

Clarification information Tooting and Balham: S12B

To be read in conjunction with factsheet
S12 – Wimbledon to Clapham Junction

The information in this factsheet has been developed to help address community concerns and is intended to provide further detail regarding our proposals in factsheet *S12: Wimbledon to Clapham Junction*.

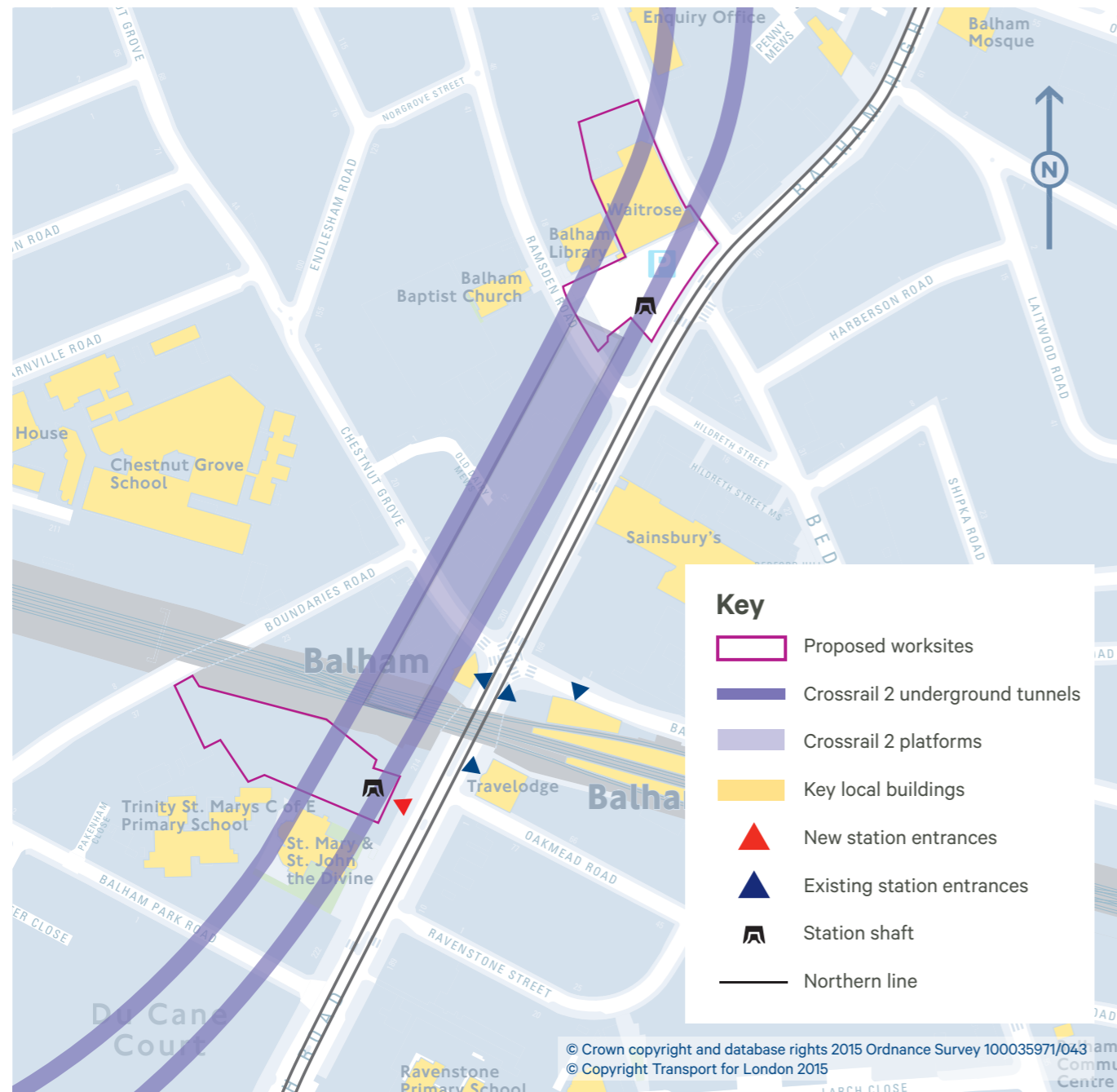
Previous Crossrail 2 consultations have proposed a station at Tooting Broadway. Tooting Broadway offers good transport benefits and a station was planned to interchange with the Northern line. A Crossrail 2 Northern line interchange is essential to alleviating crowding on one of the most crowded parts of the London Underground network.

