Bakerloo line extension: Background to consultation

September 2014
1. Introduction

1.1. Transport for London (TfL) is consulting on extending the Bakerloo line beyond its current southern terminus at Elephant & Castle through Southwark towards Lewisham, Bromley and Hayes. The proposed extension is referred to in this document as the Bakerloo Line Extension (BLE). This document explains the identified need for new transport infrastructure in southeast London, the main options that have been considered by TfL and the proposals currently being consulted upon. Responses to the consultation will help shape future work on the development of the BLE proposals.

2. Background

2.1. Since its construction in 1906, the Bakerloo line has seen many proposals to extend it further into south London. Indeed, as far back as 1931 an extension to Camberwell was approved by the Government. However, WWII and the subsequent post-war austerity resulted in its eventual abandonment.

2.2. An extension of the Bakerloo line has strong policy support. It is identified as a proposal which merits further study in the Mayors Transport Strategy (2010), the London Plan (2011), the South London Sub-regional Plan (2014), and the London 2050 Infrastructure Plan (2014) currently issued for consultation. It is also supported in the Core Strategies of both the London Borough of Southwark and London Borough of Lewisham.

2.3. The Bakerloo line is unusual in offering an opportunity for an extension as it does not experience high levels of crowding along its route. Also, it has sufficient capacity to incorporate the additional demand that an extension would generate. Other lines in the area either do not have any available capacity (such as the Victoria line), or there are already committed plans to extend them (such as the Charing Cross branch of the Northern line).

2.4. The Bakerloo line is also unusual in that it does not extend beyond Zone 1 at its southern end, and has some spare capacity on the central section.

2.5. Furthermore, the layout of the Bakerloo line station at Elephant & Castle includes ‘over-run’ tunnels which extend beyond the platforms. This means any new southbound tunnelling works could occur without any significant closures on the current line.

2.6. No funding has been identified for the proposed extension of the Bakerloo line within TfL’s Business Plan. As has been the case for other recent major infrastructure
projects (such as Crossrail and the Northern line extension), any funding package is likely to include contributions from developers of new residential and commercial developments along the route of the proposed extension. Such developments could be enabled by the additional capacity that the extended line would provide. This also means that it is unlikely the scheme could happen without this new development. As part of the next phase of work, TfL will work with the affected London boroughs and the Greater London Authority (GLA) to identify possible options for funding the extension.

3. The need for transport investment in southeast London

3.1. Growth context

3.1.1. In 2011, the population of London was 8.2 million and it is now close to the previous peak of 8.6 million, which was reached in 1939. By 2036, London’s population is projected to have grown to 10.1 million, and it is expected to reach 11.3 million by 2050. Over the next 20 years, the number of jobs in London is projected to grow by 700,000 to 6.3 million. The scale of this projected growth sets a considerable challenge for the provision of housing, facilities and infrastructure. Transport infrastructure, in particular, can increase accessibility between housing and jobs, opening up opportunities for new housing and facilitating increased employment opportunities.

3.1.2. This rapid growth reinforces the priority of providing the necessary infrastructure to support economic growth and to help unlock the regeneration potential across London. Figure 1 shows the GLA forecast for the spread of projected population growth across London. It shows there will be growth across the city with a concentration of growth in inner east and inner southeast London. This is where additional housing will be most needed in order to accommodate population growth.
3.1.3. The London Plan 2011, the overall strategic plan for London, sets out the integrated economic, environmental, transport and social framework for the development of London over the next 20 – 25 years. It recognises that transport infrastructure plays a vital part in supporting the capital’s success. It sets out spatial planning policy relating to transport schemes, including a possible extension of the Bakerloo line extension in Chapter 6: London’s Transport.

