

A photograph of a train station. In the foreground, a man wearing a blue bicycle helmet and a brown t-shirt is adjusting his gear on a bicycle. Behind him, a woman is pushing a stroller with a child inside. To the left, several other people are standing on the platform. In the background, a green and black train is stopped at the platform. Above the train, a green metal pedestrian bridge with a white lattice railing spans across the tracks. The sky is clear and blue.

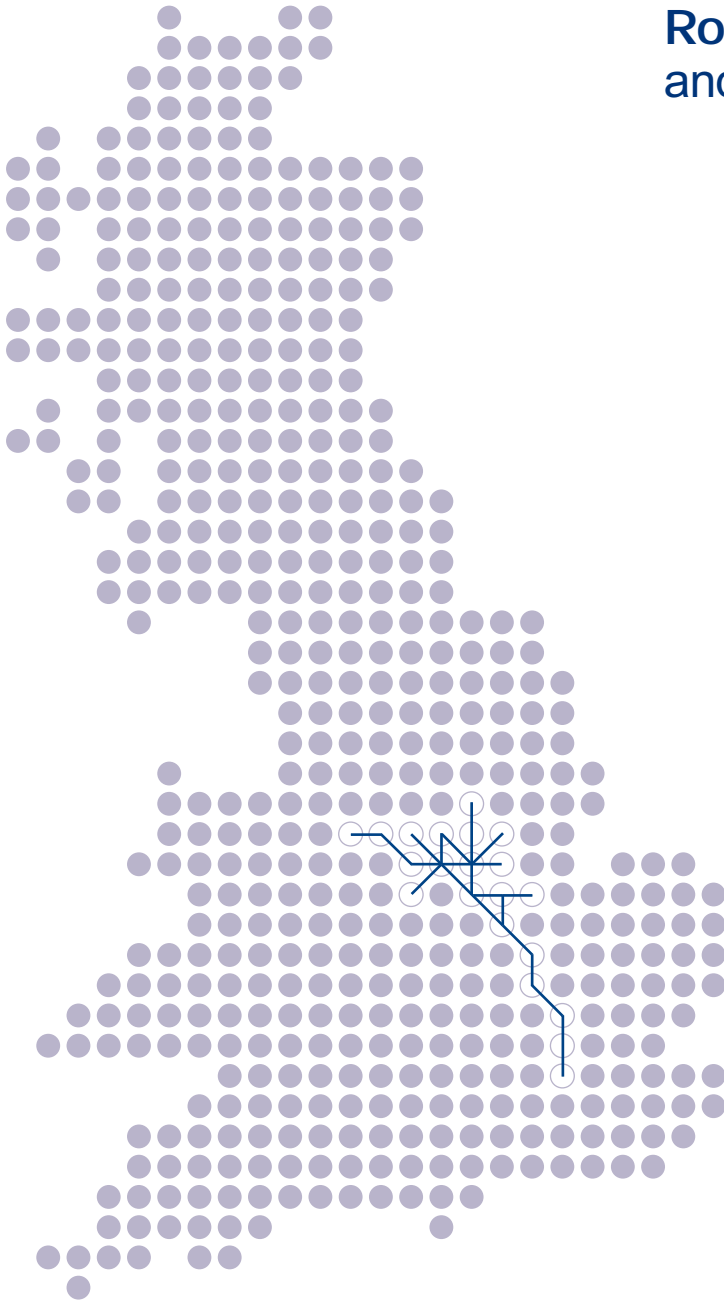
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Route 19 Midland Main Line and East Midlands



Section 1: Today's railway

Route context

This route covers the Midland Main Line (MML) from St Pancras to Chesterfield, along with the East Midlands local routes radiating from Derby, Nottingham and Leicester as far as the East Coast Main Line (ECML) and West Coast Main Line (WCML). This route serves a large number of communities in North London, the Home Counties and the East Midlands. It carries significant volumes of long distance, commuter and other local passenger services, and a number of key freight flows. This is a key route for the long distance cross country services operating outside London.

The London to Leicester section, which parallels the M1 motorway, is the primary link between the East Midlands and London and is mainly used for long distance journeys, London commuting and freight services. A mixture of local, long distance and freight traffic exists north of Leicester on a network of routes. The Chesterfield – Derby – Burton-on-Trent section forms part of the North East/Yorkshire to West Midlands link and is key to both cross-country passenger and freight trains.

The main freight flows are aggregates from the northern ends of the route to the South East and other key flows include the North East to West Midlands/South West flows.

Key features causing capacity constraints and affecting performance are the heavily used sections between London and Bedford (with particular problems of platform capacity at St Pancras International and Bedford), and between Trent Junctions and Nottingham.

Work is underway on the East Midlands Route Utilisation Strategy (RUS), led by Network Rail on behalf of the industry. The RUS covers this route and a small section of Route 11 not included in the Yorkshire and Humber RUS.

The RUS is being developed in parallel with the West Midlands and Chilterns, and the Great Western RUSs to ensure that cross boundary issues are identified and developed. The Yorkshire and Humberside RUS, with which it also interfaces, is nearing completion.

The DfT has published two Regional Planning Assessments (RPA) relevant to the route covering the East Midlands and the East of England.

