

South West Main Line Route Utilisation Strategy – consultation by Network Rail

A response by London TravelWatch (assisted by The Railway Consultancy)

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Executive Summary

London TravelWatch considers that the draft **South West Main Line Route Utilisation Strategy** (**RUS**) places too much emphasis on developments away from the London area, and gives insufficient attention to the users of inner suburban services. We believe that the needs of these inner users, who form approximately two-thirds of all peak passengers carried on the South West Trains network, must be given proportionate consideration where the allocation of scarce resources is concerned.

Forecasts of growth in demand are expressed in percentage terms. However, in terms of volume, growth in the inner suburban areas would have the greatest impact, because of the much higher base from which they start. We consider that the RUS proposes too few measures for capacity enhancement in these areas, for which this forecast growth in demand would lead to unsustainable levels of overcrowding.

The introduction of South West Train's December 2004 timetable has brought about a substantial improvement in performance, and has generally been welcomed, despite some increases in journey times. However, there are a number of instances where the effective service frequency has worsened, or journey times are excessively long, and we believe that a further review of the timetable is warranted. In particular, it is our view that:

- there is scope, given the existing infrastructure, for increasing the number of peak metro trains operated on both the Windsor Lines and, in particular, on the Main Suburban, without undue adverse performance consequences; and
- a general increase in off-peak frequencies to 4 trains per hour on most, if not all, branches of the suburban network is both feasible and desirable.

London Travel Watch's approach to the RUS consultation

- 1. London TravelWatch has, with assistance from The Railway Consultancy, evaluated the draft RUS by reference to its *Requirement for Train Services Principles* issued in May 2003¹, supplemented by local knowledge of specific issues relevant to the routes.
- 2. Our detailed interest relates to the users of all metro services, intermediate and long-distance services on the part of the South West Trains network which lies within and immediately surrounding the Greater London area, and the adequacy of direct links and connections between stations within this area and the remainder of the network.
- 3. The main body of this response seeks to comment upon most (but not all) of the specific issues and gaps identified in the RUS, plus a number which we consider not to have been covered. In so doing we set out our views on the following main issues:
 - Metro services in South West London and Surrey
 - Main line services
 - Engineering access
 - Infrastructure issues
 - Timescales for change

Requirements for Train Services – Principles, available on the London TravelWatch website at Requirements for Train Services - Principles, or by phone to London TravelWatch Publications Officer 020 7726 9997 or by e-mail to publications@londontravelwatch.org.uk

Response to the draft Route Utilisation Strategy

 London TravelWatch's principal concern is that the RUS focuses to a very large extent on longer distance services, and that insufficient emphasis is placed on the interests of passengers using the metro suburban services in and around the London area. Indeed, the very title used ("South West Main Line") is something of a misnomer for this RUS, referring as it does to the entire network of the erstwhile South Western Division; "South Western RUS" would perhaps have been more appropriate.

Demand

- 2. The figures for passenger numbers quoted in the RUS (Table C, p21) indicate that about two-thirds of all passengers using SWT services are carried on trains forming part of the Windsor Lines and Main Suburban service groups (e.g. in the morning peak, of a total critical loading of nearly 90,000 passengers, over 60,000 are on trains in these two service groups). High PIXC levels do occur on long-distance trains, but do so predominantly at the London end of routes, and are at least in part caused by short- and intermediate-distance traffic rather than true long-distance demand.
- 3. As far as forecast growth in demand (Table K, p31) is concerned, the largest percentage growth figures indicated (30 to 40%) are for areas distant from London, but the base numbers of passengers from such areas are relatively small. In the London suburban area, where passenger numbers are much greater, the typical percentage growth figures of 20 to 25%, while somewhat smaller in percentage terms are more significant in terms of absolute numbers of passengers. In the morning peak, for example, 35% of 30,000 is only 10,500 extra passengers on long-distance trains, while 20% of 60,000 is 12,000 extra passengers on metro trains.
- 4. London TravelWatch would caution that an increase in passengers at Vauxhall will not help SWT (RUS, last paragraph on p32 and 4.2.4. conclusions). We believe that diversion to the Northern Line is unlikely to occur in the manner described, and would be undesirable in any case. The additional capacity on the Northern Line is needed in order to solve the line's own existing problems, with severe overcrowding already evident in the Clapham area.
- 5. More generally, London TravelWatch refutes the suggestion made (RUS, p41) that London Underground routes are "available alternatives for passengers using suburban rail services" in this instance, since these are relatively few in the SWT area.
- 6. London TravelWatch notes that demand estimates are based on LENNON ticket sales data (albeit with some correction for Travelcard omissions) and would caution that biasing is likely to exist within this data, and that additional survey data be collected and/or used where appropriate.