3.1.4. Employment forecasts indicate that the number of jobs within London will increase to over six million by the 2030s. However, as shown in Figure 2, the location of new employment opportunities is not uniformly spread across the city but instead is predicted to be concentrated in the central area, the Central Activities Zone (CAZ). For London to continue to grow as a world city, it is important that areas of population and housing growth have access to the valuable employment opportunities in the CAZ.
3.1.5. The London Plan stipulates that in order to help meet the challenges of economic and population growth, in a sustainable manner, new development should be focused in a series of Opportunity Areas (OAs) across London. These OAs represent London’s largest development opportunities and are expected to accommodate much of the capital’s growth, with capacity for approximately 500,000 jobs and 250,000 additional homes. To ensure this development is sustainable, TfL is required to work collaboratively with the GLA and local boroughs to identify OAs that require transport investment to reach their full potential.

3.1.6. In southeast London, the London Plan 2011 designated three new OAs at:

- Elephant & Castle
- Deptford Creek/Greenwich Riverside
- Lewisham, Catford and New Cross

3.1.7. In 2014 updated strategic planning policy, in the form of Further Alterations to the London Plan (FALP), was published. In response to the rapid increase in population and employment growth identified in the 2011 Census, the FALP proposed the adoption of three additional OAs in southeast London as follows:

- Old Kent Road
- Canada Water
- Bromley Town Centre
3.1.8. These designated and newly proposed OAs, subject to separate ongoing consultation, are mapped in Figure 3. They will continue to focus growth in southeast London, accommodating even greater levels of housing and employment. Accordingly, it is essential to ensure this growth is supported by the provision of appropriate transport infrastructure.

Figure 3: London’s Opportunity Areas

3.2. **Transport context**

3.2.1. Adequate transport infrastructure is essential to London’s ability to successfully support major population and employment growth, and to attract global talent and investment.

3.2.2. Southeast London is heavily dependent on the National Rail network; with Underground services limited to the northern part of the area (see Figure 4). The creation of the Overground network has transformed parts of the National Rail network and created new journey opportunities. The DLR terminus at Lewisham provides direct connections north of the river to Canary Wharf. However, given the growth pressures across the region, there is a need for further rail capacity improvements to help meet future demand.
3.2.3. Figure 5 shows the Public Transport Accessibility Levels (PTAL) for the inner part of southeast London. Areas shown in blue have the lowest level of accessibility. It is considered that these areas are unable to support large volumes of new development without a significant intervention to increase transport accessibility.
3.2.4. Given the limited rail network in the area, the impact of the forecast increase in population and employment will be felt most by passengers using the Southeastern rail corridor into central London. National Rail services through London Bridge and on to Charing Cross and Cannon Street are expected to become particularly crowded.

3.2.5. Network Rail has already identified capacity issues on the route into London Bridge station. The 2010 Route Utilisation Study (RUS) for Kent and the 2011 RUS for London and the South East, both state that releasing paths into London Bridge station would increase capacity and reduce congestion on the Southeastern rail corridor. Network Rail proposes that an increase in services on the busier Orpington and Dartford lines could be achieved if the Hayes line services were amended so that they no longer passed through London Bridge, possibly through conversion to another mode of operation.

3.2.6. In order to meet the challenges of accommodating growth in London, the development of transport infrastructure in London is supported by policies set out in the Mayor’s Transport Strategy (MTS) 2010. This identifies six goals and their respective challenges. In order to assess a scheme that appropriately meets these goals and challenges, a set of aspirations has been developed. These are mapped from the MTS goals in Table 1. The Aspirations for southeast London transport are
key aims with which a scheme can be evaluated to ensure it meets the needs of supporting growth and development in this region.

Table 1: Mapping the 2014 aspirations for new transport schemes in southeast London