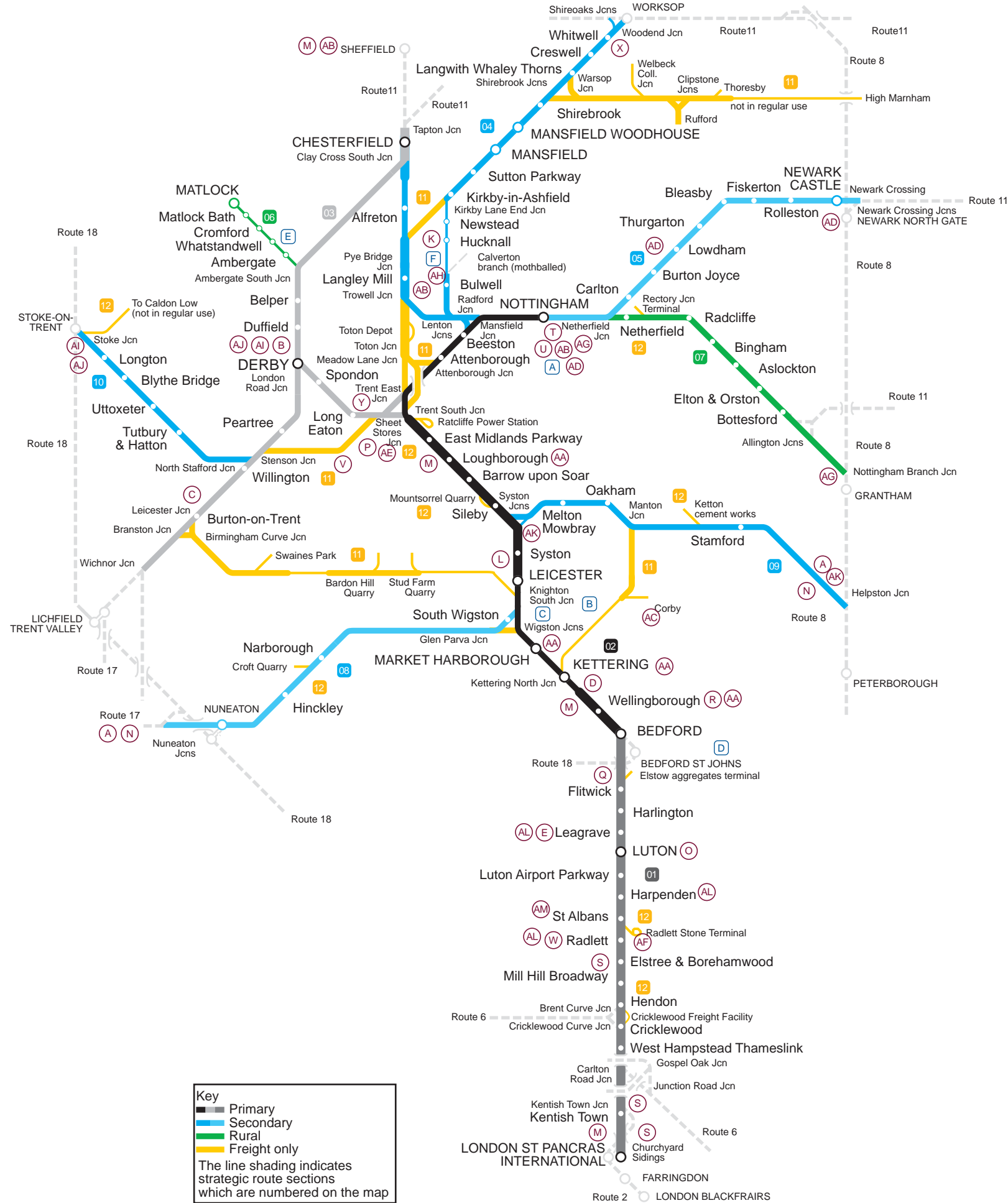
Today's route

The route's four main elements are described below. The relevant Strategic Route Section is shown in brackets:

- Midland Main Line – London to Chesterfield, via Derby and Nottingham. The south end of the route, from Bedford to St. Pancras, forms part of the Thameslink network (19.01, 19.02, and most of 19.03 and 19.04)
- East Midlands local routes (part of 19.04, 19.05, 19.06, 19.07 and 19.10)
- cross country routes – Derby to Burton-on-Trent and Nuneaton to Peterborough (part of 19.03, 19.08 and 19.09)
- freight only routes – including the following through lines (19.11 and 19.12)
 - Wigston Junction – Burton on Trent
 - Pye Bridge Junction – Kirkby Summit Junction
 - Sheet Stores Junction – Stenson Junction
 - Trent to Trowell.

In describing and developing these routes it is acknowledged that none exist in isolation and that constraints and opportunities here have implications for the rest of the national rail network.

Route 19 Midland Main Line and East Midlands



Current passenger and freight demand

The London to Leicester section serves commuters, long distance passengers and freight, and is experiencing a considerable increase in commuter journeys.

From both Leicester and Burton-on-Trent to Derby the route serves long distance as well as local passenger markets while north of Derby the main passenger traffic is medium to long distance. The Chesterfield – Derby – Burton-on-Trent section forms part of the North East – Yorkshire – West Midlands link and is crucial for both cross country passenger and freight services.

The route also provides access to Nottingham for both local and long distance services.

The main passenger markets are:

- long distance journeys between London and the East Midlands and South Yorkshire
- commuter journeys particularly from East Northamptonshire, from the Home Counties and North London into the Capital
- medium to long distance cross country journeys to/from the East Midlands and through journeys connecting the North West, North East, Yorkshire, East Anglia, the West Midlands and South West
- commuter and other local journeys in the East Midlands.

Freight demand generally falls into the following categories:

- aggregates traffic from various quarries on the route and from the Buxton area on Route 11 to East Anglia and the South East
- coal traffic from the loading points on the route and/or to the power station on the route at Ratcliffe (north of Loughborough)
- scrap metal to Beeston
- traffic to and from the terminal at Burton-on-Trent
- the Corby automotive flow
- metals services between the North East and the South West
- through workings from Northern England to the West Midlands and South West, mostly operating via Chesterfield, either through Derby or via the Erewash Valley through Langley Mill. However, some flows from the Humber ports run via Newark and Nottingham.

Current services

East Midlands Trains (operated by Stagecoach), CrossCountry (operated by Arriva), First Capital Connect and Northern Rail (operated by a joint partnership between Serco Group and NedRailways) operate passenger services on this route along with DB Schenker Rail (UK) Ltd, Freightliner Limited, Freightliner Heavy Haul Limited and GB Railfreight Ltd providing freight services.

The commuter services at the southern end of the route form part of the Thameslink service which is operated by First Capital Connect with an off-peak pattern of four semi-fast services between Bedford and London with four slow services between Luton and London. All these trains operate through the low level platforms at St Pancras International to Farringdon and Blackfriars to serve locations south of London as far afield as Brighton.

However, First Capital Connect services are currently making use of the four platforms in the main train shed at St Pancras International during diversions. This will reduce substantially later this year when additional infrastructure works in Clerkenwell tunnels are completed and will further reduce once the Thameslink works to Midland Road crossovers and Clerkenwell OHLE switching are completed for platforms A and B.

There are additional trains in the peak periods, many of which operate to/from Moorgate. Significant crowding problems exist on peak services.

GB Railfreight infrastructure services on behalf of Metronet operate from Wellingborough to locations off the route at Barking, Gunnersbury and Amersham.

The majority of the remaining services are operated by East Midlands Trains. There are currently five services per hour from St Pancras International, comprising two fast services per hour with one operating to/from Sheffield via Derby and the other serving Nottingham, two semi-fast services from London to Derby and Kettering/Corby, and a slow London to Nottingham service. Some of the semi fast services are extended to/from other locations such as, Melton Mowbray and Lincoln while some of the fast Sheffield trains are extended to/from Leeds.

A long distance interurban service operates hourly between Norwich and Liverpool, via Grantham, Nottingham, Chesterfield and Sheffield.

East Midlands Trains also operates all the local services on the route, many extending to a number of off route destinations, as listed below.

- Leicester – Nottingham – Lincoln
- Nottingham – Grantham- Skegness
- Nottingham – Worksop via Mansfield (the Robin Hood Line)
- Derby – Crewe
- Derby – Matlock - Nottingham.

These run at broadly hourly frequencies, but when combined with interurban services provide a two train per hour service on some key route sections. A third train per hour between Derby and Nottingham has been introduced from December 2008, which has helped relieve peak loading and supplements the two services which are provided by CrossCountry.

The majority of the other passenger trains are operated by CrossCountry who provide an integrated network that links virtually all GB's nations and regions.

CrossCountry is one of the main providers of long distance high speed services outside of London, and is geographically the most extensive operator of passenger services in the UK, covering around 1500 route miles and calling at over 100 stations. As CrossCountry's services traverse many of Network Rail's strategic routes, planning therefore has to be considered across route boundaries in order to deliver maximum industry benefits.

In December 2008, CrossCountry introduced a standard pattern timetable so that the same origin and destinations are now linked every hour. This pattern has many advantages and provides increased capacity on the most crowded services. However, a number of through journeys have been lost, including between West Yorkshire and the Thames Valley, and between Scotland, the North East and Derbyshire, and Birmingham International and the South Coast. As a result passenger interchanges at stations such as Derby and Birmingham New Street has increased by around 10%.

There are now hourly through services between Plymouth and Edinburgh (via Leeds), Reading and Newcastle (via Doncaster), Bournemouth and Manchester, Cardiff and Nottingham, and Birmingham and Stansted Airport. This should provide some growth capacity on this route for certain commuter flows to/from Sheffield, Derby and Birmingham.

On this route the pattern of service is two trains per hour between Newcastle and Birmingham with one of these running to/from Reading, and the other extending to Edinburgh and the South West. These operate via Chesterfield, Derby and Burton-on-Trent and form part of the Birmingham to Leeds corridor which is one of the busiest parts of the CrossCountry network. There are also hourly services between Nottingham and Cardiff via Birmingham, Nottingham and Birmingham, and Birmingham and Stansted Airport.

In addition, CrossCountry operates local services between Birmingham and Leicester.

Northern Rail operate an hourly service between Leeds and Nottingham serving Langley Mill and Alfreton. The introduction of this service in December 2008 has largely overcome peak crowding on the Chesterfield – Alfreton – Nottingham corridor, as well as creating new direct journey opportunities.

