

Have
your
say



Bakerloo line extension

Further Extension to Hayes and Beckenham Junction
Summary Report

October 2019

CONTENTS

<i>1. Purpose of the further extension to Hayes and Beckenham Junction summary report</i>	<i>3</i>
<i>2. Introduction</i>	<i>4</i>
<i>3. The case for an extension to Hayes and Beckenham Junction</i>	<i>7</i>
<i>4. Alternative routes and destinations we considered</i>	<i>13</i>
<i>5. Route option assessment</i>	<i>15</i>
<i>6. What we will do following this consultation</i>	<i>21</i>

LIST OF FIGURES

Figure 1 - Bakerloo line extension proposal to Lewisham 4
Figure 2 – Consultation proposal to extend to Hayes and Beckenham Junction..... 6
Figure 3 - Journey times for current Hayes services compared to times if the Bakerloo line is extended to Hayes 10
Figure 4 – ‘Beyond Lewisham’ extension route options assessed since 2015 14

LIST OF TABLES

Table 1 - Comparison of potential Tube service capacity compared to current National Rail capacity on the Hayes route 9
Table 2 - Strategic assessment: Mayor’s Transport Strategy and Bakerloo line extension scheme objectives..... 13
Table 3 - Comparative assessment of the six route options 17

1. Purpose of the further extension to Hayes and Beckenham Junction summary report

1.1.1. The purpose of this report is to explain why we consider that an extension of the Bakerloo line beyond Lewisham to Hayes and Beckenham Junction could improve transport connectivity and regeneration opportunities along this route. The report also outlines the route and destination options we considered for an extension beyond Lewisham, and explains why we concluded that the proposed route to Hayes and Beckenham Junction is the preferred option for a further extension.

1.1.2. *To find out more*

1.1.3. Visit tfl.gov.uk/bakerloo-extension where you can view and download a range of factsheets, maps, and other information about the scheme.

1.1.4. Alternatively, come along to one of our exhibitions where you will have the opportunity to view our proposals and speak to members of the Bakerloo line extension team. More details about the exhibitions are available on our website at tfl.gov.uk/bakerloo-extension

1.1.5. Please contact us to request a copy of our material in hard copy, large print, audio or another language.

1.1.6. *Contact us*

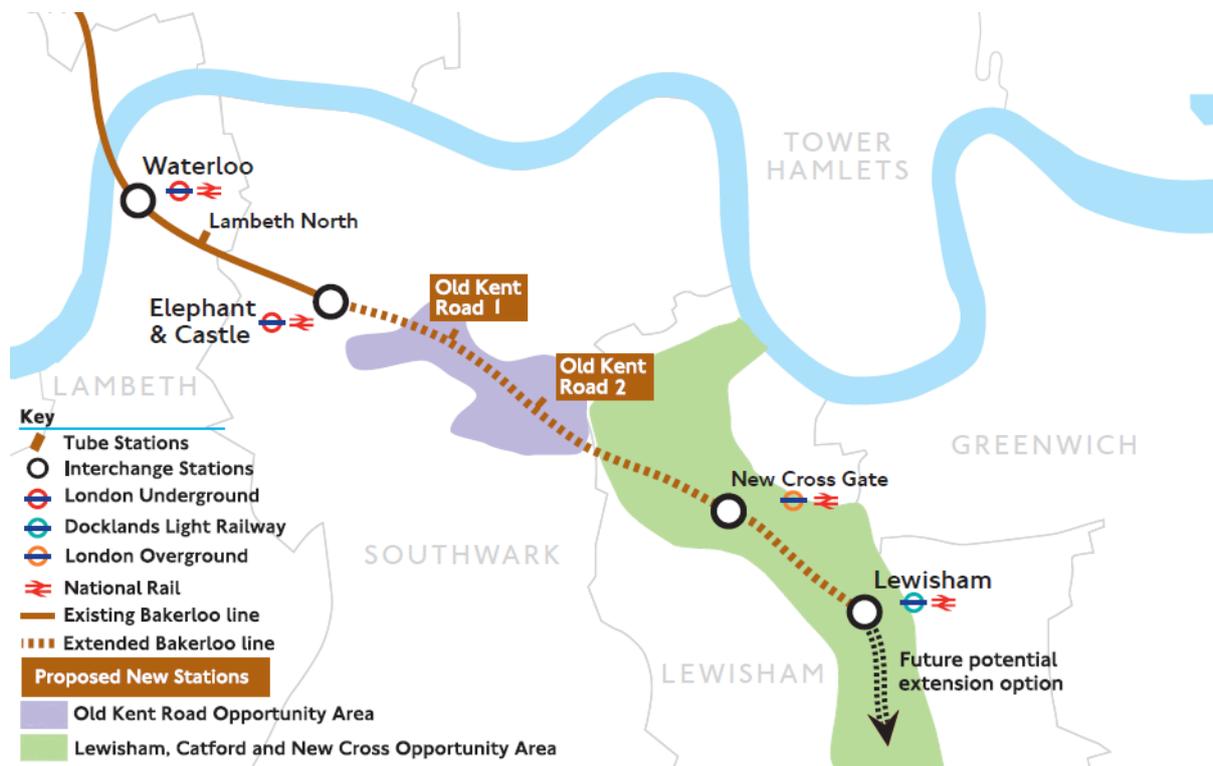
- Website: tfl.gov.uk/Bakerloo-extension
- Email: ble@tfl.gov.uk
- Telephone: 0343 222 1155
- Post: FREEPOST TFL CONSULTATIONS (BLE)

2. Introduction

Extension to Lewisham

2.1.1. An extension to Lewisham via Old Kent Road and New Cross Gate would provide new transport capacity to south east London and improve transport connections. This would help to enable development in south east London, support London's growth and improve journeys for existing communities. The proposal to Lewisham (and potential extension beyond Lewisham) is a key proposal in the Mayor's Transport Strategy. A map of the proposal is shown in Figure 1.

