

Technical Note

Project Title:	Rail Consultancy Advice to the Royal Borough of Kensington and Chelsea
MVA Project Number:	C3489200
Subject:	Comparing the convenience of journey-making between via North Pole station on the West London Line and via bus connections
Note Number:	NP 2009_02 Version: 1.4
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1 Introduction

- 1.1 The Royal Borough has the aspiration for an additional station on the West London Line (WLL). After initial investigations, we have advised that a station appears feasible at the North Pole (NP) site. Given WLL is part of Transport for London's (TfL) London Overground network, we advised the Royal Borough to seek views from TfL.
- 1.2 Mathew Carpen from Greater London Authority provided the following views on behalf of TfL:
 - a new station at NP would not be feasible¹ as it would be too close to existing and new stations
 - a new bus link in the area will improve access to the south by linking residents to White City (Hammersmith and City Line station and Central Line station).
- 1.3 The feasibility issue is discussed in another note (NP 2009_03). This note assesses whether bus links have the potential to offer similar journey times to rail via NP. The two stages of these comparisons are:
 - comparing journey times to key destinations via NP and current bus routes
 - based on the above comparisons, design a new bus link to White City and assess if this offers a convenient journey making opportunity compared to the via NP option.

2 Travelling via NP vs via existing bus routes

- 2.1 There are a number of key target destinations from north Kensington, namely:
 - Paddington Basin
 - West End

¹ Feasible: the word used

2.5 Table 2.1 compares the GJTs of using NP with the competing option of using current bus connections to reach key destinations.

Table 2.1 Comparison of GJTs using rail at NP and Current Bus routes

Area	Station	Via NP (GJT - mins)	Via Current Bus Routes (GJT – mins)	NP Advantage ?
Paddington Basin	Paddington	WLL to Shepherds Bush, and then Central and H'smith lines (42)	No.7 - Bus Stop: Barlby Rd, to Ladbrokes Grove (39)	No 3 mins slower
West End	Bond Street	WLL to Shepherds Bush, and then Central line (40)	No.220 - Bus Stop: Caversway Street, to White City (Central Line) (52)	Yes 12 mins faster
	Oxford Circus	WLL to Shepherds Bush, and then Central line (41)	No.220 - Bus Stop: Caversway Street, to White City (Central Line) (53)	Yes 12 mins faster
	Tottenham Court Road	WLL to Shepherds Bush, and then Central line (42)	No.220 - Bus Stop: Caversway Street, to White City (Central Line) (54)	Yes 12 mins faster
	Victoria	District line from West Brompton (47)	No.220 - Bus Stop: Caversway Street, to White City (Central Line) (65)	Yes 18 mins faster
City	Farringdon	WLL to Shepherds Bush, and then Central and Circle lines (66)	No.7 - Bus Stop: Barlby Rd, to Ladbrokes Grove (54)	No 12 mins slower
	Liverpool Street	WLL to Shepherds Bush, and then Central line (52)	No.7 - Bus Stop: Barlby Rd, ro Ladbrokes Grove (59)	Yes 7 mins faster
	Bank	WLL to Shepherds Bush, and then Central line (50)	No.220 - Bus Stop: Caversway Street, to White City (Central Line) (62)	Yes 12 mins faster
Docklands	Isle of Dogs	WLL to Shepherds Bush, and then Central and Jubilee lines (66)	No.220 - Bus Stop: Caversway Street, to White City (Central Line) (78)	Yes 12 mins faster
King's Cross	King's Cross	WLL to Shepherds Bush, and then Central and Victoria (55)	No.7 - Bus Stop: Barlby Rd, to Ladbrokes Grove (48)	No 7 mins slower
Clapham Junction	Clapham Junction	WLL (32)	No.316 - Bus Stop: St Marks Rd, to Shepherds Bush (67)	Yes 35 mins faster

GJTs are calculated based on data from TFL journey planner

2.6 As shown, it is more convenient to travel to the West End and most parts of the City and the Docklands via NP than via current bus links. Because of the direct rail services, it is also more convenient to travel to areas around WLL stations via NP, such as Clapham Junction.

3 Travelling via NP vs via a new bus link to White City

3.1 As TfL are planning on improving connectivity to current stations, namely to White City station, this section compares the GJTs between using this new bus link to using NP.

3.2 Figure 3.1 illustrates the new bus link. It should be noted that the line for the new bus link is only for illustrative purposes and does not represent the precise location of its start and finish. Indeed, it is reasonable to assume that it will not start at the point drawn, within the NP catchment but further afield (possibly to Marylebone in the northeast and Chiswick to the southwest?) Regardless of other areas which can be linked, the key to this route is that it runs through the most populated parts in the catchment and connects to White City via the shortest route.