Figure 1 St Pancras International International / Thameslink – current train service level (trains per hour)

Originating Station	tph to London St Pancras International International /Thameslink
Bedford	9 peak / 6 off peak
Kettering / Corby	2
Leicester	4
Derby	2
Nottingham	2
Sheffield	1

Figure 1 shows the current level of service to St Pancras International (MML platforms) and its low level (Thameslink) platforms from principal stations.

Figure 2 shows the total annual tonnage levels on the route.

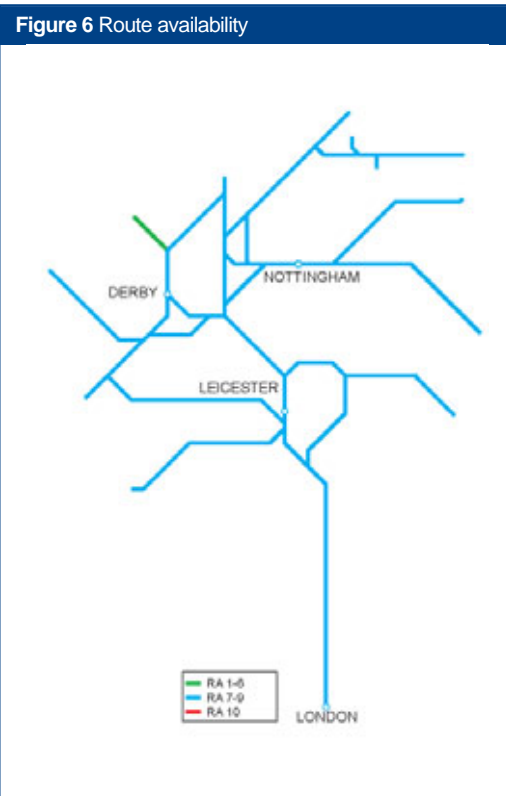
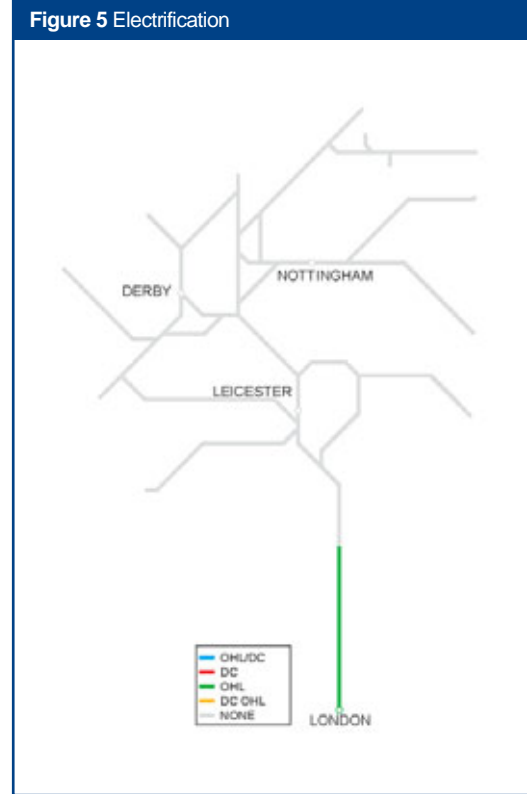
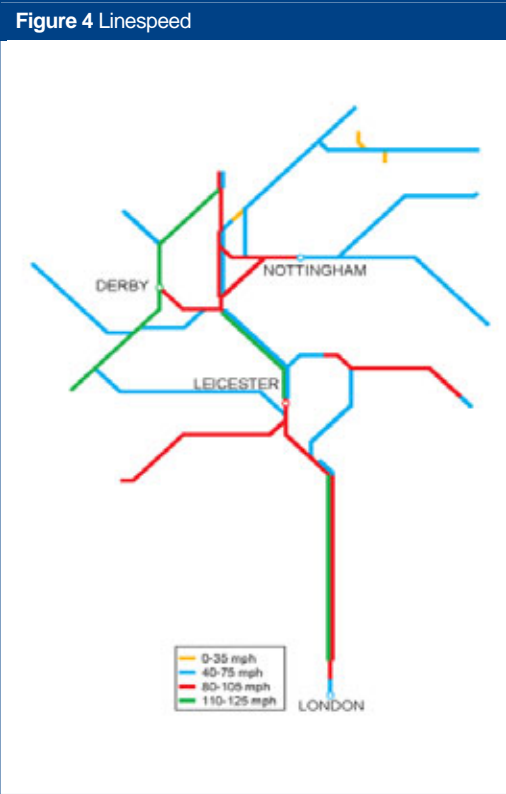
Traffic volumes are summarised in Figure 3.

Figure 2 Tonnage**Figure 3** Current use

	Passenger	Freight	Total
Train km per year (millions)	24	4	28
Train tonne km per year (millions)	6,436	4,005	10,440

Current infrastructure capability

The following maps set out the capability of the current network.



Current capacity

The busiest sections of the route, which run at or near capacity at peak times, are between London and Leicester and between Trent Junctions and Nottingham. The Leicester area itself and the corridor running east to west through Leicester is also very busy. The most heavily loaded trains on the route are those on London peak commuter services south of Bedford.

St. Pancras International has just four platforms for all East Midlands Trains services in the main train shed. These platforms are also currently being used by First Capital Connect services during diversions for engineering works. The remainder of this part of the station is used by Eurostar and domestic services using High Speed One (the Channel Tunnel Rail Link). The number of platforms constrains capacity significantly. There are also two low level platforms for First Capital Connect services operating on the Thameslink corridor.

Other major capacity constraints include:

- current signalling control arrangements on the approach to junctions at Radlett, Harpenden and Leagrave, when trains need to cross between the fast and slow lines. Where these moves are not planned up to two minutes delay can be incurred
- Bedford station area – all terminating/starting First Capital Connect services and southbound East Midlands Trains services calling at Bedford need to use just three platforms and, in conjunction with freight services, they all use the slow lines between the station and Bedford South Junction. This constrains the number of southbound East Midlands Trains services that can call and causes congestion during perturbed operations

- the infrastructure between Bedford and Kettering, where there is a mixture of four, three and two track sections which limit the availability of paths at busy times and affect performance when trains are running out of course
- Kettering station area, in particular, and extending along the single line to Corby, is constrained by the mix and timing of services
- Trent East Junction, where the lines from Nottingham, Derby, Leicester and Toton meet, regularly causes delays when trains are running out of course due to the number of crossing moves over the short single line sections
- Nottingham station, which is heavily congested on the western approaches to the station. This and current signalling control can lead to the routing of trains becoming constrained and therefore lead to delays. There is insufficient capacity available at Nottingham for the number of terminating services which results in congestion
- Derby station is heavily congested and the speed of the lines running into and out of the station further exacerbate delays when trains are running out of course.

Figure 8 shows the current train service level in key sections of the route.

Figure 8 Current train service level (peak trains per hour)

Route Section	Number of trains
Radlett – St Albans	19
Harrowden Junction – Kettering	9
Loughborough – Ratcliffe Junction	5
Chesterfield South Junction – Tapton Junction	7
North Staffordshire Junction – Clay Mills Junction	8
Attenborough – Beeston	9

Figure 9 2008/09 PPM

TOC	Forecast MAA	As at period
CrossCountry	89.8%	10
First Capital Connect	92.1%	10
East Midlands	88.6%	10
Northern	89.4%	10

Current performance

Figure 9 shows the forecast 2008/09 PPM for the main TOCs running along the Route.

Performance issues are particularly pronounced at locations where the route is heavily congested. These are indicated in the previous section.

The Robin Hood Line suffers from particularly poor performance mainly as a result of the single line sections and line speeds causing the train plan to be quite tight.

