to understand the evidence TfL would need to approve the scheme and allow the next stage of work to be focussed accordingly. This meeting also provides an opportunity to explore the possibility of TfL funding the construction of the station.

Building a robust business case

- 5.1.3 It will be important to ensure there is a robust case for a station by enhancing our initial analysis and adding to it with further transport assessment, generalised journey cost analysis using a multi-modal model such as Railplan, supporting evidence on local development plans and policies and data from sources such as the TRAVL database.

Produce Benefit Cost Ratio (BCR)

- 5.1.4 This would form part for the business case and would require an in depth analysis of the social benefits of the proposed station. In the case of North Pole Road where a large number of journey opportunities would be provided to an area that historically has not had easy access to rail travel, we recommend market research in the form of a residents survey, focus groups or stated preference exercise to determine how the current residents of the area would change their behaviour. Market research would allow the multi-modal models to be effectively calibrated to the resident's responses and help make the case at the local level.

Funding

- 5.1.5 Identifying the funding mechanisms (private and public) will be key to gaining approval from TfL and ultimately building the station. An exploration of possible Section 106 funding should be carried out. The station should be seen as part of wider development plans rather than the generator for development itself. Having developers on board from the start would enable the scheme to be a long term success by being symbiotic with the development of the surrounding area.
- 5.1.6 Getting the strategy right for sponsorship through the development and delivery phases will ensure that the scheme can be delivered on time and to budget.

Stakeholder Consultation

- 5.1.7 A full stakeholder consultation will be required. Groups such as the WLL Users Group and West London Businesses will need to be kept informed as part of the consultation. We can manage this process using our extensive Social and Market Research Capability at MVA.

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