

Reminder - objectives of study

- Identify gaps in services on the South London Line when East London Line Phase 2 (ELLP2) services begin and London Bridge

 Victoria services are discontinued
- Develop potential options that could address these gaps
- Assess their operational feasibility at a high level
- Assess their affordability and value for money
- Present the findings to stakeholders and explain how they were reached







In 2012, the South London Line (SLL) service, which runs between Victoria and London Bridge (operated by Southern) will be withdrawn to enable a major remodelling of London Bridge station to accommodate more Thameslink services. The Thameslink works will reduce the number of services that can terminate at the station but increase those that can run through to central London. This was proposed by Network Rail in the South London Route Utilisation Strategy and confirmed by the DfT in the new South Central Franchise.

The South London Line service was chosen for withdrawal because it is used by far fewer passengers (in terms of average load per train, and in terms of load per carriage) than all other services terminating at London Bridge, and fewer people would be directly affected.

The graph shows the average load per morning peak train, with the average number of passengers per carriage at the end of each bar. SLL and other inner suburban services typically have 75 seats per carriage.



There are a number of funded schemes which will deliver improvements to other stations and services on and nearby to the South London Line.

Over £6bn is being invested by TfL, Network Rail and DfT in the South London area:

- East London Line Project (Phases 1 and 2) creating a south orbital railway around London, including new trains and station improvements
- The Thameslink scheme providing more frequent services through London Bridge to the wider South East, and has already resulted in through links from stations on the Catford loop to St Pancras and beyond
- Increasing capacity on the Southern network across South London by lengthening trains and platforms from 8 to 10-car



A long list of potential mitigation options was reduced to a short list of five.

Options serving London Bridge were discounted following further analysis with Network Rail because:

- a) There are no realistic operational solutions for providing a South London Line service to London Bridge without displacing more heavily used passenger services
- b) While other services could be substituted there would be a greater impact on more passengers elsewhere. As shown in the earlier slide, far fewer people use the London Bridge – Victoria service than any other trains terminating at London Bridge.

All options improve orbital connectivity to varying degrees with interchange at Clapham High St/North, Peckham Rye and other stations.



How option 1 addresses the gaps in service:

- Restores current frequency between Peckham Rye/Denmark Hill and Victoria, all day every day
- Provides direct link between Clapham High Street/Wandsworth Road and Victoria, all day every day



How option 2 addresses the gaps in service:

- Restores current frequency between Peckham Rye/Denmark Hill and Victoria, all day every day
- Provides direct link between Clapham High Street/Wandsworth Road and Victoria, all day every day
- But introduces potential new gap of reduced service frequency between South London Line stations and Clapham Junction



How option 3 addresses the gaps in service:

- provides direct link between Peckham Rye Wandsworth Road to Victoria, all day every day
- provides 4 trains per hour on parts of the Catford loop, which is one of the few areas in London with only a 2 trains per hour service



How option 4 addresses the gaps in service:

• Provides direct link between Clapham High Street/Wandsworth Road and Victoria, all day every day (Hither Green service in peaks, Dartford service at other times)

• Restores current frequency between Peckham Rye/Denmark Hill and Victoria during peaks (Hither Green service) and evenings/Sundays (additional Dartford service)

• Gap remains between Peckham Rye/Denmark Hill and Victoria during interpeak period only (frequency reduced from 4 trains per hour to 2 trains per hour)



How option 5 addresses the gaps in service:

- Restores current frequency between Peckham Rye/Denmark Hill and Victoria (long distance services)
- Provides direct link between Clapham High Street/Wandsworth Road and Victoria at off peak times and weekends (Orpington – Victoria services)
- Gap remains between Clapham High Street/Wandsworth Road and Victoria during peak times only (no direct link to Victoria)
- Services that are diverted via the Catford loop to allow additional stops at Peckham Rye and Denmark Hill are considered feasible to implement following our assessment of the timetable impacts

Update on analysis of options (1)

Demand assessment

- Each option has been tested with our public transport model to calculate forecast passenger demand compared to the "do minimum" case
- The accessibility impacts of each option have also been tested compared to the "do minimum" case

Operating and lease costs

 The costs of each option/package have been calculated so we know which ones are most affordable





Update on analysis of options (2)

Operational assessment

- Network Rail have told us which options they think can be timetabled (e.g. whether Bellingham – Victoria service can operate alongside ELLP2 to Clapham Junction)
- The DfT have also provided us with advice (e.g. how each option can be accommodated in franchises)

Business Case and Financial assessment

- A business case for each option has been produced which is in line with TfL guidance
- Financial assessments have been developed to understand the likely funding requirements for each option





Operational assessment

It is important to note that although Network Rail were able to advise which options are *likely* to be possible to timetable alongside the other services on the network, this could only be *confirmed* with a more in depth exercise which is generally undertaken during a full recast of the timetable.

