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London and South East RUS Consultation Response
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18 March 2011

Dear Sir/Madam

London and South East Route Utilisation Strategy

Thank you for the copy of the Draft London and South East Route Utilisation Strategy (RUS). We are pleased to have been closely involved in the development of this key planning document for London. Please find Transport for London's response to the Consultation Draft of the RUS in the attached annex. The response addresses some general points, and then considers a number of gaps and options in turn; as most of the document concerns London itself, we have expressed our views on nearly all issues, with the exception of those pertaining to the Solent and South Hampshire.

We hope you find these comments useful. TfL appreciates the opportunity to comment and provide recommendations on the London and South East RUS. We are actively engaged on several of the RUS Working Groups, and in separate discussions with Network Rail, and we very much welcome the close involvement we are having in this process. We look forward to continuing our active role in the future development of this vital document. Should you have any questions about our response, please don't hesitate to contact me.

Yours faithfully,

Geoff Hobbs
Head of Planning, London Rail

Annex: Transport for London's response to the London and South East Route Utilisation Strategy

1. General

1.1 Overall, TfL strongly welcomes the London and South East RUS. This is a key document in the strategic planning of railways in London. It sets out the requirement for investment in rail in London over the long term, and will therefore be very influential in the government's planning for the next High Level Output Specification (HLOS), covering Control Period 5 from 2014-2019, and subsequent Control Periods.

1.2 The RUS takes as its starting point a scenario where many currently uncommitted schemes have been implemented. This raises a crucial point, and one which we believe should be made much more strongly in the document, namely that substantial investment in rail capacity in London and the South East is required in the next Control Period, and in each of the subsequent ones. If these uncommitted schemes are not delivered then the capacity gaps identified in the RUS will be considerably larger than stated, and the RUS conclusions will not reflect the highest priorities for investment.

1.3 The currently committed major schemes (including Crossrail, the Thameslink Programme, the East London Line extensions, London Overground upgrades, and HLOS train lengthening) will provide an unprecedented increase in rail capacity and connectivity over the next few years. However one of the key implications of the RUS is that, essential as this investment is, it does not provide sufficient capacity in the longer term, or on all corridors.

1.4 We believe that the RUS should promote this message more strongly to rail industry stakeholders. An identification of whether schemes are required in the short, medium or longer term would be beneficial. In particular, there should be a summary or listing of the uncommitted schemes on which the RUS is predicated; Table 5.14 nearly achieves this, but more emphasis on this is needed in the Executive Summary.

1.5 TfL has been discussing the RUS demand forecasts with Network Rail. Whilst we are in agreement over most of the demand forecasts, we do have some concerns over the scale of the GDP-related uplifts that have been applied to long distance demand into some of the termini, and the means by which this has been done. We would like to continue this collaborative process, and consider that Network Rail should review the demand forecasts in the draft RUS to ensure they remain a robust basis for the assessment of capacity gaps in the final RUS. We would be happy to help with this, given our experience of the TfL modelling tools being used.

1.6 The RUS cites the forecast peak rail growth into central London as being 34%; we believe this number to be incorrect as it misses various links, and have calculated a figure in the order of 50% using the same modelling results. This is a presentational point and does not affect the model outcomes, but it is important as its sets the context for the need for further rail investment. In many ways it is the single most important number in the document.

1.7 The demand growth forecast in the RUS, and the recommended train capacity schemes, will have a significant impact on the main line termini and onward dispersal onto the TfL network. It is important to take a holistic approach to capacity, and that the consequences of catering for increased demand are not overlooked. There will be a need for close planning work between TfL, Network Rail and DfT to develop schemes and programmes to help address this scale of forecast demand growth. In the long term, schemes such as the Chelsea–Hackney line, upgrades of the Piccadilly and Bakerloo lines, extensions to the Bakerloo line, separation of the Northern line branches, congestion relief at London Underground stations, DLR extensions westwards from Bank, and walking and cycling measures are likely to be required. TfL considers that the RUS should make reference to this issue.