Main Suburban lines (i.e. Wimbledon route)

- 7. The Main Suburban network is in many respects a "perfect" metro-railway, having grade-separation of all major junctions and 5 dedicated platforms at Waterloo. Such a network ought to be capable of handling a very intensive service, and given these conditions, the current timetable of 19 trains per hour arriving at Waterloo in the busiest peak hour appears very conservative.
- 8. London TravelWatch questions the benefit of "firebreaks" in a metro-type service; their principal effect is to cause the train which follows the break to become overcrowded and consequently to tend to run late. Where such an intensive service is operated, the timekeeping of any particular train is of lesser concern to the vast majority of passengers, since in the event of any delay to the service, many will simply catch a late-running preceding train.

- 9. Thus, in essence, the opportunity to provide greater capacity is being sacrificed in pursuit of a performance measure of questionable value. A better measure of performance would be excess waiting times, as used on London Underground. This would better reflect passenger perception in such areas and incentivises the operator to maximise capacity even if this results in a slightly lower level of performance as measured on a train-by-train basis.
- 10. Indeed, a study by the Railway Consultancy of the impact of the new SWT timetable on performance² recognised that the impact of late-running trains on passengers in the inner suburban area is in general less than the delay to individual trains, and its method of calculation was adjusted to effectively use a proxy for excess waiting time in this area instead of individual train delays as used elsewhere. We would urge the rail industry to consider changes to the performance regime where this might permit greater capacity utilisation with no real disbenefits to passengers.
- 11. Detailed examination of operating practices might enable an increase in the number of peak trains operated without the need for major infrastructure works. Such issues might include:
 - Yellow-yellow working. By allowing trains to be scheduled to operate on yellow or double yellow rather than green aspects, it should be possible to increase frequencies on the trunk section to something close to every 2 minutes. This would provide a capacity increase of almost 50% in the peak hour.
 - Stepping-back of train crews (although with 5 platforms available at Waterloo this might not be necessary).
- 12. London TravelWatch understands that one of the present constraints on line capacity is the sharp curvature at the throat of platforms 1 5 at Waterloo. If this is the case, then a possible remedy would be to introduce new metro rolling stock using shorter cars. This would allow higher speeds on the curves for both departing and arriving trains and thus increase capacity by reducing platform re-occupation times.

Windsor lines

13. London TravelWatch recognises that the operation of the Windsor lines is much more difficult than the Main Suburban lines. This is because of the large number of flat junctions and the need to mix metro and semi-fast trains on the same tracks.

- 14. The worst of the flat junctions is obviously the one at Barnes, as this is the most intensively used. One option would be for the Airtrack scheme to include grade separation of this junction. An alternative, which may be cheaper and achievable more quickly, would be to take advantage of the removal of Eurostars from Waterloo and reconfigure the layout between Waterloo and Barnes into two separate routes with tracks paired by use rather than the present pairing by direction.
- 15. So far as the interworking between metro and semi-fast trains is concerned, the loss of line capacity which this entails would be reduced if new metro rolling stock with higher acceleration and shorter platform dwell times were introduced.
- 16. Of great concern locally are the problems with the four level crossings between Richmond and Barnes, where road traffic (including buses and pedestrians) often experiences severe delays. We would support the London Borough of Richmond's view that future resignalling should take account of the needs of such road users, which may involve closure/replacement of crossings.

² South West Trains – Assessment of December 2004 Timetable, The Railway Consultancy Ltd, May 2005