Change in rail passenger trips per annum (millions)	1. (ELL 4+2)	2. (ELL 2+2)	3. (Victoria to Bell'm)	4. Dartford & Hither Green	5. Kent & Orp'n
Overground	+10.0	-0.4	-0.0	-0.2	+0.9
Southeastern	+0.5	+0.7	+4.5	+2.6	+1.9
First Capital Connect	+0.3	+0.2	+0.5	-0.1	+0.7
Other public transport	-6.3	+0.6	-2.8	+0.4	-2.7
Total	+4.5	+1.1	+2.2	+2.7	+0.8
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2026 summary of passenger demand impacts

By using public transport modelling software TfL was able to forecast how many passengers would use each of the five service options. This table shows the change in rail passenger trips on London Overground and other National Rail services which would arise if each of the options were implemented in addition to the reference case (i.e. 4 East London Line trains an hour to Clapham Junction).

It has been assumed that London Overground would be the operator for Options 1 and 2, and Southeastern for options 3 to 5.

Other public transport includes other National Rail services, London Underground, DLR, Tramlink and bus services. In some cases there is a significant amount of 'mode switch' with passengers switching between bus/Tube and rail as a result of enhancements to rail services.

£ 000s per annum Current Prices	1. (ELL 4+2)	2. (ELL 2+2)	3. (Victoria to Bell'm)	4. Dartford & Hither Green	5. Kent & Orp'n
Rolling stock requirement	3 units	N/A	2 units	2 units	N/A
Staff requirement	18 staff	N/A	13 staff	14 staff	N/A
Lease Costs	1,350	0	900	900	0
Track Access Costs	438	12	230	281	13
Staff Costs	810	0	578	624	0
Other Costs	476	1	329	353	1
Total Operating Costs	3,073	12	2,038	2,159	15
Revenue Compensation to DfT for Victoria services	1,300	1,300	0	0	0
Revenue compensation to DfT ELLX Phase 2, and takes acco Overground as a result of ope	is a conditi unt of the S rating a serv	on of the f outheaste vice into L	unding agre rn revenue lo ondon Victo	ement for oss to ria	

A detailed assessment of the costs associated with operating each of the options was calculated. These include the costs of leasing additional trains if required, staff costs and track access charges (which are payable to Network Rail for services which use their infrastructure).

Options 3 and 4 are assumed to require 2 additional units. However this is based on the assumption that trains already serving these routes could be better utilised. If run as standalone services, more trains would be required.

Additionally TfL would have to compensate the DfT for revenue lost to their franchises (mainly Southeastern) if London Overground services were to serve London Victoria station. This was a condition of the funding provided by DfT to TfL for East London Line Phase 2 and is applicable to options 1&2.



TfL has worked with Network Rail to understand if it is likely that the service options could be timetabled alongside East London Line phase 2 services and other existing services on the network. Although this analysis gives a good indication of whether the options are feasible or not, it would only be possible to determine for certain whether some options are fully feasible when the detailed future timetable for the route is prepared.

1. ELL with 4 trains per hour (tph) Clapham and 2 tph Victoria

Likely to be feasible although regular service may be difficult at peak times although 4-car trains are a poor use of capacity into such a key terminal station.

2. ELL with 2 tph Clapham and 2 tph Victoria

Likely to be feasible although 4-car trains are a poor use of capacity into terminal station. Benefit of reduced interaction with freight in Clapham Junction area.

3. 2 tph Victoria to Bellingham

4-car trains poor use of capacity into terminal station. Possible outside of peak times but cannot be achieved in peak periods without removal of other services – major recast of Southeastern timetable would be necessary.

4. More Victoria - Dartford services all day

Hither Green – Victoria service not possible as no spare capacity at Lewisham.

Extra Dartford – Victoria services evenings and weekends will be feasible.

Feasibility of stopping some Dartford – Victoria services at Clapham High Street and Wandsworth Road will need to be considered during development of full timetable for route.

The types of rolling stock that operate on these services are not fitted with Selective Door Opening (SDO) equipment, meaning that longer trains of 8 car length could not call at Clapham High Street and Wandsworth Road. Issues of the cost of installing this to the fleet and then having to diagram a small sub-fleet to specific services would make this improvement difficult.