2. Gap A: Reading/outer Thames Valley

Option A1: extending Crossrail to Reading

2.1 Transport for London is generally supportive of Option A1: extending Crossrail to Reading, subject to the issues and caveats outlined below. We recognise that it could simplify operations, and could eliminate the need for the Crossrail reversing facility and sidings at Maidenhead and the west-facing reversing facility at Slough. It appears that there would be little or no capital cost in providing alternative facilities at Reading as this is already built into the design of the Reading station area redevelopment project, so this could yield significant savings to the overall public purse. However the Crossrail project is progressing as planned, so a decision will be required in the near future if any capital cost savings are to be realised. It should also be noted that it would still necessitate the procurement of additional Crossrail rolling stock and increased operating costs.

2.2 A Crossrail extension to Reading would serve local traffic (passengers would be unlikely to take Crossrail itself from Reading to Central London), and whilst Reading and Slough are both trip origins and destinations in their own right, 10-car Crossrail trains would be an over-provision of capacity. If passengers did take Crossrail into Central London or beyond then the metro-style rolling stock would be less suitable for journeys of that length.

2.3 We believe that a solution which does not involve Crossrail being extended to Reading would also be possible, in conjunction with Option A6. This would involve all non-Crossrail passenger services running on the fast lines between Paddington and (e.g.) Dolphin Junction. However we would support extension to Reading if it is shown to be of greater benefit to the rail network, and if some form of shared service can be developed as appropriate.

Option A6: new 4 tph outer Thames Valley to Paddington shuttle service, with Heathrow Express incorporated into Crossrail

2.4 TfL recognises that there is a capacity gap on Great Western longer distance services, post-Intercity Express Programme, the size of which will depend on the sensitivity of longer distance demand to GDP growth. Option A6 appears to be the best means of addressing this gap.

2.5 TfL's highest priority for Crossrail is delivering the scheme as defined by Parliament and specified by funders in the Sponsors' Requirements, and as specified in the Crossrail Track Access Option, which is predicated on certain performance levels being achieved. As such, TfL is supportive of the general principle of running the Heathrow Express service through the Crossrail tunnels into central London and beyond. However this must not be at the expense of Crossrail capacity and operational performance.

2.6 We believe that a proposal to run the Crossrail/Heathrow Express service on the main lines off-peak, and then cross onto the Crossrail tracks outside Paddington, is not operationally viable. At the least a grade-separated junction, probably in the Acton to Ladbroke Grove area, would be required, but a simpler and cheaper solution would be to run the Crossrail/Heathrow Express service on the relief lines off-peak and thence into the Crossrail tunnels. We believe there is sufficient capacity for this and up to four freight paths per hour on the relief lines. This would also allow Heathrow services to operate on a skip-stop basis, thereby minimising any increase in airport journey times.

2.7 We believe that airport journey times should be considered as a potential variable factor, rather than being assumed to be fixed at exactly their current levels. Similarly, we believe that the number of freight paths should also be considered as a variable factor in determining the optimum capacity solution, given the possibility that the scale of freight growth assumed may not be fully realised. A solution is required that balances costs and benefits, rather than meeting pre-determined requirements at any price.

2.8 The RUS identifies Option A1 as an enabler for Crossrail taking over the Heathrow Express service, but we believe the same aims could be achieved through a Crossrail solution without extension to Reading – see our comments on Option A1 above. We will continue to work with Network Rail and the rail industry on the resolution of the issues in relation to Option A6.

3. Gap B: East Coast Main Line capacity options

3.1 Transport for London supports the conclusions of the East Coast Main Line 2016 Capacity Review. We support any further options that provide additional capacity for long distance services, subject to there being no negative impact on London commuter services.