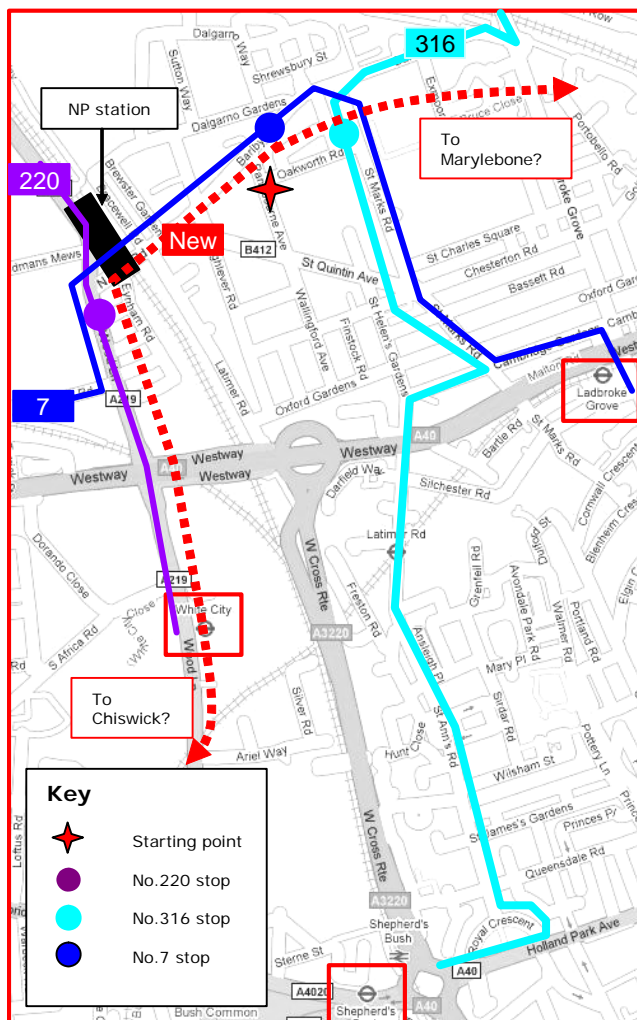


Figure 3.1 New bus route illustrated, in relation to current routes

- 3.3 We have assumed that this new bus link will largely have the service characteristics of existing buses. It will operate at a speed of 6 miles per hour – the average speed of Buses 220, 316 and 7, giving an in-vehicle journey time of five minutes for reaching White City. There will be a four minute wait for the bus – the average waiting time for the same existing buses.
- 3.4 Using the speed and service frequency discussed above, Table 3.1 compares the GJTs to key London destinations between using this new bus link and the option of using NP.

Table 3.1 Comparison of GJTs using rail at NP and new bus link

Area	Station	Via NP (GJT)	Using new bus (GJT)	Bus link	NP Advantage over new bus?
Paddington Basin	Paddington	42	39	No.7 Bus Stop: Barlby Rd, Interchange at Ladbrokes Grove	No 3 mins slower
West End	Bond Street	40	43	New Bus Route to White City for onwards journey.	Yes 6 mins faster
	Oxford Circus	41	44	New Bus Route to White City for onwards journey.	Yes 6 mins faster
	Tottenham Court Road	42	45	New Bus Route to White City for onwards journey.	Yes 6 mins faster
	Victoria	47	56	New Bus Route to White City for onwards journey.	Yes 12 mins faster
City	Farringdon	66	54	No.7 - Bus Stop: Barlby Rd, Interchange at Ladbrokes Grove	No 12 min slower
	Liverpool Street	52	59	No.7 - Bus Stop: Barlby Rd, Interchange at Ladbrokes Grove	Yes 7 mins faster
	Bank	50	53	New Bus Route to White City for onwards journey.	Yes 6 mins faster
Docklands	Isle of Dogs	66	69	New Bus Route to White City for onwards journey.	Yes 6 mins faster
King's Cross	King's Cross	55	48	No.7 - Bus Stop: Barlby Rd, Interchange at Ladbrokes Grove	No 7 mins slower
Clapham Junction	Clapham Junction	32	67	No.316 - Bus Stop: St Marks Rd, Interchange at Shepherds Bush	Yes 35 mins faster

- 3.5 As shown above, for most destinations, it is likely that people from the NP catchment will find it more convenient to use NP than a direct bus link from the NP catchment area to White City.
- 3.6 It should be noted that for most destinations where NP has a GJT advantage over the new bus link, NP's advantage is six minutes in GJT terms. This advantage can be minimised by a number of measures that can be implemented on the new bus link, such as reducing wait time by just over two minutes or reducing the in-vehicle journey time by six minutes.

4 Conclusion

- 4.1 Most people from the NP catchment area are likely to find it more convenient to travel via NP compared to taking the bus. **NP has considerable advantage over the competing bus option** for most of the destinations assessed. This advantage is likely to be approximately 12 minutes in GJT terms for most destinations.
- 4.2 **Compared to a new bus link** directly linking the NP catchment area and White City, **NP has an advantage** in terms of accessing most of the key destinations assessed. This advantage is likely to be approximately 6 minutes in GJT terms for most destinations.
- 4.3 In order for most people to prefer the new bus link over using NP, a number of issues need to be considered, including:
- bus speed – will it be feasible to operate the vehicles on this link above average bus speed in the area to reduce overall in vehicle time? The bus will need to be travelling at approximately 25 miles per hour to get advantage over the NP option
 - bus frequency – the 6 minute advantage of using NP can be overcome if the frequency of the service is increased sufficiently. However, will it be feasible to operate sufficient number of buses so that one turns up around every 1.4 minutes?
 - the trade off between speed and frequency – what is the optimal trade-off between these two service characteristics? Is it more attractive to run a fast bus, or a frequent bus?
 - congestion – if the route operates a high frequency service, then how likely is it that the number of additional buses on the roads will cause severe congestion? If the roads are congested, then how can fast speed be achieved?
- 4.4 Overall, the key question is if a bus service can be operated at sufficient speed and / or frequency to overcome the advantages offered by travelling via NP. Again, it should be remembered that for north-south destinations, directly connected to the area via WLL, such as Clapham Junction, NP is likely to be more preferable as a travel option than any bus link.
- 4.5 As **next steps**, we recommend a quick assessment on the above bus operations and congestion issues to see if it is likely that the new bus link will offer superior connections than via NP. We have in-house expertise on bus operations and on road congestion. We have recently worked on a number of projects related to bus operations, including a review of the Bristol bus network, Bus Priority projects and Bus Route Publicity Systems (BURPS) for TfL, and a variety of traffic assessments for numerous local authorities. We are well-known for our expertise on road congestion issues, having advised TfL on congestion charging and monitoring.