5. Additional stops in existing services

Stopping some Orpington – Victoria services at Clapham High Street and Wandsworth Road will need to be considered during development of full timetable for route.

Stopping some Chatham Main Line services at Peckham Rye and Denmark Hill is likely to be feasible, but leads to some disbenefits for long distance passengers through slightly longer journey times as a result of additional stops and diversion. A key issue for any changes to timing will be at Rochester Bridge Jcn, which is a key area for the pathing of trains in the North Kent area. Long Distance passengers would have longer journeys with the benefit of additional connections into the City where post High Speed 1 services have had a reduction. Some Kent user groups have suggested stops at Herne Hill/Denmark Hill or Peckham Rye.





Option 6 removes the Hither Green – Dartford element of Option 4 as Network Rail advised that it would not be possible to timetable it as there is no spare capacity at Lewisham.

How option 6 addresses the gaps in service:

- Provides direct link between Clapham High Street/Wandsworth Road and Victoria outside of peak times
- Provides direct link between Peckham Rye/Denmark Hill and Victoria in evenings/Sundays
- Gap remains between Peckham Rye/Denmark Hill and Victoria during the peak and interpeak period because the frequency is reduced from 4 trains per hour to 2 trains per hour
- Gap remains between Clapham High Street/Wandsworth Road and Victoria during peaks (no direct service)



Option 7 takes the best parts of two of the existing options to combine them into a new package. The Bellingham-Victoria service from Option 3 which was only found to be deliverable during peak times - is included and extended to Bromley South as an off peak only service. The additional stops in long distance services at Peckham Rye and Denmark Hill are included to address the gap at these stations in the peaks.

How option 7 addresses the gaps in service:

- Restores current frequency between Peckham Rye/Denmark Hill and Victoria all day every day
- Provides direct link between Clapham High Street/Wandsworth Road and Victoria at off peak times and weekends (i.e. at all times other than 7-10am and 4-7pm)
- Gap remains between Clapham High Street/Wandsworth Road and Victoria during peak times only (no direct link to Victoria)
- Services that are diverted via the Catford loop to allow additional stops at Peckham Rye and Denmark Hill are considered feasible to implement following our assessment of the timetable impacts

2026 summary of demand impacts and operating cost estimates for options 6/7

Change in trips per annum (millions)	6. Dartford only	7. Kent & Bromley South	£ 000s per annum Current Prices	6. Dartford only	7. Kent & Bromley South
Overground	-0.3	+0.2	Rolling stock requirement	N/A	N/A
Southeastern	+0.7	+3.5	Staff requirement	10 staff	16 staff
FCC	+0.2	+1.3	Lease Costs	0	0
Other public transport	+0.9	-3.8	Track Access Costs	180	177
Total	+1.6	+1.2	Staff Costs	447	717
			Other Costs	207	324
			Total Operating Costs	834	1,217
			Revenue Compensation to DfT for Victoria services	0	0
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The change in passenger trips associated with the additional two options was assessed, alongside the operating costs. As neither of the options are expected to require additional trains at peak times, this means that costs are significantly lower than Options 1 to 5 since trains leasing costs are a major contributor to the overall costs.

Options 6 and 7 meet the objectives of the new Secretary of State for Transport who wants to see assets better utilised. Options 6 and 7 make better and more intensive use of existing assets and fit well with this objective.

£ million 2007 Prices 60 year appraisal	PV Capital and Operating Costs	PV Revenue	Net Financial Effect	PV Social Benefits	Conclusion
1. ELL with 4 tph Clapham and 2 tph Victoria	-£102m	+£28m	-£74m	+£299m	Good vfm, feasible
2. ELL with 2 tph Clapham and 2 tph Victoria	-£31m	-£1m	-£31m	-£108m	No case
3. 2 tph Victoria to Bellingham	-£48m	+£11m	-£36m	+£252m	Good vfm, not feasible
4. Victoria – Dartford services	-£50m	+£9m	-£41m	+£147m	Good vfm, not feasible
5. Additional stops in Kent Coast services	-£0m	-£0m	-£1m	+£33m	Good vfm, unproven timetable
6. More stops in Victoria to Dartford services in inter peak	-£19m	+£8m	-£12m	+£18m	Medium / poor vfm
7. Additional stops in Kent Coast services in peaks + 2tph Bromley South to Victoria Inter Peak	-£28m	+£18m	-£10m	+£45m	Good vfm, feasible

For each of the seven short-listed options a business case was calculated to determine whether the investment required would provide good value for money. The business case is assessed over a period of 60 years. This assessment is based on the TfL Business Case Development Manual assessment criteria, which provides a uniform framework for the evaluation of schemes across London.