Rolling Stock

- 17. London TravelWatch acknowledges that the refurbishment of SWT's class 455 stock has been carried out to a very high standard, and to a specification better suited to its purpose than similar refurbishments elsewhere. However fundamental weaknesses remain in terms of acceleration (their traction motors were re-claimed from stock built in the 1940s and are very low powered by today's standards) and inadequate doorway width resulting in long station dwell times.
- 18. As this stock is now approaching 30 years old and thus reaching the end of its book life and as there is a need for additional stock to provide increased services, there must be a strong case for replacing the entire SWT 455 fleet with new trains purpose designed for a 21st century intensive metro service.
- 19. Further use for these 455s might be found for a few years on Southern, where metro services also need more stock, and which are currently operated by a combination of less effectively refurbished 455s and 377s which are not really suitable for metro use.
- 20. Release of 377s from Southern would in turn provide a source of additional stock for SWT intermediate and outer area services. Also, an increase in capacity on longer distance trains is possible by reconfiguring seating layouts (e.g. from 2+2 to 3+2). If the operator were to suggest removal of ft class accommodation as a means of increasing capacity, London TravelWatch would not oppose this.
- 21. TfL believes it can lease new stock at about the same cost as refurbishment of existing stock, and this would obviously be relevant to the whole issue of a rolling stock strategy for metro services throughout London.
- 22. In the particular case of SWT, consideration should be given to the use of shorter cars (e.g.10 x 16m instead of 8 x 20m) with full-width corridor connections similar to the design being developed by Metronet for LUL's sub-surface lines. This may also enable a relaxation of the speed restriction on the sharp curves approaching platforms 1 5 at Waterloo, thus reducing platform clearance times and allowing more trains to be operated.
- 23. London TravelWatch is concerned at reports that Desiro stock is a significant cause of increased rolling contact fatigue (RUS, p36), with adverse consequences for maintenance possession requirements and costs. It is to be hoped that proper attention will be paid to this in the development of new generations of metro rolling stock.

Timetable

- 24. The maps included in the RUS (p26/7) demonstrate that the December 2004 SWT timetable is commendably robust. However, the London TravelWatch view is that, at least on the Main suburban and Windsor lines suburban metro services, many of the additional time allowances are now too generous, and some prudent acceleration is possible. For example, the 4 min stand time at Kingston for Kingston roundabout trains is excessive, and its removal would go some way towards solving the problems at Strawberry Hill where a traditional 4 trains per hour service (2tph each way) has been lost because the trains in both directions now call there at the same times. In addition, the reduced journey times resulting from paring of allowances might release stock for additional peak workings. These issues are considered in more detail under Gap 2 below.
- 25. The RUS (paragraph 3.6) implies that heavy possession requirements need to continue indefinitely. London TravelWatch recognises that the post-Hatfield drive by Network Rail to deal with the maintenance and renewals backlog has necessarily restricted early-morning, late-evening and Sunday trains in the short term. However, looking forward to 2017, London TravelWatch regards it as essential that operating hours for metro services within the London Travelcard Zones should be extended so as to be comparable with those of LUL, i.e. first trains from all origins to arrive at London terminals by 0600 (0730 Sun), last trains for all

destinations to depart London terminals no earlier than 0030. Where major maintenance and renewals cannot be accommodated within the short possessions available outside these hours, longer possessions should be programmed on a planned and recurring basis, preferably limited to Monday to Thursday nights and Sunday mornings, with standardised alternative arrangements. London TravelWatch would like to see this implemented no later than 2010.

<u>Infrastructure</u>

- 26. The Airtrack scheme from Staines to Heathrow T5 should be a priority for completion. It should initially have 4tph from Waterloo using the Eurostar platforms to T5 with 2tph via Richmond calling at Clapham Junction, Richmond, Twickenham, Feltham and Staines and 2tph via Brentford calling at Clapham Junction, Putney, Brentford, Hounslow, Feltham and Staines. These could then be interworked with services to Reading and Guildford.
- 27. The second part of Airtrack should also be completed to link T5 to the Great Western Main line enabling through trains between Reading and Waterloo via T5.
- 28. All sub-standard station platforms should be brought up to at least &car length (e.g. at Wandsworth Town).
- 29. The Kew curves should be re-electrified to enable more trains to use this as a diversionary route. This would give more operational flexibility, and allow for the diversion of freight services away from the congested areas of the South Western Main Line and West London Lines. Consideration should also be made of more use of the Wimbledon East Putney route, subject to any impact on the London Underground District Line.
- 30. London TravelWatch believes that the North Downs Line could be more efficiently operated if the gaps in the current electrification were filled. This would enable integration of rolling stock utilisation on adjacent lines, with consequent efficiencies to be gained in terms of rolling stock utilisation and common management with other local services. In this case it would be appropriate to transfer the franchise for local services on this route to either the South West Trains or Southern franchises.
- 31. London TravelWatch supports track improvements west of Salisbury to facilitate frequency and performance improvements on this route see Gap 9 comments below.