Figure 1 - Bakerloo line extension proposal to Lewisham



Extension beyond Lewisham

2.1.2. When we consulted on the proposed Bakerloo line extension in 2014, the consultation included a possible option for a route to Hayes and Beckenham Junction, which would involve converting the existing National Rail route from Ladywell to Hayes to London Underground operation and providing a new link to Beckenham Junction. We set out the reasons why we were considering the route destination in the [Background to Consultation report](#)¹.

¹ The 2014 Bakerloo line extension Background to Consultation report is available from https://consultations.tfl.gov.uk/tube/bakerloo-extension-2014/user_uploads/bakerloo-line-extension---background-to-consultation---amended.pdf

- 2.1.3. More than 15,000 responses to the consultation were received with 96% of respondents supporting the principle of the extension and 56% of respondents supporting the option to extend to Hayes and Beckenham Junction. 11% of respondents opposed the Hayes and Beckenham Junction proposal, while 31% neither supported nor opposed the proposal and 2% did not provide a response to this question.
- 2.1.4. The consultation responses to the 2014 consultation also provided a number of alternative suggestions for the potential route of the extension beyond Lewisham. These alternative options were assessed following the consultation, leading to an [Option Assessment Report](#)² in 2015 recommending that an extension to Lewisham via Old Kent Road and New Cross Gate should form the basis of any initial extension, but that the prospect of extending further should be maintained.
- 2.1.5. This position was set out in the [Mayor's Transport Strategy](#)³ published in 2018, which stated that:
- 'The Mayor, through TfL, the relevant boroughs and Network Rail, will seek to extend the Bakerloo line to Lewisham and beyond in order to improve public transport connectivity in this part of London and enable the provision of new homes and jobs'*
- 2.1.6. As the proposals for the extension to Lewisham have been developed, we have ensured that the designs we consulted on in 2017, and now in 2019, allow for a further extension. Furthermore, as we have developed these proposals, we have been able to increase our understanding of how an extension beyond Lewisham could support operational and construction requirements as well as helping to achieve the objectives of the Mayor's Transport Strategy – this was highlighted in our [Response to the Issues Raised Report from the 2017 consultation](#)⁴.
- 2.1.7. We are now consulting on a proposal to extend the Bakerloo line, including beyond Lewisham to Hayes and Beckenham Junction, shown in Figure 2, which would be in addition to our planned extension to Lewisham. We are consulting on this proposal as we have concluded that the opportunities and benefits that would arise from converting the Hayes National Rail line to Underground operations could justify the costs and impacts of the conversion. If we were to progress an extension beyond Lewisham to Hayes the cost of the extension would increase further. We will be able

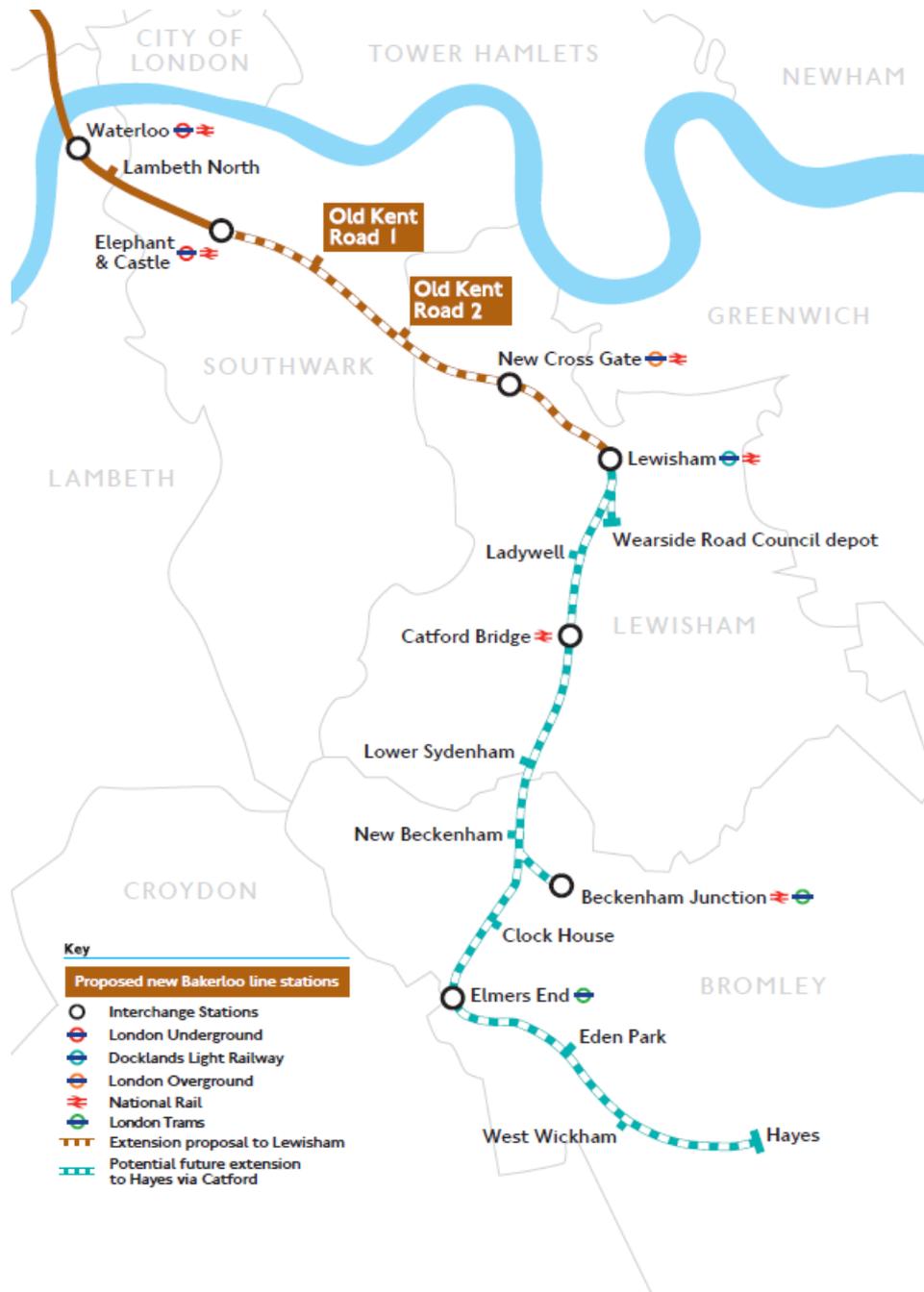
² The 2015 Options assessment report for the Bakerloo line extension is available from https://consultations.tfl.gov.uk/tube/bakerloo-extension-2014/user_uploads/options-assessment-report_final.pdf