Each option is compared against a 'Reference Case' scenario which includes all the committed changes such as the removal of the South London Line in 2012, the introduction of four trains an hour between Dalston Junction and Clapham Junction (ELLP2), the Thameslink Programme changes, etc.

Proportions of Benefits

25% of benefits from Option 3 are from the section of route between Peckham Rye and Victoria, i.e. the majority are from passengers between Bellingham and Peckham Rye. With Option 1, 14% of benefits are from the Peckham Rye to Victoria section, i.e. the majority are from Dalston to Peckham Rye section

Technical note on Net Present Value (NPV) and Discounting

The purpose of discounting costs and benefits to a *base financial year* (see below) is to bring all options to a common basis regardless of the timing of their costs and benefits. To do this the *real cost of capital* as expressed by the *discount rate* must be used. At a discount rate of 3.5% £100 which is not spent this year will, with interest, be worth £103.50 next year. Similarly, if we need to spend £100 in a year's time then that is equivalent to an expenditure of just £96.62 now i.e. 100/(1+3.5/100). Thus the *present value* (PV) of an expenditure of £100 in one years time at a discount rate of 3.5% is £96.62. Similarly, the PV of an expenditure of £100 in three years time at a discount rate of 3.5% is £90.19 (100/(1+3.5/100)3). So all costs and benefits over the appraisal period must be calculated in *present value* terms for the *base financial year*. When this has been done it is possible to compare options which have different timings of costs and benefits. This is known as *discounting* all costs and benefits back to their present value in the base financial year. In financial calculations the discount rate reflects the real (net of inflation) cost of capital.

million .ctual prices	Revenues	Costs	Net Financial Requirement
. ELL with 4 tph Clapham and 2 tph /ictoria	+£9m	-£55m	-£46m
2. ELL with 2 tph Clapham and 2 tph Victoria	-£1m	-£17m	-£18m
3. 2 tph Victoria to Bellingham	+£5m	-£26m	-£21m
4. Victoria – Dartford services	+£1m	-£28m	-£27m
5. Additional stops in Kent Coast services	+£0.5m	-£0.2m	+£0.4m
6. More stops in Victoria to Dartford services in inter peak	+£1m	-£11m	-£10m
7. Additional stops in Kent Coast services in peaks + 2tph Bromley South to Victoria Inter Peak	+£7m	-£16m	-£9m

Alongside the value for money assessment, the financial case for taking the schemes forward has been assessed. This is one of the most critical elements of the study. As funding will be severely constrained in the coming years, any scheme which requires too great a financial input is unlikely to be taken forward.

A 10-year appraisal period has been used for the financial assessment as there is little value in using a longer appraisal period because there is no certainty about the funding that is likely to be available to the rail industry over the longer term. Additionally, the figures may be affected by future service changes which are not currently planned.

Financial figures include inflation impacts, which are not in business case. Benefits change over the appraisal period, hence some options include revenue benefits in the 10 year appraisal which become a disbenefit over 60 years in the business case assessment – e.g. underlying growth change benefits resulting from additional stops.



The final piece of analysis that has been carried out on each of the options is their accessibility impact. This graph shows the change in the number of jobs accessible to residents along the route of the SLL. Denmark Hill station has been used as an example.

This graph shows the change in the number of jobs accessible within 60 minutes travel time to the 33,000 people living within 1km of Denmark Hill station in the morning peak period (7.00-10.00am) in 2016. It shows that there is a significant improvement in accessibility between 2007 and 2016 once the committed schemes such as the Thameslink Programme and East London Line Phase 2 have been introduced. For each of the 7 options, the subsequent variation in accessibility compared to the "Do minimum" scenario is very limited.



TfL and London TravelWatch have been considering ways of meeting the funding requirements associated with introducing new services, particularly in light of the current economic climate when it is unlikely that Government will be able to offer additional funding for these schemes. Furthermore all of TfL's funding is allocated in the TfL Business Plan so there is no spare money for these additional service options without diverting money aware from other schemes or operations.