Gap 1: Overcrowding of the network in the peak period

- 32. London TravelWatch refutes the inference that the only way to carry more passengers in the peak is to deploy more stock (in the form of either more trains or longer trains). While this is true of metro and intermediate distance services, it is not true of longer distance services on which greater capacity could be provided by providing higher density seating in class 442/444/170/159 trains. It should be borne in mind that season ticket rates (per mile) are, in general, lower for long-distance journeys than for shorter journeys.
- 33. In these circumstances, London TravelWatch feels it is quite wrong to invest limited resources in new rolling stock for the benefit of relatively small numbers of passengers who pay the lowest rates but impose the highest costs in terms of mileage worked, track maintenance and power consumption (due to high speeds) and crew and rolling stock resources (because the distances are such that 'bounce-backs are impractical so that each train can only work one journey in each peak).
- 34. London TravelWatch believes that peak frequency increases on both Main and Windsor metro services are quite feasible. In addition, extension of platforms to at least 8-car length should be a priority, and the feasibility of a longer-term increase to 10 cars (in addition to replacement of the existing 455 fleet) should be investigated.

35. London TravelWatch would support the use of discounted fares to encourage a shift of passengers away from the peaks, but would oppose any moves to limit demand by means of overall fares increases.

<u>Gap 2: The balance between performance, service level and capacity established by the December 2004 timetable</u>

- 36. London TravelWatch supports the proposal for a review of the December 2004 timetable (see Appendix 1 for full list of specific issues)
- 37. London TravelWatch acknowledges that the December 2004 SWT timetable change has brought about a significant improvement to most services in the London TravelWatch area, both within the GLA area and in north-west Surrey, in terms of both improved off-peak service frequencies, and improved performance.
- 38. The most significant improvement in the peaks has been at the inner London stations such as Earlsfield and Wandsworth Town, where previously passengers were often unable to board the first train due to severe overcrowding.
- 39. In the off-peak, the service improvements ensuring there are no stations with less than 4 trains per hour on the Hounslow loop, on the Epsom branch, or at Walton and Weybridge, have been very successful in both meeting existing passenger demand and generating new demand.
- 40. The range of through trains in the off-peak serving Clapham Junction was also improved, including the service to Bristol via Salisbury. London TravelWatch supports the retention of this service and its enhancement to include a morning train from London and evening return trains from Bristol.
- 41. On the downside there have been no improvements in off-peak frequency on the Chessington, Shepperton or Hampton Court branches. London TravelWatch believes that an increase to 4 trains per hour on the Chessington branch is both feasible and desirable. Similarly, 4 trains per hour could be achieved on the Shepperton branch by means of additional trains to/from Kingston only. Kingston is an important local centre and traffic generator in its own right, and connections would be available for stations to Waterloo. Frequency on the Hampton Court branch could be increased to 4 trains per hour without adding additional trains on the main line section by providing a shuttle service to/from the Down Slow platform at Surbiton, although demand considerations make this a lesser priority than Chessington or Shepperton.
- 42. The service around the Kingston loop does not provide 4 trains per hour at Strawberry Hill, since trains in opposite directions now cross there. Ideally, these should be timed as close as possible to 15 minutes apart, giving an effective 4 trains per hour service to/from Clapham Junction and beyond. Removal of some of the standing time which these trains now have at Kingston would go some way towards achieving this. However, this would impact adversely on the good connections at Teddington for passengers between Shepperton and Twickenham which have now been achieved.
- 43. At Clapham Junction, the service to a number of destinations has been reduced to hourly. London TravelWatch is particularly concerned regarding the reduction in calls by Salisbury trains. We would like all trains to call at Clapham Junction for interchange with Southern and West London line trains.
- 44. The possibility of running Guildford New Line trains on the Fast Lines to release Slow Line capacity should be further investigated. It should be noted that there is significant traffic between this line and Wimbledon.
- 45. South West Trains should interface properly with Southern services between Epsom, Dorking and Guildford so as to give good connections and a regular interval service.

- 46. On Sundays there should be no less 2 trains per hour on the metro branches. Services on the Guildford 'new' line should also be increased to 2 trains per hour. In the short term this could be achieved by running Guildford via Epsom (1 train per hour) and Guildford via Cobham (1 train per hour), giving 2 trains per hour west of Effingham Junction. Bookham Station should be opened on Sundays.
- 47. These Sunday requirements are short term measures. Long before the end of the RUS / new franchise period, London TravelWatch would expect Sunday frequencies to be brought up to weekday standards.
- 48. London TravelWatch does not consider that a reduction in the level of service at any station within the London suburban area is warranted (option 2.2). In this respect, it should be noted that the per-passenger disbenefits of reducing service by 1tph is greater than the per-passenger benefit of increasing service by 1 train per hour.