³ The Mayor's Transport Strategy, which includes BLE as proposal 85 is available from <https://www.london.gov.uk/sites/default/files/mayors-transport-strategy-2018.pdf>

⁴ The Response to Issues Raised by the 2017 consultation is available to download from https://consultations.tfl.gov.uk/tube/bakerloo-extension-2017/user_uploads/ble-updated-response-to-issues-raised.pdf

to establish what the cost of an extension to Hayes could be if we undertake further work to develop that proposal following this consultation.

Figure 2 – Consultation proposal to extend to Hayes and Beckenham Junction



3. The case for an extension to Hayes and Beckenham Junction

Infrastructure and works requirements of the proposed extension

3.1.1. A further extension of the Bakerloo line from Lewisham to Hayes and Beckenham Junction is likely to involve:

- Connecting the proposed Bakerloo line extension tunnels to the current National Rail line between Lewisham and Hayes at Wearside Road Council depot (subject to confirming the location of our main tunnelling worksite)
- Converting the current National Rail line to Hayes to accommodate Bakerloo line services
- Bakerloo line services replacing the current National Rail services on the line, affecting the following stations:
 - Ladywell
 - Catford Bridge
 - Lower Sydenham
 - New Beckenham
 - Clock House
 - Elmers End
 - Eden Park
 - West Wickham
 - Hayes
- These stations and other infrastructure on the Hayes branch would be upgraded
- Modifying platforms at Beckenham Junction to accommodate the new Bakerloo line trains (Bakerloo line services at this station would use the existing rail connection from New Beckenham. These services would be additional to the existing National Rail services to London Victoria)

The benefits of an extension to Hayes and Beckenham Junction

3.1.2. If delivered, a Bakerloo line extension to Hayes and Beckenham Junction could provide a range of benefits to passengers making journeys to, from and across south east London.

A more frequent London Underground service could operate compared to the existing National Rail service

3.1.3. The Hayes line currently operates a service of six trains per hour (tph) in the morning and evening peak periods⁵, and four trains per hour off-peak. The service is currently split between Cannon Street (3 tph in the peak, 2tph off-peak) and Charing Cross (3

⁵ 06:30 to 09:30 and 16:00 to 19:00.

tph in the peak, 2tph off-peak), with all trains calling at London Bridge⁶. If the Bakerloo line were extended to Hayes and Beckenham Junction, we expect that these services would be replaced by a higher frequency service that could provide a train up to every 2-3 minutes.

- 3.1.4. Any Bakerloo line service on the existing Hayes line would be scheduled to operate in a regular service pattern, to manage demand and provide regularly spaced departures. This is because we would only be running trains along one line of route to one destination, which would remove the crossing movements of trains heading to different destinations. Additionally, underground services would not be subject to the capacity constraints of London termini.

A more frequent London Underground service would have a higher passenger capacity compared to the existing National Rail service

- 3.1.5. Although London Underground trains are smaller than National Rail trains, as they operate at a high frequency, in almost all cases they would also provide a higher overall capacity.

- 3.1.6. Table I shows how the capacity of London Underground Bakerloo line train services could compare to the current National Rail services to Hayes.