3.2 Due to the RUS assumptions on Thameslink and the implementation of uncommitted schemes, the RUS does not show a gap on Great Northern services. More specifically, this is predicated on an assumed Thameslink specification that runs Welwyn Garden City services through the Thameslink tunnels, which in turn frees up capacity into Moorgate allowing more Hertford Loop services to be run. The RUS also assumes an uncommitted scheme to enable an additional 2 tph to run into Moorgate.

3.3 TfL would like to stress its very strong support for this Thameslink specification, and in the longer term, for the Moorgate modifications to increase frequencies. Previous Thameslink specifications have not addressed Great Northern capacity in the way assumed in the RUS, and would have left a potentially significant capacity gap.

3.4 The existing Great Northern fleet of 313s will become life expired during the planning horizon of the London and South East RUS. A replacement fleet will have capacity implications, and TfL considers that the RUS should make reference to rolling stock issues. The same point would apply to other fleets operating in London and the South East that would become life expired during the RUS timescales.

4. Gap C: Lea Valley Corridor

4.1 Transport for London considers that a ‘turn up and go’ frequency is vital to the regeneration of the Upper Lea Valley. As the population of London and the UK grows, it will become increasingly important to develop brownfield areas such as the Upper Lea Valley, to reduce pressure on the green belt. For such developments to succeed they require access to public transport and jobs, which in the case of rail means adequate service frequencies and capacity. We strongly believe that the London and South East RUS, as a long term strategic planning document, should give greater emphasis to a ‘planning’ gap of this nature.

4.2 We are currently developing a phased approach to providing additional tracks, such that the cost in any one Control Period is affordable, and we are working with Network Rail, the rail industry and local stakeholders on scheme development. This is likely to be one of our highest priorities for the next Control Period.

4.3 Of the options presented in the RUS, subject to positive business cases, TfL supports proposals for making the maximum use of existing infrastructure (C1), for providing additional infrastructure to facilitate additional services (C3, C4, and C5), and train lengthening (C6). However we would stress that none of these achieves the objectives of a 'turn up and go' frequency at the inner suburban stations, and hence they are not alternatives to it.

4.4 TfL would support the extension of West Anglia Stratford services to Liverpool Street (C7) if it can be shown that there is a positive business case and there are no negative impacts on Great Eastern Main Line services, including residual services into Liverpool Street high level post-Crossrail. Further development of this option is required, including identification of service patterns and whether any re-routing of current Liverpool Street services via Stratford is proposed, before we can take a view on it.

5. Gap D: Great Eastern Main Line

5.1 Transport for London would support additional main line capacity, subject to business case and there being no negative impact on Crossrail capacity or performance. However our own modelling does not show any significant problems on the Great Eastern corridor, and we would encourage Network Rail to investigate the cause of the capacity gap. We would be happy to assist with this work.

5.2 Two platforms at Liverpool Street are required for the residual inner suburban service post-Crossrail. We support proposals that platforms 16, 17 and 18 should be converted into two 10-car platforms, and retained for the residual service plus emergency Crossrail use.

6. Gap E: Brighton Main Line

6.1 Transport for London supports the implementation of the uncommitted schemes to lengthen Uckfield services, and Caterham and Tattenham Corner services into Victoria, as recommended by the RUS.

6.2 Our modelling shows that East London Line services become very crowded (see Gap I below), and also other inner suburban services on the Sydenham corridor; addressing both these problems may require 12-car inner suburban operations, and we recommend that this is investigated further.

6.3 We believe that the longer term need for a new tunnel from the Purley area into central London (Option E3) is worthy of further consideration.

6.4 We support the position in the RUS on the proposed Brighton Main Line 2 (Option E4), for the reasons given in the RUS.

7. Gap F: South West Main Line

7.1 Transport for London agrees that there is a capacity gap on South West Main Line outer suburban services. Of the options presented in the RUS, we agree that double-deck trains (F2) are unlikely to present a viable solution. Both the options of 16-car trains (F3) and running 4 additional tph (F4) are likely to be very expensive, but subject to further development work and satisfactory business cases, and in the absence of that information, TfL would favour frequency (F4) over train length (F3) on strategic grounds.