<table>
<thead>
<tr>
<th>MTS Goals</th>
<th>MTS Challenges</th>
<th>Aspirations for southeast London transport</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supporting economic development and population growth</td>
<td>Supporting sustainable population and employment growth</td>
<td>Support the growth of the OAs</td>
</tr>
<tr>
<td></td>
<td>Improving transport connectivity</td>
<td>Increase capacity on the transport network and reduce crowding</td>
</tr>
<tr>
<td></td>
<td>Delivering an efficient and effective transport system for people and goods</td>
<td>Improve connectivity within southeast London and to metropolitan town centres</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Make more efficient use of transport infrastructure and upgrade investment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Provide value for money</td>
</tr>
<tr>
<td>Enhancing the quality of life for all Londoners</td>
<td>Improving the journey experience</td>
<td>Provide journey time savings and reduce the need to interchange</td>
</tr>
<tr>
<td></td>
<td>Improving air quality</td>
<td>Enhance journey ambience</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Increase reliability on the transport network</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Support quality urban realm and sustainable urban development around transport hubs</td>
</tr>
<tr>
<td>Improving safety and security for all Londoners</td>
<td>Reducing crime, fear of crime and antisocial behaviour</td>
<td>Creation of secure transport hubs with measures to increase user safety</td>
</tr>
<tr>
<td></td>
<td>Improving public transport safety</td>
<td>Provision of state of the art, secure by design, transport infrastructure to improve safety of passengers/users</td>
</tr>
<tr>
<td>Improving transport opportunity for all Londoners</td>
<td>Improving transport accessibility</td>
<td>Improve access to employment and increase transport provision to areas of deprivation</td>
</tr>
<tr>
<td></td>
<td>Supporting regeneration and tackling deprivation</td>
<td>Increase access to the public transport network for all residents in southeast London</td>
</tr>
<tr>
<td>Reducing transport’s contribution to climate change</td>
<td>Reducing CO$_2$ emissions</td>
<td>Provide a positive environmental impact and reduced CO2 through mode shift to more sustainable forms of transport</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Enable more efficient bus journeys by reducing road congestion</td>
</tr>
</tbody>
</table>
4. Options considered for southeast London

4.1. Options considered

4.1.1. As explained earlier in this paper, aspirations for an extension of the Bakerloo line date back to the pre-war era. In more recent years, TfL has considered the potential benefits of extending the Bakerloo line as well as many other options for improving transport in southeast London.

4.1.2. Work undertaken to date suggests that an extension of the Bakerloo line, including the conversion of the existing Hayes Line from National Rail to London Underground operation, offers the best solution in terms of meeting growth and transport challenges in southeast London and the goals of the Mayor’s Transport Strategy. Such an extension would support sustainable population and employment growth, and increase transport accessibility and connectivity. Importantly, it would also bring additional benefits to the wider southeast London rail network through enabling capacity on that network to be reallocated to other, busier, rail routes serving London Bridge station.

4.1.3. TfL has considered the possibility of extending the DLR beyond Lewisham, looking at various combinations of surface running and tunnelled sections of new railway to destinations in Bromley and Catford. Whilst these solutions would have improved connectivity between Bromley and Catford, Lewisham and Docklands, initial feasibility studies have concluded that extending the DLR to Bromley or Catford would not be cost effective. The costs of extending the DLR are estimated to be in the region of £1bn but in contrast to an extension of the Bakerloo line, such an extension would offer limited ability to support growth and improve accessibility in inner southeast London. This is because it would not increase capacity on the National Rail network, nor would it improve connections into central London and to the southeast London OAs.

4.1.4. National Rail alternatives have also been considered. Although not offering a realistic alternative to the BLE, it is recognised that other possible changes to the National Rail network do provide value in a more localised context and would benefit from further consideration. For example, the reopening of Camberwell station on the Thameslink route is being pursued by the London Borough of Southwark, with support from TfL.

4.1.5. A possible extension of the London Overground from New Cross is also under consideration. TfL is currently working to understand the costs, engineering and timetabling feasibility of this proposal.
4.1.6. Although offering local benefits, extensions to the Tramlink are considered to offer limited benefits to the wider southeast London area. Such extensions would provide no capacity relief to existing rail services and would only connect a limited part of Bromley or Crystal Palace to the Tramlink network. Tramlink extensions would not increase connectivity to central London or assist in developing the many OAs further north. Therefore, these extensions are not actively being progressed at this time.