- Cannon Street services typically consist of 12-car Class 376 Electrostar trains and Charing Cross services typically consist of 10-car length Class 465 or 466 train types.
- The 465/466 train 10 car combination has been used in the table below as it has the higher total capacity. In all circumstances with the provision of the Bakerloo line, stations north of New Beckenham⁷ would be expected to have a higher overall capacity service as well as greater seated capacity.
- As a minimum, underground services from Hayes would be expected to have broadly the same level of overall capacity as the existing National Rail services. The total seated capacity may be slightly reduced with a lower frequency (off-peak) service.
- New Beckenham northwards would have a higher frequency service than the individual Hayes and Beckenham Junction branches because services from the two branches would merge here before going onward towards Lewisham and central London.

⁶ In the future the service pattern may change as the Department for Transport has proposed replacing Cannon Street services with services to London Victoria instead.

⁷ Services south of New Beckenham would be split between those serving Beckenham Junction and those serving Hayes

Table 1 - Comparison of potential Tube service capacity compared to current National Rail capacity on the Hayes route

	Hayes LU	New Beckenham LU	National Rail Class 376 Electrostar	National Rail Class 465
Service	12tph to 18tph	18tph to 24tph	2 tph	4 tph
Seats per train	260	260	504	860
Standing passengers per train (at 4 passengers per square metre)	491	491	1,212	540
Total train capacity	751	751	1,716	1,400
Frequency (trains per hour)	12tph to 18tph	18tph to 24tph	2 tph	4 tph
Total seated capacity per hour	3120 to 4680 seats per hour	4680 to 6240 seats per hour	4448 seats per hour	
Total capacity per hour	9012 to 13518 passengers per hour	13518 to 18024 passengers per hour	9032 passengers per hour	

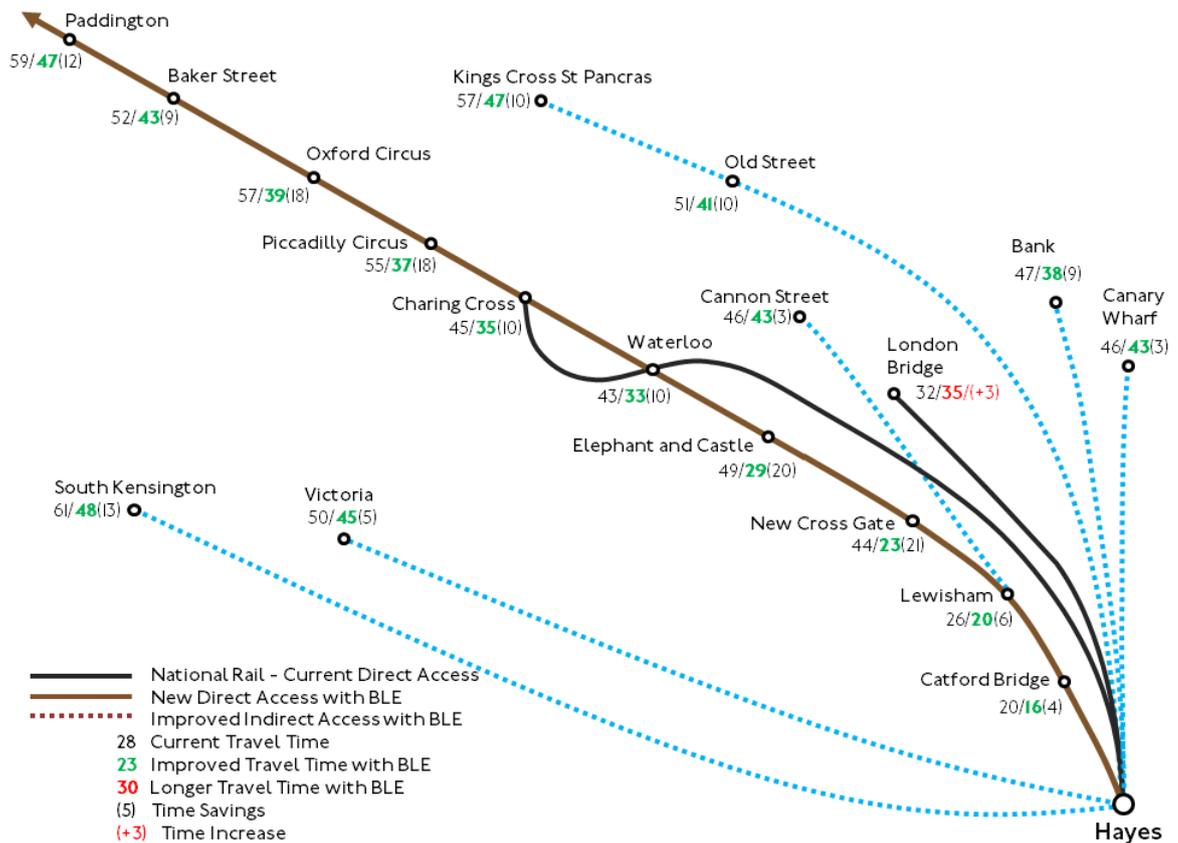
3.1.7. The service assumptions for any proposed Bakerloo line extension option would be developed in more detail as part of future work.

Faster journeys to both the West End and the City, but requiring an interchange for journeys into the City

3.1.8. As shown on Figure 3, the extension of Bakerloo line services to Hayes and Beckenham Junction would be expected to reduce existing journey times to the majority of destinations in central London and further afield. This is the case not only for journeys to the West End, where locations such as the South Bank, Whitehall, Oxford Street, Regent’s Park and Paddington would only be accessible via a single Tube journey, but also for journeys to the City and locations such as Bank and Old Street via an interchange. These benefits would be enabled by a direct service to more locations, including key central London interchanges and the faster acceleration and braking capabilities of modern Bakerloo line trains that would operate on the

Bakerloo line once it is upgraded, as well as the frequency benefits delivered by a more frequent service. Journey times to London Bridge however would be expected to be slightly longer than they are with the present service.