7.2 The RUS assumes that all outer suburban services will be run at their full length; this is an uncommitted scheme, without which the gap would be worse, and which TfL fully supports.

7.3 TfL believes that the Chelsea-Hackney Line could potentially help to address this gap by freeing up capacity for outer suburban services.

7.4 The RUS considers 12-car inner suburban operations (F1), and concludes that there is no gap but that the conclusion should be kept under review. The RUS needs to capture this recommendation within a clear list somewhere within the document.

8. Gap G: Windsor lines

8.1 Transport for London agrees that there is a capacity gap on the Windsor lines. TfL supports the currently uncommitted plans to extend trains to 10-car operations, bring the Waterloo International platforms into use and run an additional high-peak service.

8.2 TfL supports option G1, to run 17 tph in the peak on the Windsor lines. This is the Airtrack scenario; TfL supports the principle of Airtrack, and considers Heathrow to be a sensible destination for the additional 2 tph (over current levels). In the absence of the Airtrack scheme, TfL would support an alternative destination for these 2 trains.

8.3 TfL also supports option G2, to run 18 tph, subject to business case, and option G4 subject to further development.

8.4 TfL believes there may be a case for extension of Reading services to 12-car operations, and that there is a gap on inner suburban services from Putney inwards. Solutions to this could be through optimum stopping patterns on the additional trains recommended above, or selective train lengthening.

8.5 As with option F1, option G3 recommends that the case for 12-car operations should be kept under review; this constitutes a RUS recommendation and should be clearly recorded as such.

9. Gap H: Elephant & Castle corridor

9.1 Transport for London's modelling does not show a significant capacity concern on the Herne Hill to Elephant corridor, provided that Wimbledon Loop frequencies are doubled in the final Thameslink specification, as planned.

9.2 We do not believe that Bakerloo line extensions into south east London would offer much relief to the Herne Hill-Elephant corridor, although we support the progression of this scheme for other reasons.

9.3 As with options F1 and G3, option H1 recommends that the case for train lengthening on the Wimbledon Loop should be kept under review; this constitutes a RUS recommendation and should be clearly recorded as such.

9.4 TfL believes there may also be the potential for an extra platform at Herne Hill, on the east side of the station, to make passenger use of the new siding.

10. Gap I: Orbital routes

10.1 The RUS considers capacity enhancement options on the West London Line only, but notes the significant ongoing demand growth on orbital routes generally, and on the North London Line and East London Line in particular. Network Rail has asked TfL to undertake the modelling and assessment of the orbital network.

10.2 TfL wholly supports options I1 and I2, and agrees that the southern services should be lengthened to 8-car operations in Control Period 5. Forecast demand on the West London Line corridor is sufficiently high that there is also a positive business case for 5-car London Overground services, in addition to I1 and I2.

10.3 Transport for London's modelling suggests that the orbital network faces significant capacity challenges. TfL's development of the former Silverlink Metro franchise has unlocked high levels of demand for orbital rail journeys, and the relatively short trains relative to much of the rest of London result in forecasts of significant crowding.

10.4 We believe there is a strong case in Control Period 5 for train lengthening on the Gospel Oak to Barking Line, electrification of that line, 5-car operations on the London Overground network, and frequency

increases on the core section of the East London Line. We will share the results of our work with Network Rail when appropriate, and we would welcome further rail industry discussion and development of these schemes.

11. Gap J: Access to Heathrow airport

11.1 TfL's views on option A6 are set out above; we are supportive of the general principle. TfL's views on option J1 are also set out above; we support the Airtrack proposal. TfL has no particular views on option J2, subject to our overriding priority to deliver the Crossrail performance as specified. The Mayor supports a spur to the airport as part of the full HS2 scheme with services to Leeds and Manchester (option J3). TfL's views on option K1 are set out below.