Gap 3: Insufficient car park capacity at certain locations

- 49. London TravelWatch's position is to support the expansion or improvement of car parking facilities where this can act as a means of reducing overall car trip length. In general, this means that at inner London stations we would not encourage additional parking, but in outer London and beyond we would do so.
- 50. London TravelWatch supports TfL's initiatives with regard to improving access at stations within Greater London, and Surrey County Council's PFI bid to upgrade stations in its area.
- 51. Specifically, we would support the proposals by the Royal Borough of Kingston-on-Thames to open on a regular daily basis Kempton Park as a park-and-ride for Kingston (in conjunction with service frequency increase to 4 trains per hour (see paragraph 41). This has an ideal location adjacent to junction 1 of the M3.
- 52. Additional cycle storage is required at Woking, and at other stations on the network.

Gap 4: Passengers in excess of capacity at Waterloo

- 53. London TravelWatch acknowledges the need to take action to deal with increasing passenger congestion at Waterloo, and would urge that *both* short-term mitigation measures *and* a long-term "master plan" are required; neither alone will be sufficient. Improvements to signage at Waterloo should be a priority.
- 54. London TravelWatch considers that passenger capacity enhancements are also required at Vauxhall (including the installation of lifts between platforms and ground level) and that these should be looked at in association with any proposals for Waterloo station as for the Suburban services these two stations are both regarded as 'London Terminals'. This is known to be of concern to the London Borough of Lambeth.

Gap 5: Capacity constraints on calls at Clapham Junction

- 55. London TravelWatch is fully supportive of any initiatives for infrastructure modifications to permit an increase in the number of trains which can call at Clapham Junction. Not only is this a busy local station in its own right, but it is one of the busiest rail interchanges in the country.
- 56. In the shorter term, other solutions should be sought to enable more trains to call. A possibility worth investigating would be to reduce the line speed on the fast lines through the station substantially and resignal for that speed. The unacceptable cant at platform 8 could then be reduced to an acceptable level, and all trains could call with zero/minimal loss of capacity compared with the current situation (all peak trains non-stop). A solution which permits some,

- but not all, trains to call, is likely to be more expensive, or result in greater loss of peak capacity.
- 57. London TravelWatch would also encourage Network Rail, TfL and the Franchise operator to improve disabled access to/from the station and between platforms at this increasingly important interchange.

Gap 6: Insufficient capacity at Woking Junction

58. London TravelWatch supports any schemes which can be funded.

Gaps 7-8

59. These are not of direct concern to London TravelWatch.

Gap 9: There is not enough capacity on the West of England Line to provide the level of service aspired to.

60. London TravelWatch is supportive of options 9.1 and 9.2 because of the benefits that would accrue to Londoners in terms of increased frequencies of services and the reliability benefits that would accrue to the network as a whole if Exeter – Waterloo services were more consistently reliable.

Gap10:

61. This is not of direct concern to London TravelWatch.

Gap 11: Insufficient capacity at Reading (platforms 4a and 4b)

- 62. London TravelWatch supports measures to increase capacity at Reading, which is one of the busiest stations in the UK, particularly as they would be essential for the implementation of the Airtrack scheme. Diversion of North Downs Line (DMU) trains to the "relief" side of the station via the reinstated dive-under line would provide greater capacity for, and hence improved performance and/or frequency of, Windsor Lines (EMU) trains at platforms 4a and 4b, and remove conflicts with the GW main line for trains going west of Reading.
- 63. This would also enable the diversion of freight away from the Great Western Main Line (slow lines), freeing up capacity there for more frequent passenger services east of Slough. We therefore believe that option 11.3 would bring the best overall benefit to the railway network as a whole. This link should also be electrified to allow maximum flexibility especially at times of disruption if platforms 4a and 4b are unavailable for any reason. All of these measures will have substantial 'downstream' benefits to the reliability and the capacity of services in the London area.
- 64. This is particularly germane in relation to London TravelWatch's long-standing aspiration for the operation of an hourly Birmingham Reading Gatwick/Brighton service, running alternately via the West London Line (calling at Slough, Ealing Broadway, Kensington, Clapham Junction and East Croydon) and via the North Downs Line (calling at Guildford and Redhill). This could be introduced as an initial service of 4 trains per day, becoming more frequent with time. This will help to ease capacity problems in the London area by keeping some passengers out of central London altogether.
- 65. This needs to be looked at as part of the restructuring of Cross-Country, Central and Chiltern which is now being planned. Virgin have always made it clear to us that they regard an hourly service on the Birmingham Reading Gatwick axis as having a good business case, but the

stumbling block has been a lack of sufficient Voyager units. However London TravelWatch believes that Turbostar (or similar) stock – suitably configured with ample luggage space for air passengers – would be acceptable for such a service, and a cascade of such stock should now be possible as result of the forthcoming introduction of class 185s on Trans-Pennine Express.