Figure 3 - Journey times for current Hayes services compared to times if the Bakerloo line is extended to Hayes



Direct interchange with all other London Underground lines, the Elizabeth line, London Overground and the Docklands Light Railway (DLR) at Lewisham for Canary Wharf

3.1.9. The direct route, and faster journey times to central London destinations provided by the extension to Hayes and Beckenham Junction would mirror those provided on other London Underground lines such as the Central, Piccadilly, Northern, District and Metropolitan lines, all of which have stations at a similar distance, or further away, from central London than Hayes station. These lines all provide substantial benefits in enabling fast, frequent and direct journeys into the centre of London and the employment, leisure and commercial opportunities available there, as well as locations further afield. Extending the Bakerloo line will deliver comparable benefits to south east London.

3.1.10. The extension to Hayes and Beckenham Junction would provide an improved direct connection to other sections of the London transport network, providing a wide range of journey opportunities. The extension proposal to Lewisham will provide connectivity benefits, by providing a direct interchange with every other London Underground line, as well as the Elizabeth line at Paddington, and the London Overground East, North and West London Lines at New Cross Gate and Willesden Junction respectively. It would also provide a high frequency service from Hayes and Beckenham Junction to the Docklands Light Railway at Lewisham, enabling a faster journey to Canary Wharf.

New direct connections to National Rail services from Paddington and Marylebone

3.1.11. Along with the direct connections to the London rail and Tube network, and to the Southern and Southeastern train services at New Cross Gate and Lewisham respectively, the extension to Hayes and Beckenham Junction would provide direct connections from Southeast London to major National Rail termini stations at Paddington and Marylebone. This would be in addition to continued direct connections to Waterloo and Charing Cross National Rail stations.

3.1.12. In the future, it is also planned that High Speed Two would stop at Old Oak Common. The Bakerloo line services Willesden Junction station which is part of the Old Oak Common growth area and would provide an opportunity to change to access High Speed Two services. This would further increase the ease of travelling to Birmingham and the North, benefiting business and leisure journeys.

3.1.13. Direct services to London Bridge and Cannon Street stations would no longer be available with a Bakerloo line extension to Hayes and Beckenham Junction. However both stations would still be accessible via interchange at Lewisham, New Cross Gate and/or Elephant & Castle. Services to Victoria station from Beckenham Junction would be unaffected by any Bakerloo line extension.

A new direct link from Beckenham Junction to Lewisham town centre and central London

3.1.14. The proposal to extend to Beckenham Junction as well as to Hayes would improve local connectivity by allowing the creation of a new regular link from Beckenham Junction to the Hayes line and along the route of the extended Bakerloo line to Lewisham (for DLR services to Canary Wharf) and through central London. This would enable passengers to change services at Beckenham Junction from London Trams and from National Rail services across the wider Southeastern network. This connection would better link local town centres as well as increasing the resilience of the London rail network during disruptions, providing an alternative route for National

Rail passengers in central London to reach destinations in south east London and beyond to Kent.

A fully accessible railway

3.1.15. As part of any works to convert the Hayes line to London Underground operation, we would introduce TfL's modern standards and services. This would include making all stations fully step free both within the station and from street to train. This would significantly improve the number and range of accessible travel options for passengers who rely on step free travel to make easy journeys.

London Underground fares would be available

3.1.16. The conversion of the Hayes line to London Underground operation would mean that London Underground fares would apply to journeys made using the line. No decisions have been made on the future fare structure for the line.

3.1.17. A comparison of current fares shows that journeys paid by Oyster or contactless, which makes up more than 90% of journeys on the London Transport network, on possible future Bakerloo line underground services, based on current fares and zones, would, in all cases be the same price or cheaper than National Rail only fares to the same destinations. Cash fares are also usually cheaper on the London Underground network than on the National Rail network, with the only exceptions being for fares to London Termini stations from zones 3 and 4 which are marginally more expensive.

3.1.18. We will continue to monitor fares comparisons as the proposals for an extension to Hayes develop.

Improving wider rail services across south east London

3.1.19. The extension of the Bakerloo line could enable the recasting of existing National Rail paths that are currently used by the Hayes line into central London to alternate National Rail lines through south east London and into Kent. These additional services could improve journeys for many thousands of existing rail passengers and add capacity to support wider regeneration.

3.1.20. The final set of proposals for any recasting of the timetable would be subject to the service specification for rail services in London and into Kent. This is currently set by the Department for Transport with Network Rail; however TfL has proposed that Government should devolve the southeast rail services to its operation in its [Metroisation Strategic Case](#)⁸.

⁸ More details can be found here: <http://content.tfl.gov.uk/strategic-case-for-metroisation.pdf>.