4.2. **Possible destinations for the Bakerloo line extension to serve**

4.2.1. To best meet the needs and challenges of southeast London, several options for an extension of the Bakerloo line have been considered. These options have included serving destinations such as Old Kent Road, Camberwell, New Cross, Lewisham, Beckenham Junction, Hayes, Bromley North, Catford as well as destinations in south London such as Tulse Hill and Streatham. However, the benefit of releasing National Rail paths into London Bridge thereby releasing capacity on other routes is considered important and can only be achieved by securing a route which takes over operations along the Hayes line.

4.2.2. TfL also considers that the core of the proposed extension should serve both New Cross Gate and Lewisham stations. Providing a service to these locations is important as they are existing transport hubs where Bakerloo line passengers would be able to interchange to access National Rail services and the wider southeast London area, thereby maximising journey options.

4.2.3. Beyond Lewisham, a significant amount of growth is expected in Catford (part of the Lewisham, Catford and New Cross OA), therefore continuing the line through this area supports forecasted growth. National Rail services between Lewisham and Hayes would cease and services would be reallocated to other routes in the area.

4.2.4. There is merit in a scheme which would run to Bromley North, via Hither Green, as it would support connectivity to the newly proposed OA at Bromley town centre. However, in order to combine the benefits of both releasing paths currently used by National Rail services on the Hayes line and serving Bromley town centre, TfL is also considering the possibility of extending the Beckenham Junction branch of the BLE to Bromley town centre.

4.2.5. The Bakerloo line extension proposal now under consideration is therefore an extension from Elephant & Castle to New Cross Gate and Lewisham and on to Hayes and Bromley, via Beckenham Junction.

4.2.6. TfL is now undertaking a public consultation to seek the views of local residents and businesses on its proposals to extend the Bakerloo line from Elephant & Castle to New Cross, Lewisham, Bromley and Hayes. A comparison of current and proposed
Train frequencies from stations along the possible route are set out in Table 2 to demonstrate the change in accessibility the BLE would provide.

Table 2: Comparison of current and future train frequencies at selected stations

<table>
<thead>
<tr>
<th>Origin station</th>
<th>Rail transport available currently (2014)</th>
<th>Current frequency from station to central London – AM peak hour (tph)</th>
<th>Rail transport available in future year (2031)</th>
<th>Future frequency from station to central London – AM peak hour (tph)**</th>
<th>Percentage increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hayes</td>
<td>National Rail</td>
<td>6</td>
<td>Bakerloo line</td>
<td>15</td>
<td>250%</td>
</tr>
<tr>
<td>Elmers End</td>
<td>National Rail Tramlink</td>
<td>6</td>
<td>Bakerloo line Tramlink</td>
<td>15</td>
<td>165%</td>
</tr>
<tr>
<td>Beckenham Junction</td>
<td>National Rail Tramlink</td>
<td>6</td>
<td>Bakerloo Line</td>
<td>6</td>
<td>150%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6*</td>
<td>National Rail Tramlink</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Catford Bridge/Catford</td>
<td>National Rail</td>
<td>12</td>
<td>Bakerloo line</td>
<td>27</td>
<td>260%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>National Rail</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Lewisham</td>
<td>National Rail DLR</td>
<td>18</td>
<td>Bakerloo line DLR</td>
<td>27</td>
<td>185%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20</td>
<td>National Rail DLR</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>New Cross Gate</td>
<td>National Rail Overground</td>
<td>9</td>
<td>Bakerloo line Overground</td>
<td>27</td>
<td>240%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8</td>
<td>National Rail Overground</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Peckham Rye</td>
<td>National Rail Overground</td>
<td>10</td>
<td>Bakerloo line Overground</td>
<td>27</td>
<td>335%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
<td>National Rail Overground</td>
<td>16</td>
<td></td>
</tr>
</tbody>
</table>

*Tramlink services to Croydon town centre
*Assumes the extension serves Peckham Rye and Camberwell
**Includes future National Rail frequencies as set out in the Kent and London and the South East RUS and unrelated to the proposed BLE

4.2.7. In addition to the core elements of the proposals, TfL is seeking views on possible options for the extension, including:

- two possible routes between Elephant & Castle and New Cross Gate;
- terminating at Lewisham or continuing along the Hayes line; and
- a possible branch to Bromley town centre via Beckenham Junction.