Section 2: Tomorrow's railway: requirements

HLOS output requirements

Figure 10 Total demand to be accommodated by Strategic Route (millions)

Route	Annual passenger km (millions) forecast in 2008/09	Additional passenger km (millions) to be accommodated by 2013/14
Midland Main Line and East Midlands	2,655	498

Figure 11 Peak hour arrivals to be accommodated by Strategic Route

London Terminals and Regional Hubs	Peak three hours			High- peak hours		
	Forecast demand in 2008/09	Extra demand to be met by 2013/14	Maximum average load factor at end CP4 (%)	Forecast demand in 2008/09	Extra demand to be met by 2013/14	Maximum average load factor at end CP4 (%)
St. Pancras International including Thameslink and Kent services via High Speed One#	25,900	10,900	67	13,100	5,700	76
Nottingham & Leicester ##		13% increase on 2008/09	41		16% increase on 2008/09	46

Notes

the load factor requirement in the HLOS applies as an average across 12 London stations

included in aggregate target across a number of regional hubs

In addition to the outputs above, the HLOS includes Key Output 1 of the Thameslink Programme which covers the section south of Bedford on this route.

Future demand in CP4

Demand will continue to grow, particularly on the southern part of the route, as growth in local employment and new housing development encourages further commuting, business and leisure journeys. Demand is expected to be highest south of Leicester in view of development around Corby, Kettering and Wellingborough, and in Bedfordshire and Hertfordshire, and also at Cricklewood.

Passenger demand (journeys) is forecast by industry models to grow by up to two and a half cent per annum on the route.

However, given that past growth has been higher, more significant growth is likely on some regional flows.

The most recent counts on CrossCountry services indicated an overall growth rate of eight per cent per annum. In particular, CrossCountry are experiencing steady growth on their Newcastle to Bristol (via West Yorkshire and Birmingham), and their Manchester to Thames Valley services. Growth has been highest in the evening peak, on Fridays and throughout the weekend, with Sunday being the second busiest day of the week. Through rolling stock internal reconfigurations and service re-routing, CrossCountry have plans to increase passenger capacity by 35 percent by 2009.

CrossCountry have aspirations to increase the frequency of services via Leeds to improve links between Sheffield and Leeds, provide a direct service between West Yorkshire and the Thames Valley and reduce crowding in Yorkshire and elsewhere.

Further growth is developing as a result of the transfer of Eurostar services to St Pancras

International in November 2007. These mainly operate to/from Paris, Brussels and Lille but offer interchange at these locations to services serving many other European destinations. In addition Key Output 1 of the Thameslink programme will further increase demand with many new journey opportunities.

The proposed line speed improvements on the Midland Main Line, which aim to reduce the journey time to Sheffield, would also provide additional growth.

Growth on the Stansted, Birmingham to Nuneaton corridor is expected to increase considerably due to population growth in Anglia and the continued expansion of Stansted Airport. This will increase the amount of interchange at Leicester and Peterborough.

Similar, or even greater growth, is anticipated on all other CrossCountry services as modal shift from road to rail accelerates over the coming years. A key feature of CrossCountry services is the opportunity to interchange and connect to services operating on the MML, ECML and WCML.

There is expected to be a steady growth in freight traffic over the key freight arteries on the route.

The Freight RUS was published by Network Rail in March 2007 and established by the Office of Rail Regulation in May 2007. A key input to the strategy was a set of ten year demand forecasts that were developed and agreed by the industry through the RUS Stakeholder Management Group.

Growth is projected across most market sectors, with deep sea intermodal traffic showing the biggest volume increases. On this route W10 clearance of the section between Peterborough and Nuneaton will provide for an additional eight paths each way per day.

The most significant driver of change in demand patterns is the Energy Supply Industry (ESI) coal market. This is due to the ongoing shift toward importing coal supplies, and volume shifts between competing import facilities.

As a result coal traffic will continue to see significant changes on this route as increased coal imports from Hull and Immingham to East and West Midlands power stations replace much of the traffic from the East Midlands' loading points.

On the north south corridor along the Midland Main Line two off peak freight paths per hour will be required.

Future demand beyond CP4

Demand growth is expected to continue well into CP5, for both freight and passenger businesses. Beyond that, the Government's July 2007 White Paper challenged the industry to plan for a doubling of demand in the subsequent 30 years.

CrossCountry aim to focus on the need to accommodate demand generated by the expansion of Stansted Airport, which is anticipated to continue beyond 2014.

This corridor, between Peterborough and Nuneaton, is also likely to see a further increase in intermodal freight traffic as a result of continuing growth from the Haven Ports to the WCML.

The Strategic Freight Network (SFN) is examining the use of MML as a core freight route with a potentially enhanced role in conjunction with a re-opened Oxford to Bletchley route. This would increase the demand for additional freight paths on the MML.

Section 3: Tomorrow's railway: strategy

The table below summarises the key milestones during CP4 in delivering the proposed strategy for the route. Further explanation of the key service changes and infrastructure enhancements are set out in the following sections.

Figure 12 Summary of proposed strategy milestones

Implementation date	Service enhancement	Infrastructure enhancement	Expected output change
2009	FCC service alterations to allow Thameslink Programme works	Various schemes to protect performance while revised services are being operated	Improved performance
2009 - 2014	Birmingham to Leicester services extended to Cambridge by 2009 and ultimately extended to Stansted Airport with earlier and later services.	Platform lengthening, where appropriate	Increased capacity
2010 - 2012	Progressive programme of train lengthening on interurban and regional services in the East Midlands	Platform extensions	Increased capacity
2011	Thameslink Programme Key Output 1	Platform lengthening and improved layout at Bedford and Route 2 works	Increased capacity and improved performance
2012 - 13	Improved journey times for long distance services	Various schemes to improve line speeds and timetable restructuring	Reduced journey times

Figure 13 Capacity enhancements to meet HLOS peak capacity in CP4

Description	Additional vehicles involved	Station served	0700 – 0959 Capacity Impact	0800 – 0859 Capacity Impact
Lengthening of East Midlands Trains and Cross Country trains	6	Leicester	612	510
Lengthening of East Midlands Trains	10	Nottingham	1,170	936

These figures do not include the additional vehicles for Cross Country to meet HLOS allocation

The table above shows how the HLOS load factor targets for locations on the route are met by the proposed strategy.

The measures will also allow the total additional passenger KM to be accommodated.

Figure 14 Impact on HLOS peak capacity metric

London Terminals and regional Hubs	Peak three hours				High peak hours			
	Demand end CP4	Capacity start CP4	Capacity end CP4	Load factor end CP4	Demand end CP4	Capacity start CP4	Capacity end CP4	Load factor end CP4
St. Pancras International including Thameslink and Kent services via High Speed One	36,800	31,000	62,800	64%	18,800	13,200	26,500	74%
Other London Termini*	525,100	713,000	819,100		263,500	310,800	355,100	
Nottingham & Leicester	31,000	20,800	22,500	40%	14,300	7,100	8,500	46%
Other urban areas		50,500	55,200			18,700	22,900	

Strategic direction

Work on the East Midlands Route Utilisation Strategy (RUS) started last autumn and option appraisal work of the 44 gaps identified, is currently underway. The RUS will provide a strategy for future development of long distance services to St Pancras International and long distance interurban and regional services on routes in the East Midlands.

The main strategic challenge to be answered by the RUS is likely to be catering for increased peak passenger demand and the combination of freight and passenger demand in the off-peak. This will also include CrossCountry aims to address train service provision, capacity and journey time issues within CP4 through linespeed improvements and the routing of some of its services.

In the short to medium term much of the peak growth will be met through additional train carrying capacity. This will include train lengthening and the deployment of alternative types of rolling stock, as proposed in other parts of the country. There are some routes where a revised service pattern may provide a better option for the use of the additional rolling stock than train lengthening.