12. Gap K: maximising the benefits of Crossrail

12.1 Transport for London recognises the potential desirability of extending some of the Paddington starters to the west, in order to make maximum use of the central area tunnels. However it should be noted that the absence of a second major branch in the west within the current Crossrail scheme is at least partly due to the cost and difficulty of finding an acceptable solution. It would also be necessary for the extension to address an identified problem on that branch, rather than being a "solution looking for a problem". In addition, and as stated above, TfL's priority remains the delivery and operation of the planned Crossrail scheme; any additional branch in the west should have no negative impact on Crossrail performance.

12.2 It should be noted that any reduction in the number of Crossrail services operating only between Abbey Wood and Paddington (as a consequence of their extension to other destinations) reduces the ability to manipulate the delivery of even headways in the Central Section. Present plans have 10tph terminating at Paddington off peak; this would reduce to 6tph if option A6 is adopted and would reduce further if either option K1 or K2 were adopted. To mitigate this impact would require an increase in the off peak frequency by an extra 2tph from Paddington to the Great Eastern route, further to the 6tph currently planned on the Great Eastern, giving 20tph in total through the core section.

12.3 A Crossrail extension could also help with the dispersal of passengers from High Speed 2, and the options should be considered in this context also.

<u>Option K1: WCML slow lines</u>

12.4 TfL believes that an extension to the West Coast Main Line (WCML) slow lines would be beneficial to HS2 dispersal through reducing the number

of suburban passengers using Euston station. It would also free up platform capacity at Euston, which could be beneficial in both the design and construction of the HS2 scheme.

12.5 However, we remain concerned about the operational impacts on Crossrail performance, and the suitability of the metro-style rolling stock for longer distance services. If the operational impacts are sufficiently robust then a WCML branch of Crossrail would have positive attributes. A significant question is how far up the WCML Crossrail would operate; there are three sub-markets, which could be broadly considered as Milton Keynes (very long distance in the context of Crossrail, at 50 miles from London), Tring (long to middle distance), and Watford (short distance).

12.6 An interchange hub between Crossrail and WCML commuter services could also be built at Willesden or Wembley to maximise HS2 dispersal benefits. Turnback infrastructure and depot infrastructure may also be required.

12.7 TfL recommends that further work is undertaken into these issues, and also the cost and feasibility of connections between the Great Western and West Coast main lines.

12.8 A solution is required that delivers an acceptable service pattern on the WCML in terms of frequencies and journey times, which does not have a negative impact on Crossrail performance, and which provides dispersal benefits to HS2.

Option K2: WCML DC lines

12.9 TfL believes that an extension to the West Coast Main Line (WCML) DC lines may have some merit, particularly with skip-stopping to provide an optimum mix of journey time and frequency benefits. A sufficiently quick journey time from Watford (or from an interchange hub at Willesden or Wembley) could prove an attractive interchange for WCML passengers, and thus provide HS2 dispersal benefits to Euston station. TfL recommends that further work is undertaken on a WCML DC line Crossrail option, though it should be regarded as a sub-option to K1, as a means to deliver the desired demand-based outcomes, rather than an option in its own right.

Option K3: Chiltern corridor

12.10 TfL does not believe that an extension to the Chiltern corridor would have sufficient benefits, for the reasons given in the RUS. Also, it would not provide any significant HS2 dispersal benefits.

Option K4: Hounslow Loop

12.11 TfL does not believe that an extension to the Hounslow Loop would have sufficiently clear benefits; it is not clear what particular problem would be solved, though it would provide connectivity benefits and it should be

noted that local businesses and boroughs lobbied very hard for a Crossrail link during the development of Crossrail between 2002 and 2005. Previous work by Cross London Rail Links Ltd concluded that if both Crossrail and North London Line services were to operate on that corridor then the impact on the level crossings in the area would be such that Crossrail would need a tunnelled alignment, which added very significantly to the cost. With Crossrail extended to the Hounslow Loop, there would be no scope for Crossrail to replace North London Line services as Richmond would no longer be served (unlike option K5 below).