4. Alternative routes and destinations we considered

- 4.1.1. Since 2015 we have considered a range of route options beyond Lewisham including options that were proposed in the responses submitted to the 2014 public consultation.
- 4.1.2. The initial [Options Assessment Report](#)⁹ was published in December 2015. This informed the decision to deliver the Bakerloo line extension to Lewisham while also continuing work for a potential extension beyond Lewisham.
- 4.1.3. Building on the initial assessment, we considered a total of eight route options that could extend the Bakerloo line from Lewisham using our Strategic Assessment Framework to assess their feasibility and performance against the [Mayor's Transport Strategy \(MTS\)](#)¹⁰, and Bakerloo line extension scheme objectives. The strategic assessment results are set out in Table 2 and the eight route options are listed below and summarised in Figure 4.

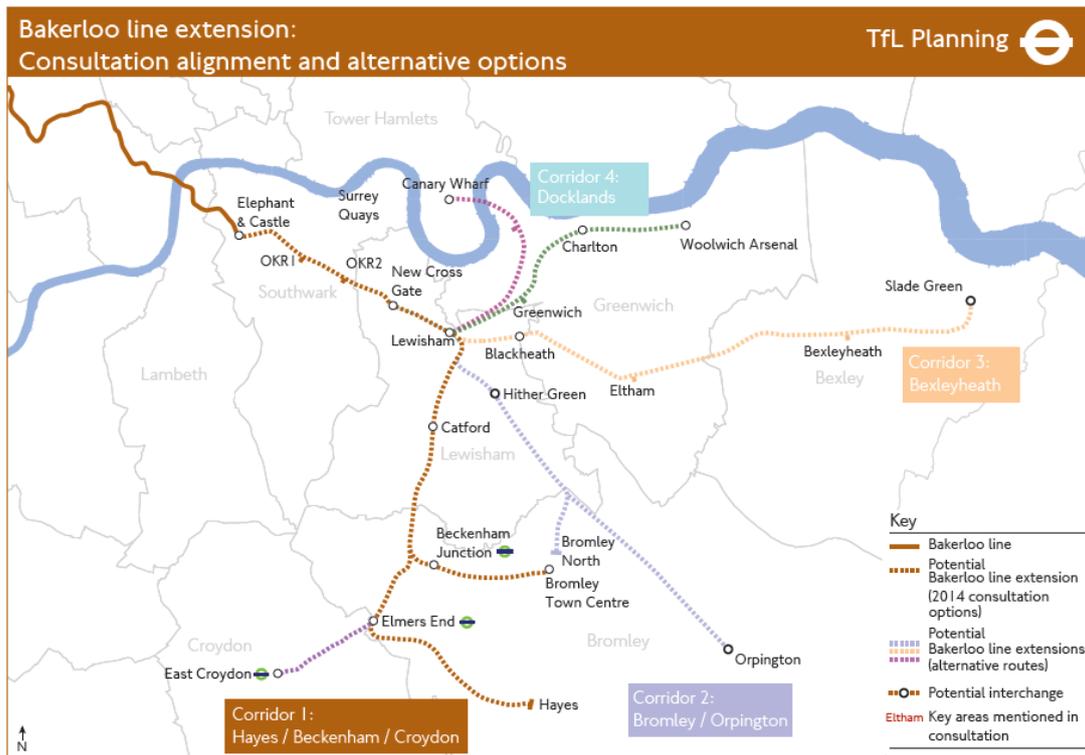
Table 2 - Strategic assessment: Mayor's Transport Strategy and Bakerloo line extension scheme objectives

List of tests against the Mayor's Transport Strategy applied in the Strategic Assessment Framework	List of tests against the Bakerloo line extension scheme objectives applied in the Strategic Assessment Framework
<ul style="list-style-type: none"> • Impact on delivery of homes and jobs • Opening up of transport land for homes and jobs • Maximise benefit of infrastructure • Impact on access to town centres by public transport • Impact on integration cross-boundary air, rail and coach with local bus, walking and cycling networks • Impact on rail network capacity • Impact on rail network crowding • Impact on rail network reliability • Deliverability 	<ul style="list-style-type: none"> • Support growth in south east London opportunity areas • Improve connectivity between sub-regional centres in south east London • Improve connectivity to central London from south east London • Improve access to employment and increase transport provision to areas of deprivation • Increase capacity on the transport network in south east London reducing crowding into central London termini

⁹ The 2015 Options assessment report for the Bakerloo line extension is available from https://consultations.tfl.gov.uk/tube/bakerloo-extension-2014/user_uploads/ble---options-assessment-report_final.pdf

¹⁰ See <https://www.london.gov.uk/what-we-do/transport/our-vision-transport/mayors-transport-strategy-2018>

Figure 4 – ‘Beyond Lewisham’ extension route options assessed since 2015



- **Option 1: Slade Green** - This option would replace existing National Rail services to Slade Green via Bexleyheath through a connection east of Blackheath. It would offer the prospect of converting the National Rail line to London Underground operation and could enable the re-allocation of train paths across the other rail lines in south east London.
- **Option 2: Orpington and Bromley North** – This tunnelled option would parallel the existing National Rail corridor from Lewisham to Orpington via Hither Green, with a spur to Bromley North. It would replace the National Rail service between Bromley North and Grove Park, but this would not allow any reallocation of train paths to other rail lines in south east London as this service is currently operated as a shuttle.
- **Option 3: Hayes and Beckenham Junction** - This option consists of an extension from Lewisham to connect with the current National Rail line north of Ladywell where the Bakerloo line extension would continue on the surface to replace the existing National Rail services to Hayes, including a potential link to Beckenham Junction. The extension from Lewisham would need to connect to the Hayes line prior to Ladywell station in order to serve the station at surface. The National Rail services that are currently operated on the Hayes line could be re-allocated to other rail lines in south east London.
- **Option 4: Hayes and Beckenham junction with a spur to Bromley Town Centre** - This option consists of an extension from Lewisham to connect with the current National Rail line north of Ladywell where the Bakerloo line extension would continue on the surface to replace the existing National Rail services to Hayes, including a link to Beckenham Junction and then extending via a second tunnelled section to