In particular Key Output 1 of the Thameslink Programme will deliver significant crowding relief for the commuter services south of Bedford by allowing 12 car operation from December 2011.

Journey times between Sheffield, Nottingham, Derby and Leicester and St Pancras International are proposed to be reduced both through line speed improvements and service enhancement included in the East Midlands Trains franchise. This will allow this route between the Sheffield City Region, parts of the East Midlands and London to provide journey times which are more comparable with those on the East Coast Main Line.

Forty five per cent of CrossCountry passengers change train, usually onto or off other operator services. Connectivity is therefore a key issue for CrossCountry in CP4 and beyond, and must be taken into account when formulating route strategy going forward.

Following the completion of the Felixstowe to Nuneaton W10 gauge clearance scheme this route, including the corridor between Peterborough and Nuneaton, will become a core freight route. The route from London to the north will remain a heavily used freight route, with longer and heavier trains in the future.

Figure 15 Tonnage growth



Future train service proposals

Figure 15 indicates the forecast percentage change in tonnage to 2018.

The East Midlands Trains franchise will alter some train formations. The effect on capacity for commuter flows to/from Nottingham, Leicester and London is still being examined but these will help with the HLOS commuter growth metrics for St Pancras International and Leicester.

In addition, the franchise has created a new Corby to London service. One service is currently running each day and this will be extended when rolling stock becomes available.

Increased capacity on the Norwich – Nottingham – Sheffield – Liverpool service is planned within the East Midlands Trains franchise which will assist with the HLOS commuter growth metrics for Nottingham and Sheffield.

East Midlands Trains is proposing to double the frequency of off-peak services between St Pancras International and Sheffield from December 2009. This would be achieved by the extension of the St Pancras International to Derby services through to Sheffield.

CrossCountry plans to extend the Birmingham to Leicester service to Cambridge in the short term and Stansted in the medium to long term. Initially, this would provide a two hourly Birmingham to Cambridge service from May 2009 with incremental increases over the course of the franchise to deliver

a half hourly Birmingham to Stansted service. There is also a desire to introduce earlier services into and later services out of Stansted to meet demand from airline customers and airport staff.

Our plans provide for around twenty additional vehicles arriving in Nottingham in the three hour morning peak provided by a mixture of committed franchise changes and additional rolling stock. These would probably be deployed to lengthen existing services thereby making best use of track capacity and traincrews.

The DfT Rolling Stock plan, which was published on 30th January, provides additional vehicles to meet the HLOS commuter growth metrics.

Overall there will be sufficient capacity to accommodate the additional fleet maintenance requirements across the route once the enhancement scheme, proposed by East Midlands Trains, for Derby Etches Park has been completed.

The growth targets for peak hour services into St Pancras International are expected to be met through the service proposals contained in the East Midlands Trains franchise, longer FCC services upon completion of Key Output 1 of the Thameslink Programme and the introduction of services from Kent via High Speed One.

Future capability

Speed improvements on the up and down fast lines to provide journey time savings between St. Pancras and the East Midlands and Sheffield are currently being examined. This will support the East Midlands Trains franchise proposal to improve journey times by the use of Class 222 units on Sheffield services and reducing the performance allowances included in the timetable.

Infrastructure schemes to improve the line speed along the route are also being developed with the ultimate aim to reduce the journey time by up to eight minutes for journeys from London to Derby, Nottingham, Chesterfield and Sheffield, and to bring the fastest London to Sheffield journey below two hours. These improvements will provide benefits to all passenger train operators on the route and will support CrossCountry's aspiration for faster journey times over its core network. Opportunities are being sought to progress the infrastructure works in conjunction with planned renewals, with the first section between Luton and Sharnbrook proposed to tie in with high output track renewals in 2009/10.

The East Midlands Resignalling Scheme, which is primarily renewals driven, is also providing some capacity and capability improvements, either

through changes driven by the need to match current outputs within the requirements of today's design standards or by add-on enhancements.

One aspect of the above is examining line speed increases on the slow lines between Leicester and Trent South Junction that will reduce journey times for the Leicester to Nottingham and Lincoln local services. This scheme is strongly supported by Nottingham County Council and operators.

The route has several proposed new stations at various stages of development including Corby, East Midlands Parkway, Elstow and Cricklewood North and we are developing major enhancements at Nottingham, Wellingborough, St. Albans, Luton and West Hampstead.

Short platforms at a number of stations on the Midland Main Line are a constraint. We are currently examining options to address those at Loughborough, Market Harborough, Kettering and Wellingborough to make maximum use of the train formation changes introduced by East Midlands Trains in December 2008.

Platform lengthening is also being examined at Attenborough, Melton Mowbray, Spondon, Stamford and Willington to support growth on interurban routes. As CrossCountry operates beyond Stamford to Stansted Airport, these developments will be co-ordinated with similar schemes at other stations along the route.

All outer suburban platforms south of Bedford will need to accommodate 12 cars in order to deal with growth and such works are included in the scope of Key Output 1 of the Thameslink Programme. Currently work has been completed at Luton Airport Parkway and works are underway at Mill Hill Broadway.

Once the operation of the Thameslink Key Output 0 timetable commences the Moorgate branch line will close to passenger trains to facilitate construction works at Farringdon Station. The Thameslink Programme will be extending the Overhead Line Equipment from Farringdon to City Thameslink and installing a new crossover to the south of City Thameslink to make sure that the functionality remains to recover the timetable in perturbed situations.

Two new crossovers to the north of St Pancras International (low level) will be installed by October 2009 to enable FCC to terminate train services at St Pancras whilst the core route is closed through London.

The introduction of new rolling stock from 2012 as part of the Thameslink Programme will also require the provision of additional stabling at Bedford and Cricklewood. Power supply enhancements are also required at Elstree to support the number of additional train services that will be operating on the route.

Modest speed improvements on some interurban and rural routes would give longer turn rounds at one or both ends of a route which would improve performance as well as increase demand through faster journeys. Where renewals are planned we will seek ways to increase line speeds though this may require some funding from NRDF.

We are working with DfT and other stakeholders (including several in the East Midlands) on development work for W9 and W10 gauge enhancement on a number of routes that could provide a comprehensive network of core freight arteries, in the northern half of the country, capable of taking deep sea containers on standard deck height wagons and swapbodies.

These enhancements would provide more diversionary opportunities for freight services and reduce potential delays caused when trains are running out of course. Routes in the East Midlands are included in this development work, including the corridor between Peterborough and Nuneaton which will be enhanced to W10 as part of the Felixstowe to Nuneaton upgrade scheme.

The case for extending the electrification of the Midland Main Line to Sheffield, Nottingham, Derby and Corby is being examined as part of the Network RUS.

Development work is also underway on Bainton Green AHB level crossing, between Peterborough and Stamford, to provide vehicle activated signs which will improve operational safety.

Future capacity

As mentioned previously, the main issue on the route will be providing capacity for the ongoing demand for commuter journeys to London. As track capacity is limited south of Bedford, the plan is largely to make better use of existing train paths by running longer trains. For First Capital Connect this will require a move to 12 car operation which is a key output of the Thameslink Programme. As well as the platform extension works on this route, major works are required on the core Thameslink section (see Route 2).

The severe capacity constraints of the East Midlands Trains platforms at St Pancras

International limit the options for dealing with growth in longer distance commuting journeys, particularly from East Northamptonshire.

With the limited capacity still available on the route south of Kettering and Bedford, if longer trains are insufficient to meet the forecast growth then options such as infill-electrification and the extension of Thameslink services further north may be required. The East Midlands RUS is currently examining these options in more detail.