Recent assessments have identified that ground conditions in the Tooting area would make it significantly more difficult to build a station at Tooting Broadway than originally thought. As a result of these challenges, we are looking at an alternative station location at Balham. A Crossrail 2 station at Balham would allow for an interchange with the Northern line and deliver similar transport benefits to Tooting Broadway. Our recent assessments suggest this can be achieved without facing the challenges posed at Tooting.

The geological challenges at Tooting Broadway are something we discovered relatively recently, and as such, we are seeking to develop a proposed design for a station at Balham to a similar level of detail as proposed designs for the other stations. Further assessments of ground conditions in the Tooting area will inform future design work. Whilst we have not formally removed Tooting Broadway from the Crossrail 2 proposals, our view is that there are very significant challenges to building a station there.



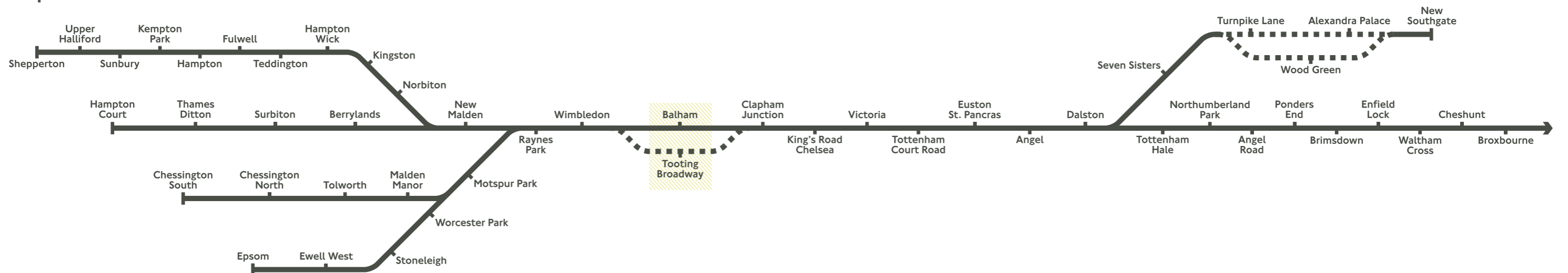
Worksites required to build Crossrail 2 at Balham



Worksites require to build Crossrail 2 at Tooting Broadway



Proposed Crossrail 2 stations



1. What is the difference in costs between stations at Balham and Tooting Broadway?

Based on the feasibility work that we have undertaken to date, we anticipate that the cost of building a station at Balham would be in the order of £500m. In recognition of the significant challenges that we believe to exist at Tooting Broadway due to the geological conditions, the equivalent cost for a station at Tooting Broadway is anticipated to be in the order of £1bn (i.e. approximately twice as expensive).

2. How long will it take to construct a station at Tooting Broadway compared with Balham?

Based on the feasibility work that we have undertaken to date, we anticipate that the main construction and tunnelling work (i.e. the most disruptive type of work) for a station at Balham would take approximately 5 – 6 years. Of this, we anticipate that the period during which the main excavations would take place, would be approximately 1.5 – 2 years.

For Tooting Broadway, the equivalent main construction and tunnelling work is anticipated to take approximately 7 – 8 years, as a different method of construction would be required due to the soil conditions at Tooting Broadway, including a longer excavation period which could last for approximately 3 – 4 years.

For both stations there would then be a further period of approximately 2 years of work, this would include utilities diversions and station fit out to in advance of passenger operations commencing.