4.2.8. These options are explained further below as are the core elements of the BLE proposals.
5. Consultation options for BLE public consultation

5.1. BLE from Elephant & Castle to Hayes and Beckenham Junction, via Old Kent Road, New Cross Gate and Lewisham (Option 1a)

5.1.1. Option 1a, shown in Figure 6, would follow a route from Elephant & Castle along the Old Kent Road, where up to two new stations could be provided, before continuing to New Cross Gate and Lewisham. South of Lewisham, the extension would run on the existing National Rail line to Hayes and Beckenham Junction. This would involve replacing the existing six trains per hour National Rail services to London Bridge (and Cannon Street) with more frequent Bakerloo line services of up to 15 trains per hour.

Figure 6: Indicative route of Option 1a

Source: TfL
5.1.2. Routing the new line along the Old Kent Road would support the development of the proposed Old Kent Road Opportunity Area (OA). At this early stage, prior to proposals for the OA being completed, and prior to public consultation, it is not yet known how many stations would be provided between Elephant & Castle and New Cross, although it is currently anticipated that two stations (Old Kent Road 1 and 2) could be feasible.

5.1.3. Future journey times, for this option from Hayes to popular destinations, across London have been calculated and compared to current journeys. These are shown in Table 3.

Table 3: Estimated improved journey time changes for Option 1a, assumed journey commencing at 08:00 (minutes)

<table>
<thead>
<tr>
<th>Destination</th>
<th>Cannon Street</th>
<th>Charing Cross</th>
<th>Canary Wharf</th>
<th>Waterloo Bridge</th>
<th>London Bridge</th>
<th>South Kensington</th>
<th>Old Street</th>
<th>Oxford Circus</th>
<th>Paddington</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current journey from Lewisham</td>
<td>21</td>
<td>22</td>
<td>21</td>
<td>16</td>
<td>12</td>
<td>31</td>
<td>22</td>
<td>30</td>
<td>38</td>
</tr>
<tr>
<td>Journey time saving from Lewisham with BLE</td>
<td>No change</td>
<td>5.4</td>
<td>No change</td>
<td>1.9</td>
<td>No change</td>
<td>1.9</td>
<td>No change</td>
<td>8.9</td>
<td>7.9</td>
</tr>
</tbody>
</table>

| Current journey from Hayes | 48 | 44 | 50 | 38 | 41 | 55 | 46 | 51 | 58 |
| Journey time saving from Hayes with BLE | 10.9 | 9.4 | 10.9 | 5.9 | 5.9 | 7.9 | 3.4 | 12.4 | 10.4 |

Source: TfL

5.1.4. This option is estimated to cost approximately £3bn in 2014 prices, benchmarked to costs identified from the Northern line extension project in 2013 and including 44% optimism bias.

5.1.5. The key benefits of this relatively direct line between Elephant and Castle and New Cross Gate option are:

- The provision of up to two stations on the Old Kent Road.
- The provision of Underground services to the Old Kent Road OA.
- The provision of transport access to provide capacity to support significant development at the Old Kent Road OA.
• The provision of a faster alternative to bus journeys between New Cross Gate and Elephant & Castle, as well as providing relief to the very busy bus corridor along the Old Kent Road.
• Improved access to the DLR from areas along the route, reducing journey times to Canary Wharf and Stratford.
• Increased capacity and the provision of much higher frequency Underground service along the Hayes line.
• The provision of direct routes from stations in Southwark, Lewisham, and Bromley to Waterloo, the West End and northwest London.

5.2. **BLE from Elephant & Castle to Hayes and Beckenham Junction, via Camberwell, Peckham, New Cross Gate and Lewisham (Option 1b)**

5.2.1. Option 1b, shown in Figure 7, would follow a route from Elephant & Castle to the Camberwell area. From a station at Camberwell it would travel to Peckham Rye station before continuing to New Cross Gate and Lewisham. As with Option 1a, the extension would then run on the existing National Rail line to Hayes and Beckenham Junction. This would involve replacing the existing six trains per hour National Rail services to London Bridge (and Cannon Street) with more frequent Bakerloo line services of up to 15 trains per hour.