Bedford station area is a capacity constraint as all terminating / starting Thameslink services and southbound Midland Main Line trains calling at Bedford need to use just three platforms and, in conjunction with freight services, they all use the Slow lines between the station and Bedford South Junction. This constrains the number of southbound Midland Main Line services that can call and causes congestion between Cauldwell depot and the station during perturbed operations. The Thameslink Programme is developing a scheme to enable the future timetable to operate.

West Hampstead Thameslink station will have the ability to act as a terminus station for both the north and south once works to install a new crossover to the north of the station are carried out by the Thameslink Programme. This is critical to the management of the train service during perturbed situations. A new footbridge with lifts will also be installed at West Hampstead to support the expected increase in passenger demand.

The provision of additional freight capacity between London and the north is being examined as part of the SFN and includes the use of MML as a core freight route with a potentially enhanced role in conjunction with a re-opened Oxford to Bletchley route. In addition, infrastructure works are being examined which would facilitate the operation of two off-peak freight paths per hour in the December 2008 timetable.

Trent East Junction, where the lines from Nottingham, Derby, Leicester and Toton meet, regularly causes delays, when trains are running out of course, due to the number of crossing moves over single lead junctions on the Toton and Derby routes. Phase 2 of the East Midlands Resignalling Scheme includes doubling the junction to allow more 'parallel' moves.

At Nottingham a major redevelopment of the station is being examined. The aim of this scheme is to provide additional capacity on the station itself and improved customer facilities. The scheme will also help generate local employment and commuter

journey opportunities in the East Midlands area by improving interchange links.

Nottingham station layout is heavily congested and Phase 3 of the East Midlands Resignalling Scheme will aim to provide performance, capacity and potential journey time benefits. The scope is likely to include some bi-directional signalling between Mansfield Junction and Nottingham station.

The cross country corridor between Peterborough and Nuneaton will be upgraded to provide increased capacity for both freight and passenger services. Development work is underway and currently includes the option to reinstate four tracks between Syston and Wigston.

The implementation of Integrated Train Planning System (ITPS) will be phased over the next two years and should help improve timetable accuracy by earlier detection of conflicts. Further development should provide more detailed analysis of journey times and further improve timetable accuracy.

Future performance

Figure 16 sets out the planned PPM for each train operator. These are lower than planned given the need for flexibility in achieving the HLOS targets and to reflect the greater uncertainty and risk associated with projecting performance at a disaggregated level. Reasonable requirements will finally be established for CP4 in our 2009 Business Plan.

The capacity constraint of four platforms at St. Pancras International is one which East Midlands Trains and ourselves will need to manage. Late running or slow turnaround of trains causes delays.

There is a significant level of change in service patterns driven by the Thameslink works throughout CP4 and the operation of some services by South Eastern. This, together with relatively minor changes to fleet resources, will result in some challenges to maintain performance. Following consultation with passenger and freight operators the Thameslink Programme are introducing a number of schemes to mitigate against the expected reduction in PPM.

The timing of freight growth and associated schemes to provide additional capacity and diversionary routes, will be key to managing future performance on the route.

There are a number of other proposed schemes that we are currently developing to improve performance and provide incremental capacity benefits as described below.

Changes to the signalling system at Radlett, Harpenden and Leagrave will enable trains to continue at a higher speed than now before crossing over at any of these junctions thereby improving operational flexibility and minimising delays to following services.

The provision of a third bi-directionally signalled line between Harrowden Junction and Kettering would avoid conflicts that currently exist between freight and passenger services in this area. This will improve maintenance access and provide incremental capacity that will benefit the proposed Kettering to London service.

The line speed increases on the slow lines between Leicester and Trent South Junction described above would reduce delay minutes during service disruption as trains diverted onto the slow lines would be able to run closer to the fast line speeds. This scheme is looking at opportunities to extend Platform 3 at Loughborough to enable long distance services to call during times of perturbation or engineering work.

We are examining options to improve the layout at Derby station as part of the RUS.

Central Rivers depot is critical to the operation of the CrossCountry service with more than a quarter of the fleet maintained there. CrossCountry and Network Rail are working on initiatives to improve the flexibility of the infrastructure in the area.

Figure 16 Forecast PPM MAA – CP4 plan

	2009/10	2010/11	2011/12	2012/13	2013/14
East Midlands Trains	88.1%	88.7%	89.4%	89.9%	90.2%
First Capital Connect	91.7%	92.1%	92.4%	92.7%	92.9%
CrossCountry	90.0%	90.2%	90.6%	90.9%	91.3%
Northern Rail	90.1%	90.7%	91.2%	91.7%	91.8%

Although the Robin Hood line is a very poorly performing route, it is difficult to justify significant investment for line speed improvements, level crossing modernisation and signalling headways which would make the timetable much more robust. The optimum time to undertake any signalling improvements would be when the Nottingham station area is resignalled in 2012. However, we are examining a number of small scale interventions to provide some performance improvements in the shorter term.

We are modifying the track layout in the Toton area to maintain and improve freight access and performance within the yard complex.

Driving down cable theft will provide performance benefits

Network Rail is working with operators to tackle issues of significant lateness to trains.

Route clearance works undertaken by TOCs (rather than by traction type) provide increased flexibility during perturbations and CrossCountry have recently cleared Voyagers to operate via Nottingham which should deliver performance benefits in the future.

East Midlands Trains

The performance of the TOC is 88.6 percent PPM as at period 10 2008/09 and should reach 88.1 percent by the end of March 2010. Performance has improved recently due to joint actions by the TOC and Network Rail and a timetable restructuring of some regional services.

The key performance issues and opportunities for this TOC have been identified to include:

- continued progress on the implementation of Stagecoach's franchise performance plan
- potential line speed improvements on the MML
- impact of the December 2008 timetable change
- joint review of performance on the Robin Hood Line
- better fencing in the rural areas to reduce animal incursions
- impact of poorer FCC punctuality during Thameslink enhancement work
- performance improvements will be delivered through Nottingham Station layout remodelling and various junction remodelling schemes as part of the East Midlands Signalling Renewals Programme
- Bedford Station layout changes will be designed to improve performance in conjunction with the Thameslink programme of works
- better information on small delays (especially in the rural areas) through use of OTMR and GPS.

The route plan is being developed around these key points and currently suggests that performance for the TOC will be around 89.8 percent by April 2014. We have started discussions with the TOC around this plan and will continue during the development of a Long Term Performance Plan with the operator during the Summer.

First Capital Connect

First Capital Connect operates the suburban train routes into London Kings Cross and the cross London Thameslink route. The performance of the TOC is 92.1 percent as at period 10 2008/09 and is anticipated to be 91.7 percent by the end of March 2010. There is a significant level of change in service patterns driven by the Thameslink works throughout CP4 and some services south of Blackfriars will be operated on behalf of South Eastern. This together with relatively major changes to fleet resources will result in some challenges to maintain performance.

The key performance issues and opportunities identified for this TOC include:

- minimising the operational impact of the Thameslink programme; to date modelling work has only been focussed on Key Output 0 and there is a degree of uncertainty around the full impact of the work programme
- uncertainty over the impact of the ELL extension and planned rewrite of the South London and Brighton Mainline timetables
- impact of passenger growth
- the impact of enhancements on the East Coast – especially around Kings Cross, Finsbury Park and Hitchin
- specific concerns over seasonal variation and the likely benefits of Remote Condition Monitoring;
- maintenance of journey times
- the impact of fleet changes – and stabling arrangements.

The TOC is currently concerned by the lack of a detailed plan to deliver performance improvements on this route especially due to the large amount of uncertainty. We will work with the TOC to produce a long term performance plan during the Summer and it is anticipated that this will result in a forecast level of performance of 91.4 percent by the end of 2013/14 (including the impact of the Thameslink works).

CrossCountry

The performance of the TOC is currently 89.8 percent as at period 10 2008/09 and is expected to reach 90.0 percent by the end of March 2010.