12.12 Also there are unlikely to be any significant HS2 dispersal benefits.

Option K5: Richmond and beyond

12.13 Extension to Richmond is considerably different to extension beyond Richmond, and these options should be treated separately in the RUS.

12.14 The main problem with extension beyond Richmond is that the terminus at Richmond itself has to be overcome, requiring a major diveunder. Solutions are very expensive, and were extremely unpopular locally when promoted in the past. TfL does not consider this to be viable.

12.15 However TfL believes that an extension to Richmond is potentially viable, subject to a positive business case. A Crossrail branch to Richmond would offer additional connectivity and provide some relief to Windsor line capacity issues, though it would require Crossrail to replace the North London Line services into Richmond. Cross London Rail Links Ltd previously consulted on an option with reductions in District line services, but there was very significant local opposition to this.

12.16 The scheme previously considered by Cross London Rail Links had a significant increase in frequency over the level crossings near Acton Central and South Acton, which in turn necessitated a tunnelled alignment. With Crossrail replacing the North London Line, the net increase in frequency would be much lower than previously considered, and TfL believes this would be manageable with the existing level crossing infrastructure.

12.17 A Richmond branch would however fail to provide significant HS2 dispersal benefits.

13. Gap L: Chelsea-Hackney line

13.1 The Chelsea-Hackney line (also known as Crossrail 2) is subject to ongoing development work on alignment options, service patterns, costs and benefits. The RUS identifies some corridors in which the Chelsea-Hackney line could potentially help to address gaps, and a RUS New TfL Lines Working Group has been established, which TfL is pleased to lead.

We await the findings of the New TfL Lines workstream to identify the way forward for the Chelsea-Hackney line with regard to the RUS gaps.

14. Gap M: HS2 impacts in the London area

14.1 TfL supports the provision of a new high speed line between London and Birmingham, and we are working with HS2 Ltd to ensure the impacts on London are addressed. We do not believe that there is sufficient capacity on the existing public transport network (London Underground and bus) at Euston to accommodate the dispersal of the HS2 demand generated. An interchange station at Old Oak Common is essential to reduce the dispersal issues at Euston – this is already part of the HS2 Ltd core proposal. However, further interventions will also be necessary.

14.2 The extent of further interventions will depend on their contribution to HS2 dispersal, cost, timing (the extent to which they are required for Phase 1 or the full HS2 network), and their alignment with other objectives. Possible options include (but are not limited to) the extension of Crossrail services onto the WCML, the Chelsea-Hackney line (Crossrail 2), DLR extension from Bank to Euston, station interventions at Euston, and connectivity with orbital routes at Old Oak Common.

14.3 TfL strongly welcomes the RUS recommendation for further development of the strategy for accommodating HS2 demand. In parallel TfL is continuing to work with HS2 Ltd, and intends to respond to the formal HS2 consultation in the summer.

15. Gap N: High Speed 2 to High Speed 1 link

15.1 TfL supports a link between High Speed 2 and High Speed 1. However this needs to be achieved without detriment to existing services in the Camden Road area; our current priority is delivering the North London Line service frequencies (8 tph between Stratford and Willesden Junction) and performance levels which underpinned TfL's considerable investment in the North London Railway Infrastructure Project. It should also be noted that, as outlined in Gap I above, the orbital network is forecast to become very crowded, and train lengthening and/or further frequency enhancements will be required. Presently this is also an important freight route.

15.2 TfL believes that significant additional infrastructure will be essential to accommodate High Speed trains if severe negative impacts on Overground and freight services are to be avoided. TfL fully supports the RUS recommendation to develop a strategy for connecting High Speed 2 and High Speed 1 that is consistent with existing strategies for local passenger and freight services in the Camden Road/Primrose Hill area.