Options for gating additional south London stations

Station	Capital Cost	Change in annual revenue	Change in annual opex	Years to break even	Difficulty of gating
Herne Hill	-£288k	£154k	-£45k	3	Medium
Elephant and Castle	-£347k	£169k	-£86k	5	Medium
Denmark Hill	-£190k	£198k	-£41k	2	Easy – once Access for All finished
Hither Green	-£404k	£174k	-£82k	5	Medium
Blackheath	-£404k	£177k	-£82k	5	High - ticket office needs moving
Grove Park	-£210k	£132k	-£41k	3	Easy

•Gating 6 stations would generate net revenue of £2.6m over 10 years after capital costs and operating costs have been considered – this would provide £2.6m of the £9m funding gap for Option 7

•An initial £1.8m would be required to install the gates, meaning a profit is not delivered until the end of a 10 year period. This creates a potential issue with progressing this proposal.

One option that has been explored is the gating of additional stations in south London. Gating of stations results in increased revenue for train operators because the number of passengers travelling without a valid ticket is reduced. If this increased revenue outweighs the cost of installing the gates and the ongoing cost of maintaining and staffing the gate lines, then this additional revenue could be used to help fund service options for the SLL. It should be noted that specific agreements would need to be put in place between TfL, the DfT and the relevant train operator(s) to ensure that the increased revenue could be diverted towards services on the SLL.

The list of suggested stations was provided by London TravelWatch. The cost and revenue estimates were calculated by TfL.

These proposals assume a fall in ticketless travel from 10% to 5%. Capital costs depend on the complexity of the works. Staff costs are driven by the number of entrances and the maintenance costs by the number of gates required at each station.

Gating the top 6 stations on the list would generate a net revenue of £2.6m over 10 years after capital and operating costs.

The Denmark Hill Access for All scheme provides provision for gating in the future, should ticket gates be required. The gating of other stations on the list may involve the closure of some side entrances.

Community Rail

- Community involvement in the railway identified as a way of increasing the number of passengers using the SLL
- Cases exist where community rail involvement has been successful in urban areas, but it has been on a relatively small scale
- Although there could be additional rail trips because of the improved ambience of stations, community involvement in the SLL would result in very limited additional revenue
- No firm way of identifying how much extra revenue is due to the community rail involvement, and then ring fencing this for additional services





Getting more community involvement in the railway has been identified as another way of increasing the number of passengers using the South London Line, thus generating increased revenue to help fund service changes. Discussions have been held with the DfT over the potential for this proposal. The work of Community Rail Partnerships is aimed at improving the effectiveness of local railways. This can include promoting bus links to stations, developing walking and cycling routes, bringing station buildings back to life, art and education projects and organising special events which promote the railway and its relevance to the community.

Examples of this type of activity which could increase overall revenue include:

• Ravensbourne station where an accessibility and image enhancement scheme has increased demand.

• The East London Line has a supporters website www.eastlondonlines.co.uk. In the week of opening ELL Phase 1 there have been a number of community events around the railway promoting it and the local area.

This approach is consistent with the new governments "Big Society" policy.



Smarter travel measures can also encourage extra passengers to use the SLL. Discussions with TfL's Smarter Travel Unit have been held to identify the opportunities.

Possibilities include:

Marketing beyond that which would usually be provided for a rail service e.g. roadshows in shopping centres or community centres
Personalised Travel Planning in schools and workplaces to encourage use of rail services to travel to and from the place of education or work
Emails to people living close to stations on the SLL, encouraging them to use rail services on the line

However again, significant initial investment would be needed to put the measures in place before a return could be made. Furthermore, as with community rail, it would be very difficult to provide evidence to allow the revenue generated to be specifically diverted towards enhancing services on the SLL.

Smarter travel measures could form part of the promotion of new services which form part of package of schemes e.g. Option 7 – Bromley South to Victoria service at off peak times via Catford loop.



The findings of the study indicate that the most appropriate option to address the gaps in service provision, which is realistic in terms of financial requirements and offers value for money, is Option 7.

This provides additional stops on long distance services at peak times to serve Denmark Hill and Peckham Rye, and a Bromley South to Victoria service outside of peak times to serve all stations between Peckham Rye and Wandsworth Road.



Now that TfL and London TravelWatch has completed the study, the next step is for funding to be identified. Approximately £900,000 is required per year to subsidise the service changes. The DfT has stated that they have no additional funding and TfL's funding is fully committed in its Business Plan until 2017/18. Although the Business Plan is reviewed on an annual basis it must be highlighted that with the funding pressures of Crossrail and the PPP upgrades, funding for enhanced services on the SLL is unlikely.

Any proposed service changes or additional services would need to be built into the timetable planning process, which takes around 9 months from before the timetable is introduced. This will need to be considered with other service changes at a time when changes for the 2012 Olympics are being planned.