3. Which buildings will be impacted in Tooting Broadway?

We cannot say with certainty which local amenities in Tooting Broadway would be impacted if we built a Crossrail 2 station there because of the local ground conditions. However, based on the feasibility work done to date, construction at Tooting is anticipated to require approximately double the land required at Balham. At a minimum it would require worksites impacting on Sainsbury’s and the adjacent retail units, South Thames College, retail units on Mitcham Road between the existing station entrance and the bingo hall, and retail units to the north of the station on Tooting High Street / Upper Tooting Road. It is possible that the operation of Tooting Market would also be impacted during the construction of the scheme. As compared with the proposed worksites of one office block, a self-store facility and Waitrose supermarket at Balham. **See *S12: Wimbledon to Clapham Junction***

Building a station at Tooting Broadway would also have a much bigger impact on the local road network than building at Balham, because of the need to adopt a different construction methodology – as explained in question 4 a larger proportion of the spoil would need to be removed via the surface. Our early work has indicated that this would require around double the number of lorries to remove excavated material than would be required at Balham.

Tooting Ground Conditions

The geology in and around Tooting Broadway is heavily influenced by the existence of geological fault lines, sands and silts; and high water pressures. You can find more information via the British Geological Survey website. These conditions are particularly prevalent in the deeper ground in which the Crossrail 2 station would need to be constructed.

The Northern line is constructed in a thin layer of London clay, which is considered good ground for tunnelling. Crossrail 2 has to be constructed at a deeper level where the ground is sandy and more difficult for tunnelling. The station platform tunnels at Tooting Broadway would be around 25 metres below ground level to the top of the tunnel.

4. How will the construction methodology be different?

As the ground is more difficult for tunnelling at Tooting Broadway, a construction methodology has been developed to minimise the amount of sprayed concrete lined tunnelling required for station construction. This leads to a larger station box with more of the station being built using top down construction. Additionally, it is likely that the ground (which is wet) would need to be frozen to build the station platform tunnels and cross passages, which also leads to increased space requirements at both of the station worksites. A ground freezing solution would constrain the construction phasing. It also constrains the options for removing the excavated material.

As the station box would be larger at Tooting Broadway, more excavated material would need to be removed from site by road, resulting in around double the number of lorry movements compared to Balham.

Conversely, at Balham, more of the station could be constructed from underground tunnels and the size of the station box can be minimised. This construction would be similar to most modern underground stations in London.

5. How were engineers able to build the London Underground Tooting Broadway Northern line station but not a new Crossrail 2 station?

The London Underground station at Tooting Broadway was constructed at a shallow depth in a thin layer of London clay. Crossrail 2 would need to be constructed at a deeper level where the ground is sandy and more difficult for tunnelling.

6. How much additional land will be needed to construct a station at Tooting Broadway as opposed to Balham?

More than double the area of land would be required to build a station at Tooting Broadway compared to Balham because of the construction methods we would need to use.

7. Does this mean Crossrail 2 will not stop at Tooting Broadway?

No final decisions have been made, but we are looking at a Balham option because it could be built with significantly less disruption and would still provide many of the same transport benefits as a station at Tooting Broadway.

8. Would Tooting Broadway residents still benefit from Crossrail 2 at Balham?

Tooting residents would benefit from a Crossrail 2 station in Balham, through interchange (via bus, cycle or the Northern line) at Balham, saving around 5 minutes for journeys to popular central London stations, including Tottenham Court Road and Euston.

Streatham and Mitcham residents would benefit by connecting from Streatham Common, Streatham Hill and Mitcham Eastfields station trains onto Crossrail 2 at Balham, resulting in similar time savings.

A Crossrail 2 interchange with the Tube at Balham ranks highly in its ability to offer crowding relief to the Northern line and Victoria line. By 2041 in the morning peak stations north of Balham to Stockwell are expected to be subject to regular closures. Crossrail 2 interchanging with the Northern line at Balham would ease this crowding and benefit passengers using Northern line stations south of Stockwell. Passengers could also interchange with National Rail.

Balham station is currently poorly served by local buses; services from the east (towards Streatham) are infrequent and slow (via local residential streets). A review of local bus routes serving Balham station is likely to result in extended and new routes from areas including Streatham.

9. Has Crossrail 2 taken into account the regeneration benefits of Tooting to compensate a higher build cost?

In developing the scheme we have assessed the potential for it to unlock the delivery of new homes and create local jobs. While a station at Tooting Broadway would unlock marginally more new homes and new local jobs than Balham these extra jobs and homes at Tooting are not anticipated to generate sufficient additional value equivalent to the additional cost of building the station.