As a long distance operator CrossCountry faces significant performance challenges. With a tighter timetable structure in place following the introduction of the December 2008 timetable there may be congestion issues at key junctions and corridors across the network. Right time arrival at junctions will therefore be critical to meeting the targets for PPM and significant lateness targets set in the HLOS.

Franchise plans developed during bidding based on TOC on Self improvements have a PPM figure of 88.7 percent at the end of the franchise. This was based on a given bid assumption of no improvement from Network Rail in CP4. It is therefore expected by CrossCountry that the further improvement sought in franchise and national PPM will come from Network Rail initiatives. The PPM figures shown for CP4 represent Network Rail's forecasts but while there have been some high level discussions, CrossCountry has not yet been able to agree formally a PPM figure for the end of CP4.

Northern Rail

Northern Rail commenced operation of the Leeds to Nottingham service in December 2008. It is too early to assess the performance of the service, however, Northern Rail have raised concerns about the turn around times at Nottingham station. The future performance section for Northern Rail can be found in the plans for Routes 8, 9, 10, 11, 20 and 23.

Significant lateness

Network Rail nationally is developing plans for a 25 percent reduction in trains over 30 minutes late over Control Period 4. These plans include, continued work on flooding prevention and joint initiatives being developed between Network Rail and BTP to prevent theft and vandalism. These commitments are consistent with CrossCountry's desire to minimise the number of significantly late trains, a source of customer complaint, loss of business to rail and payments under the delay repay regime. Although plans are currently in their early stages, any actions under this heading are likely to benefit the performance of the CrossCountry services given the geographic extent and long distance nature of the business.

Extreme weather

Extreme weather is no longer confined to particular periods of the year. Flooding and high winds can strike at any time with an adverse effect on services. CrossCountry's geographic coverage means that a regional weather event can have a national impact. Other inter-urban services such as Liverpool to Norwich, operated by East Midlands

Trains, can be similarly affected. Of particular concern to CrossCountry are blanket emergency speed restrictions which can severely impact services which operate the length and breadth of the country as well as across Network Rail organisational boundaries.

Network availability

Despite the busy nature of the route, overall engineering access is sufficient particularly as many sections of the route have three or more tracks. Generally, where only two tracks are available, diversionary opportunities exist. One exception is the Kettering to Harrowden Jn section where we are planning a third line.

The Birmingham – Wichnor Junction – Derby line also causes problems as the diversionary route via Leicester adds considerable time to journeys and is difficult to resource.

Midland Main Line is one of eight national Seven Day Railway routes. The challenge is to provide similar access on Saturday evening and all day Sunday to operate the customer working timetable..

The route has the capability to deliver aspirations such as the provision of additional late Saturday night services using single line working and the key diversionary routes. This will entail a greater level of renewal and maintenance efficiency coupled with a number of infrastructure enhancements. Key elements in achieving this capability involve increased sections of bi-directional signalling and the upgrading of diversionary routes for additional and larger gauged traffic.

Aspirations to operate passenger services over all lines south of Bedford on a Sunday from 12:00hrs affects mainly renewals work and needs to be worked through in more detail. Further changes to Rules of the Route would be needed to facilitate this aspiration.

The Seven Day Railway case will be based on the revenue growth generated by the additional Saturday evening services out of London and suppressed demand released through the provision of a Saturday timetable operated earlier on a Sunday.

CrossCountry, like other operators has aspirations for a seven day railway. Due to the nature of CrossCountry journeys, Sunday carries the second highest volume of passengers (with Friday peak having the greatest volume). Some services operate on a 30 minute frequency, therefore reducing the number of services during engineering works is no longer possible due to the diverse origin

and destination points within service groups. As a result, some weekend line closures, extended journey times and bus replacement services can impact on the revenue of the business. Possession overruns resulting in unplanned service changes are particularly damaging.

Some of the schemes mentioned in the sections above will also provide more flexibility for engineering access by reducing the time penalties for using the slow lines on three or four track sections.

The introduction of intermodal traffic to the Peterborough to Nuneaton corridor in the future will require trains to be diverted via London during engineering works.

Long term opportunities and challenges

The work undertaken in the RUS will identify key challenges that the rail industry will face in the long term, and through analysis and optioneering, the most appropriate methods to resolve these issues will be determined. A key element of this work is to understand the issues that cross the RUS boundaries, and this work will then inform planning in CP5 and beyond.

Commuter growth will continue to be a key issue for the route, especially into London. It will be very difficult to create further peak paths to/from London due to the constraint of four platforms at St Pancras International and the number of paths available through the Thameslink core from Kentish Town to Blackfriars once Key Output 2 of the Thameslink Programme connects it to the ECML route.

CrossCountry have highlighted the need to achieve journey time reductions as a key objective across all of their primary routes.

In the East Midlands, longer term growth in commuter and leisure travel is likely to be addressed through a mixture of continued train lengthening and additional services. As with London commuter growth, these options are being considered in the RUS.

The level of infrastructure works proposed under the East Midlands Signalling Renewals scheme offers both the opportunity to deliver further improvements through associated enhancements against the challenge of continuing to operate reliable services during the works.

If the W9 and W10 gauge enhancement proposals come to fruition in the East Midlands, including the potential enhanced role of the MML for freight in conjunction with a re-opened Oxford to Bletchley, then there will be a significant increase in the number of intermodal freight paths required. On the north south corridor along the Midland Main Line, even without Oxford to Bletchley, two off peak freight paths will be required. Again the RUS will consider these issues.

Infrastructure investment in CP4

Figure 17 Infrastructure Investment in CP4

Implementation date	Project	Project description	Output change	Funding	GRIP stage
2009	Ⓐ St Albans station Phase 2	Minor enhancements to improve performance	Improved performance	Network Rail Discretionary Fund	8
2009/10	Ⓐ Enhanced signalling at Leagrave, Harpenden and Radlett	Enhanced signalling arrangements for trains crossing between the fast and slow lines	Improved performance	Performance Fund	2
2009/10	Ⓐ Peterborough – Nuneaton	Gauge clearance of the route and incremental capacity improvements between Peterborough and Nuneaton in connection with the port developments at Felixstowe and Bathside Bay	To accommodate the carriage of deep sea container traffic on standard deck height wagons as an alternative route to operating via London and the West Coast Main Line and to provide increased capacity to meet growth in freight train demand associated with the aforementioned ports	Transport Innovation Fund	4
2009/10	Ⓐ Corby	Signalling works	Provides ability to remove the tidal flow timetable between Corby – Kettering – London St Pancras	Network Rail Discretionary Fund	5
2009/10	Ⓑ Derby Etches Park	Depot improvements phase 2	Improved depot facilities to service Meridian trains	Third Party	4
2009/10	Ⓐ Trent East Junction doubling.	Doubling single lead junction on back of signalling renewals	Increased capacity and improved performance	Network Rail Discretionary Fund	5
2009/10	Ⓐ Kettering to Harrowden	Provide 3 rd line with bi-directional	Increased capacity, better engineering access	Network Rail Discretionary Fund	4
2009/10	Ⓐ Sheet Stores jn	Renewal of S & C	Renewal	Periodic Review 2008	4
2009/10	Ⓐ Radlett jn	Renewal of S & C	Renewal	Periodic Review 2008	4
2009/10	Ⓐ Derby to Stoke Renewals	Signalling Renewals	Renewal	Periodic Review 2008	5
2010/11	Ⓐ Castle Donnington	Connection to new freight terminal	New freight operators	Third Party	4