16. Gap O: Other connectivity schemes

16.1 The status of the Croxley Rail Link scheme has changed since the RUS was drafted. We propose this updated text after the first sentence: The Croxley Rail Link is moving forward having secured DfT endorsement to enter its 'Development Pool' of projects in February. Hertfordshire County Council will be undertaking further work, with the support of London Underground and Network Rail, in compiling a 'Best and Final Funding Bid' to be submitted in September, with the submission of a Transport and Works Act Order (TWAO) planned for this autumn following further public consultation over the Summer.

17. Freight

17.1 TfL strongly supports the recommended RUS policy to route all non-London bound freight traffic away from the capital. This is a better outcome for the rail network in London than the previous proposal, to route only the growth in traffic away from London. We would therefore support any recommended schemes to enhance cross-country routes to achieve this policy objective.

17.2 It should be stressed that TfL supports the movement of London-bound freight by rail rather than road, and consequently we support the development of new terminals serving London. We believe the RUS should make this point more strongly.

17.3 Traffic from Essex Thamesside, and from the Haven ports to the West Country, will have to continue to be routed via London. In table 9.7 the RUS identifies the section from Gospel Oak to Willesden as being a “major operational constraint”; TfL shares this view, particularly with regard to the passenger capacity issues discussed under Gap I above. The RUS states that “further consideration” of this section is required, and this should be presented as a formal RUS recommendation.

17.4 The RUS re-emphasises the need to electrify the Gospel Oak to Barking route; TfL supports this recommendation, and this could be drawn out more strongly or clearly in the document. We consider it to be a priority for Control Period 5.

17.5 TfL accepts that diversionary routes via London are necessary, but considers that the use of these should be minimised.

17.6 TfL notes the stated aim not to impose increased operating costs on freight operators (for example through longer journey times). Whilst we support this aim, we also believe that when considering enhancements to cross-country routes the impact on the capacity, productivity and efficiency of the rail network, and consequently on the public purse, of not diverting trains away from London must be fully taken into account.

17.7 We understand that the long term forecast growth rates for freight are based on a scenario without any network constraints, and consider them to be overly optimistic. Whilst it is beneficial to the UK that as much freight as possible is carried by rail rather than road, on routes where there are overall capacity constrains, such as the Great Western Relief Lines, we do not believe that additional freight capacity should be assumed without a rigorous assessment of the take up of paths and the consequences on other operators. Rather, additional freight demand should be considered as one of several competing claims on capacity, and the costs of providing additional capacity should be shared across the beneficiaries.

17.8 The RUS should give further consideration to the means of accommodating the residual freight traffic in London. This is likely to involve further improving the efficiency of freight operations, and TfL considers that the RUS should reflect the findings of the Cross London Freight Study, which looked at the freight capability elements of gauge, speed and train length. This is currently a missing area in the freight chapter.

18. Appendix A: Stations

18.1 TfL believes that there may be significant challenges at some stations in accommodating the forecast RUS demand growth, and that the RUS should present a long term strategy for stations that is consistent with the treatment of passenger capacity gaps and options in Chapter 7.

18.2 More specifically, stations should either have a chapter in their own right, or be considered alongside the train capacity issues in Chapter 7, rather than being relegated to an appendix.

18.3 The document lists some station schemes identified through joint work by TfL and Network Rail, however this was looking at the next Control Period, rather than being an assessment of station needs over the RUS timescale. The stations are presented as a list of individual schemes rather than the outcome of a coherent policy. We believe that Network Rail should produce future year demand forecasts for stations, undertake analyses or assessments of the resulting station conditions, and from this identify a long term strategy for station congestion relief. The London and South East RUS should also reference the emerging conclusions of the Network RUS: Stations.

18.4 The ORR data presented in Table A.1 is not consistent with other figures used in the RUS. TfL does not consider the ORR data set to be a sound basis on which to make station planning decisions. We believe that Network Rail should develop its own source of station usage data, based on actual passenger counts, and use this to support an analytical capability to assess station impacts.