10. Why are you planning to put a ventilation shaft in Wandsworth Common?

The former alignment from Tooting Broadway to Clapham Junction required two ventilation shafts; these shafts were originally proposed to be located within Wandsworth Common. Following engagement with the community we were able to develop our plans to find alternative locations which were less intrusive and minimised the impact upon the community.

Now Crossrail 2 is proposing to serve Balham, the alignment of the tunnels from Clapham Junction has

moved in an easterly direction compared with the Tooting Broadway alignment. This easterly movement in the alignment to connect Clapham Junction and Balham means the tunnels will pass deep underground between these stations. This point falls in the immediate area of Wandsworth Common. Vent shafts need to be located between two stations in close proximity to the tunnels, which in this area is constrained by our need to avoid residential areas. As the area to the east of Wandsworth Common is heavily residential we have limited options for potential locations for a vent shaft.

The current location of the proposed ventilation shafts is presented as part of the factsheet ***S12: Wimbledon to Clapham Junction***. We are proposing sites within the Springfield development and on the edge of Wandsworth Common, at the end of Honeywell Road. You can find more information on ventilation shafts in the factsheet, ***G2: Crossrail 2 Shafts***.

11. What will the vent shaft look like when it is finished?

The vent shaft’s “head house” – the structure over the top of the shaft – would remain permanently on the Common. At this early stage of Crossrail 2 design, we expect a typical head house to occupy a surface area of around 25 metres by 25 metres and to be at least two storeys high – but the size of each head-house would be influenced by local factors including the depth of the tunnels and the height of surrounding buildings at each site. In an open area like this, it could be much lower to blend into the surrounding area – more like the Crossrail 1 head house at Mile End see factsheet ***G2: Crossrail 2 Shafts***. Further design work will be required to determine our requirements at each individual location, and we will consult with the local community during this process.

12. Will there be permanent damage to the Common?

No playing field space will be permanently lost. Upon completion the land will be handed back as public open space: we will restore any such space affected by temporary works when we are finished. Meanwhile the rest of Wandsworth Common will remain open during construction.

13. How long will the work take?

Based on the experience of Crossrail 1, a typical shaft would take approximately five years to complete. But activity on site would fluctuate during this period. Once the site has been prepared, the major construction work to dig out the shaft would usually be complete within two years.

Please see the table below for a comparison of the high level construction impacts at both Tooting Broadway and Balham.

| | Balham | Tooting Broadway |
|---|--|--|
| Interchange | Northern line, National Rail services and local buses | Northern line and local bus services |
| Cost | Approx. £500 million | Approx. £1 billion |
| Construction duration (total) | 5 – 8 years | 7 – 10 years |
| Land Requirements | Local supermarket, current 4 story commercial building, self-store industrial building | More than double the area of land would be required to build a station at Tooting Broadway compared to Balham because of the construction methods we would need to use |
| Lorry Movements | Approx. half the number required at Tooting Broadway | Approx. double the number required at Balham |
| Crowding reduction on the Northern line | 1.2 person per metre square | 1.3 persons per metre square |

Visit www.crossrail2.co.uk where you can view and download a range of factsheets, maps and other information about the scheme.

Come along to one of our drop-in events where you will have an opportunity to view our proposals and speak to members of the Crossrail 2 team.

Please visit www.crossrail2.co.uk for details about events in your area.

Please contact us to request a copy of this leaflet and other Crossrail 2 consultation material in hard copy, large print, audio or another language.

Contact us

- Email: crossrail2@tfl.gov.uk
- Helpline: 0343 222 0055*
- Post: Freepost Crossrail 2 Consultations
- Website: www.crossrail2.co.uk

*Service and network charges may apply. See tfl.gov.uk/terms for details

Have your say

This consultation gives you the opportunity to comment on proposals for Crossrail 2. Visit www.crossrail2.co.uk to leave a comment or provide a response to the consultation questions. The consultation will close on Friday 8 January 2016.

Development is still at an early stage. There will more opportunity to provide feedback on Crossrail 2 as the scheme develops.