5.2.2. The provision of a new station in the Camberwell area would improve transport links to and from the local area and provide an alternative transport option for those passengers who currently use the bus to reach the Underground at Elephant & Castle. This route would also provide an interchange at Peckham Rye and a new link between Peckham and New Cross Gate.
5.2.3. Future journey times, for this option from Hayes to popular destinations, across London have been calculated and compared to current journeys. These are shown in Table 4.
Table 4: Estimated improved journey time changes for Option 1b, assumed journey commencing at 08:00 (minutes)

<table>
<thead>
<tr>
<th>Destination</th>
<th>Cannon Street</th>
<th>Charing Cross</th>
<th>Canary Wharf</th>
<th>Waterloo Bridge</th>
<th>London Bridge</th>
<th>South Kensington</th>
<th>Old Street</th>
<th>Oxford Circus</th>
<th>Paddington</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current journey from</td>
<td>21</td>
<td>22</td>
<td>21</td>
<td>16</td>
<td>12</td>
<td>31</td>
<td>22</td>
<td>30</td>
<td>38</td>
</tr>
<tr>
<td>Lewisham</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Journey time saving</td>
<td>No change</td>
<td>3.7</td>
<td>No change</td>
<td>0.2</td>
<td>No change</td>
<td>0.2</td>
<td>No change</td>
<td>7.2</td>
<td>6.2</td>
</tr>
<tr>
<td>from Lewisham</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>with BLE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Current journey from | 48            | 44            | 50           | 38              | 41            | 55              | 46         | 51            | 58         |
| Hayes                |               |               |              |                 |               |                  |            |               |            |
| Journey time saving  | 9.1           | 7.6           | 10.9         | 4.1             | 4.1           | 6.1             | 1.6        | 10.6          | 8.6        |
| from Hayes           |               |               |              |                 |               |                  |            |               |            |
| with BLE             |               |               |              |                 |               |                  |            |               |            |

Source: TfL

5.2.4. A comparison between Table 2 and Table 3 shows that some journey time savings are the same for Option 1a and Option 1b. This is because those destinations which would involve interchange at Lewisham to other routes (either DLR or National Rail), are not affected by the choice of route between Lewisham and Elephant & Castle.

5.2.5. This option is estimated to cost slightly more than the £3bn estimated for Option 1a, due to its longer route.

5.2.6. The key benefits of this options are:
- The provision of new Underground stations at Peckham and Camberwell.
- The provision of Underground services connecting Lewisham, Peckham and Camberwell town centres.
- The provision of an alternative to bus services between Camberwell and Elephant & Castle, providing relief to the very busy routes along Walworth Road.
- The provision of new Underground access to Lewisham town centre from Camberwell.
- Improved access to DLR from areas along the route, reducing journey times to Canary Wharf.
- Increased capacity and the provision of much higher frequency Underground services along the Hayes line.
- The provision of direct routes from stations in Southwark, Lewisham, and Bromley to Waterloo, the West End and northwest London.
5.3. **BLE from Elephant & Castle to Hayes and Bromley town centre (Option 2)**

5.3.1. Option 2, shown in Figure 8, refers specifically to the possibility of taking the extension beyond Beckenham Junction to Bromley town centre. If the line were extended beyond Lewisham, this option could be progressed regardless of the selected route alignment between Elephant & Castle and New Cross Gate. At this early stage, the route of any extension between Beckenham Junction and Bromley town centre is not yet known and it is also unknown whether it would include the provision of new stations. A new tunnelled section of underground railway is considered to be required for this option.

5.3.2. The intended purpose of this option is to serve the existing town centre of Bromley and to support its potential growth as an OA. It would therefore be likely that a new terminus station would be sited in a location which would best support this growth. TfL is seeking views as part of the current consultation on the principle of extending the Bakerloo line to Bromley town centre. Further work would be necessary to ascertain the feasibility of such an extension and any future proposals would be subject to further consultation.