Bromley Town Centre. This would replicate, but not replace the existing National Rail services between Beckenham Junction and Bromley town centre. The extension from Lewisham would need to connect to the Hayes line prior to Ladywell station in order to serve the station at surface. The National Rail services that are currently operated on the Hayes line could be re-allocated to other rail lines in south east London.

- **Option 5: Hayes and East Croydon** - This option consists of an extension beyond Lewisham to connect with the current National Rail line north of Ladywell where the Bakerloo line extension would continue on the surface to replace existing National Rail services to Hayes. The extension would need to connect to the Hayes line prior to Ladywell station in order to serve the station at surface. This option would add a spur from Elmers End to East Croydon, with an additional terminus. It would not be possible to solely serve East Croydon via this route without terminating all services to Eden Park, West Wickham and Hayes. The National Rail services that are currently operated on the Hayes line could be re-allocated to other rail lines in south east London.
- **Option 6: Canary Wharf** - This option would be a tunnelled route north to Greenwich from Lewisham, then on to Greenwich Peninsula crossing the river to the east of the Isle of Dogs to terminate at Canary Wharf. The extension would be wholly underground.
- **Option 7: Woolwich Arsenal** - This option would be a tunnelled route north to Greenwich. It would duplicate not replace the existing rail services. The extension would be wholly underground.
- **Option 8: Woolwich Arsenal** - This option would be a tunnelled route to Woolwich from Lewisham via Charlton. It would duplicate, but not replace the existing National Rail services to Charlton and Woolwich Arsenal on the North Kent line. The extension would be wholly underground.

5. Route option assessment

5.1.1. The assessment of feasibility and performance against the [Mayor's Transport Strategy](#)¹¹, and Bakerloo line extension scheme objectives concluded that the best performing routes were those that involved the conversion of National Rail lines enabling higher frequencies on existing corridors and limited construction of additional tunnelled infrastructure. This assessment showed:

- The routes to Hayes with a spur to Beckenham Junction and to Bromley town centre were the strongest route options.
- Both routes to Hayes also performed the best across the Bakerloo line extension scheme objectives providing increased connectivity and capacity, particularly via the link between Beckenham Junction and the Hayes line. The route to Hayes and Beckenham Junction was considered more feasible as it did not involve significant additional tunnelling or replicate an existing link.

¹¹ See <https://www.london.gov.uk/what-we-do/transport/our-vision-transport/mayors-transport-strategy-2018>

- The Slade Green option also performed well, albeit not as strongly as options that provided new local links. It also involved more tunnelling than some other options.
- The Orpington and Bromley North option would have to be tunnelled, with the exception of the Bromley North branch, as it would not be possible to take over the Network Rail line to Orpington. This also means that it would not be possible to recast any existing National Rail services.
- The East Croydon route option was ruled out since adding an additional spur onto the Hayes option would significantly reduce the number of services serving that part of the line, therefore reducing capacity and frequency across the area. The spur from Elmers End to East Croydon would also be entirely tunnelled, making it a very complex project to deliver compared to the National Rail conversion of the Hayes option.
- The Canary Wharf route option was ruled out since it is already well served by the Jubilee line and the DLR and by the forthcoming Elizabeth line. The option also requires significant additional tunnelling.
- The Greenwich route option was ruled out because the corridor is also already well served by other modes of transport, including the DLR and deliverability of the new tunnelled route would be challenging.
- The Woolwich Arsenal route option was ruled out as it would provide comparatively low capacity and connectivity benefits compared to other options.

5.1.2. The assessment of feasibility and performance against the [Mayor's Transport Strategy](#)¹², and Bakerloo line extension scheme objectives concluded that the best performing route options were those to Hayes, Beckenham junction and Bromley Town Centre.

5.1.3. Following the strategic assessment, the routes to Slade Green and Hayes and Beckenham Junction, alongside three shorter route options to Bromley North and Hither Green (a shorter variant of the Orpington route option) and Catford (a shorter variant of the Hayes route options) were taken forward for an assessment of journey time benefits and likely travel demand. The results of the comparative assessment for these route options are shown in Table 3.