London Travel Watch will be pleased to discuss this response to the RUS consultation with Network Rail

Any queries regarding this response should be addressed to:

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Appendix 1

Note of London TravelWatch aspirations - in relation to South West Train's December 2004 timetable

- London TravelWatch's aspirations for train services in the London area are contained in our paper "Requirements for Train Services – Principles". The most important points in this paper are:
 - Within the London Travelcard zones, all metro services to / from London should be at least 6 trains per hour (trains per hour) all day, every day.
 - In the London TravelWatch area beyond the zones, all stations should have at least 4 trains per hour all day, every day.
 - First trains to arrive London no later than 0600 (0730 Sundays).
 - Last trains should depart London no earlier than 0030 (2400 to stations beyond the zones).
 - Services at key interchanges should be maximised, in order to facilitate the use of rail for non-central London journeys.
- 2. London TravelWatch recognises that to achieve these standards will in some cases require substantial investment, which at present is not forthcoming.
- 3. We therefore look to the industry to lift services as close as possible to these standards within existing capacity supplemented where possible by small scale infrastructure improvements.

Improving on South West Train's December 2004 timetable

- 4. Within the context described above, this note looks at how the South West Main Line RUS should aim to improve on the new timetable introduced by SWT in December 2004.
- 5. The new timetable has proved to be very successful in its aim of improving performance. This is evident from reports we have received of passengers' day-to-day experiences, from the PPM figures, and from the National Passenger Survey reports.
- 6. From the specific point of view of passengers travelling within the London TravelWatch area there have been several other benefits, notably relief of crowding in the peaks at inner London stations such as Earlsfield and Wandsworth Town, and the introduction of the 4 trains per hour service on the Hounslow loop.
- 7. Although there have been some losses (see below) we believe that on balance the timetable has been good for passengers.
- 8. However it is quite clear that the new running and dwell times on which the timetable has been based are rather conservative, and this disadvantages passengers in two ways. Firstly the scheduled journey times are longer than they need to be. Secondly journeys tend to feel frustratingly slow, with trains waiting for time at many intermediate stations and too often standing in a queue outside Waterloo awaiting a platform.
- 9. We therefore believe that for a new a new timetable based on a RUS, there should be a total review of running times, dwell times, recovery times and pathing times. Other issues to be looked at include the policy of doors closing 30 seconds before departure which we

regard as unnecessary (and 60 seconds. at Waterloo which is simply unacceptable), and the stand time booked for 'roundabout' trains at stations such as Kingston.

Specific losses / issues to address include -

- a) Clapham Jct. the maximum possible number of trains to call.
- Strawberry Hill re-phasing of Kingston 'roundabout' trains to restore an effective 4 trains per hour service.
- Whitton re-phasing of Hounslow loop and Windsor trains to restore an effective 4 trains per hour service.
- d) Shepperton peaks re-phasing of via Wimbledon and via Richmond trains to restore an effective 4 trains per hour service.
- e) Esher West Byfleet section pm peak re-phasing of services to restore an effective 4 trains per hour service.
- f) Earlier start and later finish of Hounslow loop 4 trains per hour service.
- g) Shepperton off-peak increase to 4 trains per hour by running shuttles to Kingston
- h) Hampton Court and Berrylands peaks and off-peak investigate increase to 4 trains per hour, perhaps by diverting Guildford via Cobham trains to run on fast lines between Surbiton and Waterloo.
- i) Review connectivity between outer area and metro services at Surbiton to achieve faster peak links between Woking and Wimbledon.
- j) Consider re-instating off-peak calls by outer area trains at Wimbledon.
- k) Review all first and last metro area services to provide first arrivals at Waterloo by 0600 and last departures from Waterloo no earlier than 0030 (note connecting services would be acceptable if necessary as a means of achieving this for branch lines).
- All-round improvement of Sunday services, to be enabled by reduction of Network Rail demands for 2-track working.
- m) Introduction of morning (business time) through train Waterloo Trowbridge Bristol.