5.3.3. Future journey times for this option, from Bromley town centre to popular destinations across London, have been calculated and compared to current journey times from either Bromley North or Bromley South station. In each instance the quickest journey time has been provided. Where the route uses the proposed Bakerloo line extension, this is assumed to use the shorter route, Option 1a, via Old Kent Road. These are shown in Table 5.

5.3.4. The indicative cost of this option is estimated at £4bn in 2014 prices, including 44% optimism bias.

5.3.5. Whilst initial modelling has been undertaken for this option, an initial engineering feasibility study is required to identify a suitable alignment for the section of route between Beckenham Junction and Bromley town centre. This will enable a clearer indication of the true cost of this option, which will require a new tunnelled section between Beckenham Junction and Bromley town centre.
Table 5: Estimated improved journey time changes for Option 2, assumed journey commencing at 08:00 (minutes)

<table>
<thead>
<tr>
<th>Destination</th>
<th>Cannon Street</th>
<th>Charing Cross</th>
<th>Canary Wharf</th>
<th>Waterloo Bridge</th>
<th>London Bridge</th>
<th>South Kensington</th>
<th>Old Street</th>
<th>Oxford Circus</th>
<th>Paddington</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current journey time</td>
<td>34</td>
<td>38</td>
<td>41</td>
<td>32</td>
<td>26</td>
<td>36</td>
<td>43</td>
<td>34</td>
<td>44</td>
</tr>
<tr>
<td>Journey time saving from Bromley town centre with BLE</td>
<td>0.7</td>
<td>7.2</td>
<td>6.2</td>
<td>3.7</td>
<td>No change</td>
<td>No change</td>
<td>4.7</td>
<td>No change</td>
<td>No change</td>
</tr>
</tbody>
</table>

Source: TfL
5.3.6. Key benefits of this option are:

- The provision of Underground services and a new station in Bromley town centre.
- The provision of a high frequency Underground service between Bromley town centre and Beckenham, improving access to Crystal Palace and the Tramlink network.
- The provision of a new Underground connection between Bromley, Catford and Lewisham town centres.
- Improved access to the DLR from Bromley, reducing journey times to Canary Wharf and Stratford.
- The provision of direct routes from Bromley to Waterloo, the West End and northwest London.

5.3.7. The benefit cost ratios referred to above do not take into account the possible impact of future OA development and the subsequent increase in passengers originating from those areas. It is expected that the benefits of each scheme would increase as greater levels of development and growth are incorporated into the business case. Productivity benefits resulting from the wider economic impacts of the scheme have also not yet been included in these calculations. These would also likely increase the benefits of the BLE.

6. Conclusion

6.1.1. In the coming years, London will face many challenges to accommodate growth. In order to manage this growth and ensure that southeast London secures the benefit of economic development, equal to other parts of London, additional transport provision is required. A number of possible options to deliver the required additional capacity and accessibility have been assessed. Through this process, it has been identified that an extension of the Bakerloo line is the best option to:

- support development and regeneration in southeast London;
- improve access to public transport and employment opportunities for local residents;
- improve journey times and network capacity;
- provide better connections between southeast London and central London and Docklands via DLR at Lewisham; and
- improve capacity and relieve crowding on National Rail by enabling train paths to be reallocated to other routes.

6.1.2. Funding for the extension however, is dependent upon securing funding from growth and development. As has been the case for other major infrastructure projects (such as Crossrail and the Northern Line Extension) any funding package is likely to include
contributions from new residential and commercial developments along the proposed extension.

6.1.3. To inform the further development of the scheme, TfL is now undertaking a consultation to seek views on the BLE and to gauge:

- support for the proposal based on the likelihood that new development is required for the project to progress;
- which route between Elephant & Caste and New Cross Gate is preferred (Option 1a, via Old Kent Road or Option 1b, via Camberwell and Peckham Rye);
- levels of support for the extension terminating at Lewisham or going on to Beckenham Junction and Hayes; and
- support for an additional extension to Bromley town centre.