18.5 There are a number of London's National Rail stations which serve (or could serve) an important role in acting as strategic interchanges, helping to relieve crowding and congestion at the termini. These are highlighted through the Mayor's Transport Strategy in proposals 45 and 46. A good example is the proposed interchange link between Hackney Downs and Hackney Central stations, connecting a radial and an orbital route. This scheme has a good value for money case, strong stakeholder support, and a strategic fit with policy; we would like to see it explicitly referred to in the RUS. The RUS should consider the role of strategic interchanges and present a coherent long term policy. TfL would be very happy to work with Network Rail on this.

18.6 Similarly, some consideration should be given to the strategy or programme for providing step-free access across London and the South East, beyond the current Access for All programme. Again, TfL would be very happy to work with Network Rail on this.

19. Other corridors for which gaps have not been identified in the RUS

Essex Thamesside

19.1 TfL's modelling shows that there are capacity issues on the Essex Thamesside corridor. We consider that there is likely to be a strong case for full 12-car operations in Control Period 5, and that this will be one of our highest priority recommendations.

19.2 We note that the RUS assumes the 12-car lengthening originally planned for Control Period 4 will go ahead, but we consider that the demand on the corridor is understated and that the document does not sufficiently support this scheme. We are working closely with Network Rail on this point.

South Eastern and South Central

19.3 Due to the RUS assumptions on Thameslink and the implementation of uncommitted schemes, the RUS does not show any gaps in the South Eastern and South Central areas (apart from the Brighton Main Line and Elephant-Herne Hill corridors). TfL would like to stress the importance of the Thameslink Programme, and the rolling stock cascades it enables. In particular we strongly support the aim described in paragraph 5.4.13 to provide a four trains per hour service from Denmark Hill/Peckham Rye to Victoria, as a secondary benefit of Thameslink.

19.4 TfL also supports the development of improved interchange facilities, congestion relief and public realm improvements at London Bridge station under the Thameslink Programme, and looks forward to continuing our active role on this project.

19.5 The New TfL Lines workstream has looked at the contribution of the proposed Bakerloo line extension to addressing RUS gaps. As identified

by both the Mayor's Transport Strategy and the Kent RUS, a Bakerloo line extension to Southeast London could relieve existing rail services into London Bridge whilst at the same time freeing up additional rail paths. The route being proposed envisages the Bakerloo line being extended by tunnel from its exisiting terminus at Elephant & Castle to Lewisham, before emerging on the surface north of Ladywell and taking over the existing railway lines to Hayes and Beckenham Junction. As such, the extension could play an important role in addressing rail capacity issues in this region.

19.6 We also support the Kent RUS recommendations for full length operations into Charing Cross, Cannon Street and Victoria, and note that these will remain RUS recommendations if insufficient rolling stock is available in the short term. As a general point, these recommendations do not appear in Chapter 7, because they are assumed to have been implemented, and so are a little 'buried' within the document; a more definitive or detailed list of recommendations may be appropriate (Chapter 11 is rather high level), and/or a section within Chapter 7.

19.7 As stated above, we believe the RUS should place a greater emphasis on the implementation of the uncommitted schemes; the RUS gaps are predicated on this position, and it should be drawn further to the attention of stakeholders and funders, particularly with regard to the next Control Period.

Chiltern

19.8 On the Chiltern corridor the RUS implies that there may be a long term capacity gap, but this is not explored further in Chapter 7. Figure 6.5 shows the route to be purple and black, i.e. with capacity utilisation at over 100% in places, and Table 7.1 states that a capacity shortfall is "dependent on options recommended in the West Midlands and Chiltern RUS". TfL recognises that West Midlands and Chiltern is an incomplete generation one RUS, however we think that the London and South East RUS should identify the Chiltern corridor as a gap and then discuss the emerging options. The RUS approach appears a little inconsistent with the East Coast Main Line, where no gap is identified but a number of options are considered.