¹² See <https://www.london.gov.uk/what-we-do/transport/our-vision-transport/mayors-transport-strategy-2018>

Table 3 - Comparative assessment of the six route options

Route	High level feasibility assessment	Strategic assessment	Journey time benefits
Slade Green via Bexleyheath (Option 1)	The Slade Green route option has a higher cost and more complex delivery and construction challenges compared to equivalent options [as it involves more tunnelling]. This option could release capacity on the National Rail network. However it would duplicate existing National Rail services to Woolwich and on the North Kent line.	<p>The route performed well against the MTS criteria. It offers the opportunity to re-design routes across the region, enabling growth and improving connectivity.</p> <p>Against the Bakerloo line extension project criteria, the route provides added capacity serving a number of town centres, therefore improving sub-regional connectivity and connectivity into central London. The route would support growth and access to Bexleyheath and Kidbrooke.</p>	This route provided a high level of benefit from a more frequent service and the ability to potentially re-allocate existing National Rail services, however it was less beneficial than some other options as it did not provide new local links.
Hayes with spur to Beckenham Junction (Option 3)	This option would increase transport accessibility and connectivity, support sustainable population and employment growth, and could enable capacity on the rail network to be reallocated. It involved the least additional tunnelling.	<p>Overall good level of performance across all criteria.</p> <p>Against the Bakerloo line extension project criteria, the Hayes route scored highest with strong results in connectivity and capacity, supporting growth to areas and serving a number of centres including Catford. Services on the line could be freed up for other routes, adding capacity along the corridor and surrounding area. This route also offers the option to avoid London termini and interchanges for some journey destinations.</p>	This route provided the highest level of benefits in terms of journey times, due to a more frequent service on the existing line, the provision of a new link to Beckenham Junction and wider network benefits generated by re-allocating existing National Rail services and low capital costs with no additional tunnelling requirements.

Table 3 - Comparative assessment of the six route options

Route	High level feasibility assessment	Strategic assessment	Journey time benefits
Catford (variant of Option 3)	This option would increase transport accessibility and connectivity, support sustainable population and employment growth, however as the route would be entirely tunnelled it wouldn't enable capacity on the rail network to be reallocated and could be more costly than options which take over an existing rail line.	<p>Overall good level of performance across all criteria.</p> <p>Against the Bakerloo line extension project criteria, the Hayes routes scored well, with strong results in connectivity and capacity, supporting the Catford growth area. However as National Rail services would still need to serve Hayes branch southern stations, the additional capacity benefits at Lewisham station would be lost.</p>	Although there is a benefit in serving Catford town centre, which is a growth area, the benefits are less than longer extensions that serve more destinations and provide more local links and new connectivity.
Bromley North via Hither Green (variant of Option 2)	This option could not convert the existing rail corridor without reducing the range and number of National Rail services to wider destinations. . It is likely that a new dedicated tunnelled route would likely need to be constructed as far as Grove Park.	<p>Minimum gains against MTS objectives in contrast to the complex build that may not attract additional patronage.</p> <p>Against the Bakerloo line extension project criteria, the route provides additional capacity to the area including centres such as Bromley and Hither Green but scored lower for supporting growth, increasing capacity and connectivity as there would be no opportunity to re-allocate services.</p>	This option had a high level of benefit, and improved connections from Bromley town centre, but is unlikely to generate any wider network benefits

Table 3 - Comparative assessment of the six route options

Route	High level feasibility assessment	Strategic assessment	Journey time benefits
Hither Green (variant of Option 2)	This option could not convert the existing rail corridor without reducing the range and number of National Rail services to wider destinations. A new dedicated tunnelled route would likely need to be constructed.	<p>Minimum gains against MTS objectives in contrast to the complex build that may not attract additional patronage.</p> <p>Against the Bakerloo line extension project criteria, the route provides additional capacity to the area including centres such as Hither Green but scored lower for supporting growth, increasing capacity and connectivity as there would be no opportunity to re-allocate services.</p>	This option provided the lowest overall level of benefit as it did not provide a new connection.

Results

- 5.1.4. The result of the assessment was that the Hayes and Beckenham Junction route option performed most strongly at the high level feasibility and strategic policy stages of assessment.
- 5.1.5. The later stages of the assessment also showed that, of the assessed routes the Hayes and Beckenham Junction route option offered the greatest journey time benefits. The Hayes and Beckenham Junction route option also has the advantage that it requires the least additional tunnelling.

Conclusions

- 5.1.6. There is a strong case for extending the Bakerloo line beyond Lewisham and spreading the benefits of the extension further in to Southeast London, with the routes to Hayes, Slade Green and Bromley via Beckenham Junction route options all performing well. Of these, the Hayes and Beckenham Junction route option demonstrates the highest journey time benefits, followed by Slade Green, Bromley North, Catford and Hither Green.
- 5.1.7. As a result of this assessment, we consider that, subject to public consultation the Hayes and Beckenham Junction route option should be developed as the preferred option for a further extension.

6. What we will do following this consultation

- 6.1.1. An extension to Lewisham via Old Kent Road and New Cross Gate would improve transport capacity, accessibility and connections along the proposed route. This would help enable development in south east London to support London's growth and improve journeys for existing communities.
- 6.1.2. We have developed our proposals across the extension and are consulting on new aspects. We will use the public consultation responses to help us develop our proposals for the extension. We will analyse the feedback we receive and publish the results once the consultation has closed. We plan to analyse and respond to the key issues raised during 2020, subject to the volume of responses and the particular issues that are raised.
- 6.1.3. Subject to further consultation and securing funding for the proposal, we plan to apply for powers to construct the extension and, if our application for powers is successful, we could open the line in the early 2030s. This is later than we previously planned, however we have not been able to progress plans for the extension as fast as we had hoped due to the financial challenges that have arisen. However, we remain intent on developing our proposals and delivering them once we can afford to do so.
- 6.1.4. You can have your say on our proposals for the extension by visiting tfl.gov.uk/bakerloo-extension to leave a comment or provide a response to the consultation questions. The consultation will close on 22nd December 2019.