Figure 17 Infrastructure Investment in CP4

Implementation date	Project	Project description	Output change	Funding	GRIP stage
2010/11	ⓐ Wixams (Elstow)	New station	To meet local housing developments	Third Party	4
2010/11	ⓑ Wellingborough station	Redevelopment of the station and a new station footbridge	Improved station facilities	Third Party	2
2010/11	ⓐ+ Recontrol Robin Hood Line	Signalling renewals	Renewal	Periodic Review 2008	4
2009-2012	Ⓜ MML St Pancras International – Sheffield LSI	Line speed increases London to Sheffield	Improved journey times	Periodic Review 2008	4
2011/12	Ⓢ Thameslink Programme	Major works including revised track layout (including Bedford Station area), new Midland Road crossovers at St Pancras platforms A/B, amendments to the OHLE switching arrangements, platform extensions between Kentish Town and Bedford, stabling facilities at Bedford and Cricklewood, and new customer information service facilities	Improved capacity and new journey opportunities	Periodic Review 2008	6
2011/12	Ⓣ Nottingham Hub.	Redevelopment, potential additional platform, improved waiting/retail facilities	Enhanced station and interchange facilities	Third Party/Network Rail	4
2011/12	ⓐ Leicester Jn	Renewal of S & C	Renewal	Periodic Review 2008	2
2012	ⓧ Whitwell Tunnel	Removal of tunnel	Impact in maintenance, renewal savings	Third Party	1
2012/13	Ⓤ East Midlands resignalling: Nottingham station area enhancement element	Enhancements on the back of Nottingham station resignalling scheme	Capacity, performance and journey time improvements	Periodic Review 2008	3
2012/13	Ⓥ East Midlands Airport Rail Freight connection	Proposed new rail freight link onto Sheet Stores Jn – Stenson Jn route	Improved rail freight link	Third Party	3
2012/13	ⓐ+ Recontrol Nottingham to Grantham	Signalling Renewals	Renewal	Periodic Review 2008	3

Figure 17 Infrastructure Investment in CP4

Implementation date	Project	Project description	Output change	Funding	GRIP stage
2012/13	Ⓜ Radlett	Connection to new freight terminal	New freight operations	Third Party	2
2012/13	Ⓜ East Midlands platform extensions	Measures to accommodate longer interurban and regional services	Increased capacity	Periodic Review 2008	1
2012/13	Ⓜ Leagrave	Renewal of S & C	Renewal	Periodic Review 2008	2
2012-2014	Ⓜ Derby to Stoke Level Crossings	Level Crossings Renewals	Renewal	Periodic Review 2008	1
2012-2015	Ⓜ Syston to Peterborough Level Crossings	Level Crossings Renewals	Renewal	Periodic Review 2008	1
2012-2016	Ⓜ Ipswich to Nuneaton capacity increase	Capacity enhancements including work in conjunction with the Leicester re-signalling scheme.	Freight and passenger capacity improvement	Subject to agreement	3
2012/13	Ⓜ Nottingham to Newark upgrade	Enhancements as part of the Nottingham to Lincoln line upgrade	Increased linespeed and capacity between Nottingham and Newark	Third Party	2
2013/14	Ⓜ Northern gauge improvements	Gauge clearance of various routes	To accommodate the carriage of deep sea container traffic on standard deck height wagons from ports to the East and West Midlands and via the West Coast Main Line	Subject to agreement	3

NRDF candidate schemes in CP4

Figure 18 Candidate NRDF schemes in CP4

Implementation date	Project	Project description	Output change	Funding	GRIP stage
2009/10	Ⓚ Robin Hood line performance	Minor enhancements to improve performance	Improved performance	Network Rail Discretionary Fund	4
2009/10	Ⓛ Leicester, North Jn to Trent South Jn	Increase in linespeed on the slow lines and platform lengthening at Loughborough	Improved performance and capacity	Network Rail Discretionary Fund	4
2010/11	Ⓞ Luton station	Redevelopment of the station and new car park	Improved station facilities and footfall capacity	Third Party / Network Rail Discretionary Fund	5
2011/12	Ⓜ Nottingham to Sheffield linespeed increases.	Linespeed increases	Increased capacity and improved performance	Third Party / Network Rail Discretionary Fund	2

Renewals activity

Figure 19 shows the estimated renewals costs and activity volumes.

The precise timing and scope of renewals will remain subject to review to enable us to meet our overall obligations as efficiently as possible consistent with the reasonable requirements of operators and other stakeholders.

It should be noted that in order to manage the deliverability of our Civils, Signalling & Electrification plans we have included an element of over planning in our work banks. As a consequence the sum of our route plans exceeds our plan for the network as a whole. It is likely that a small proportion of the activities in these areas will slip to subsequent years.

Figure 19 Summary of estimated renewals costs and activity volumes

£m (2009/10 prices)	2009/10	2010/11	2011/12	2012/13	2013/14	CP4 total
Renewals						
Track	62	42	45	53	64	266
Signalling	62	28	35	27	36	189
Civils	9	9	18	17	16	70
Operational property	6	8	7	7	5	33
Electrification	1	2	2	2	2	9
Telecoms	5	4	2	1	2	15
Plant and machinery	1	0	0	1	1	3
Total	146	94	110	108	126	584
Renewals volumes						
Track						
Rail (km)	56					
Sleeper (km)	14					
Ballast (km)	22					
S&C (equivalent units)	27					
Signalling						
SEUs (conventional)	153	30	3	278	9	473
SEUs (ERTMS)	0	0	0	0	0	0

Appendix

Figure 20 Strategic route sections												
Predominant aspect recorded (secondary aspects recorded in brackets). ELR is Engineers Line Reference, RA is Route Availability												
SRS	SRS Name	ELR	Classification	Funding	Community Rail	Freight Gauge	RA	Speed	Electrification	Signalling Type	Signalling Headway (mins)	No of Tracks
19.01	St Pancras International – Bedford	SPC1	Primary	DfT	No	W8 (W6)	RA8	110 (50)	25kV	TCB	5	4(6)
19.02	Bedford – Nottingham	SPC2/3/4/5/ TSN/WYM	Primary	DfT	No	W7 (W8)	RA8	105	None	TCB	4	2(3/4)
19.03	Wichnor – Derby – Chesterfield	DBP1/SPC 6/ 7/8	Primary	DfT	No	W8 (W7)	RA8	125 (90)	None	TCB	4	2(4)
19.04	Worksop/ Chesterfield – Nottingham	RAC/PBS1/ 2/3/PSE/TC C	Secondary	DfT	No	W6	RA8 (7)		None	TCB (AB)	5	2(3/4)
19.05	Nottingham – Newark Crossing	NOB1	Secondary	DfT	Yes	W6 (W8)	RA8	60 (70/50)	None	AB (TCB)	5	2
19.06	Matlock Branch	AJM	Rural	DfT	No	W6 (W8)	RA8	50	None	OTW	Single line	1
19.07	Netherfield – Grantham	NOG1/2	Rural	DfT	No	W8 (W6)	RA8	60 (75)	None	AB (TCB)	5	2
19.08	Nuneaton – Wigston Junctions	WNS	Secondary	DfT	No	W7	RA8	90 (75)	None	TCB (AB)	5	2
19.09	Syston Junctions – Helpston Junction	GSM2/PMJ	Secondary	DfT	No	W7(W8)	RA8(9)	90(75)	None	AB(TCB)	5	2

Figure 20 Strategic route sections

Predominant aspect recorded (secondary aspects recorded in brackets). ELR is Engineers Line Reference, RA is Route Availability

SRS	SRS Name	ELR	Classification	Funding	Community Rail	Freight Gauge	RA	Speed	Electrification	Signalling Type	Signalling Headway (mins)	No of Tracks
19.10	North Stafford Junction – Stoke-on-Trent	NSS	Secondary	DfT	No	W7	RA8	70	None	AB (TCB)	14	2
19.11	Freight Through Branches	Various	Freight	DfT	No	Various	Various	Various	None	Various	Various	2(1)
19.12	Other Freight Lines	Various	Freight	DfT	No	Various	Various	Various	None	Various	Various	1(2)

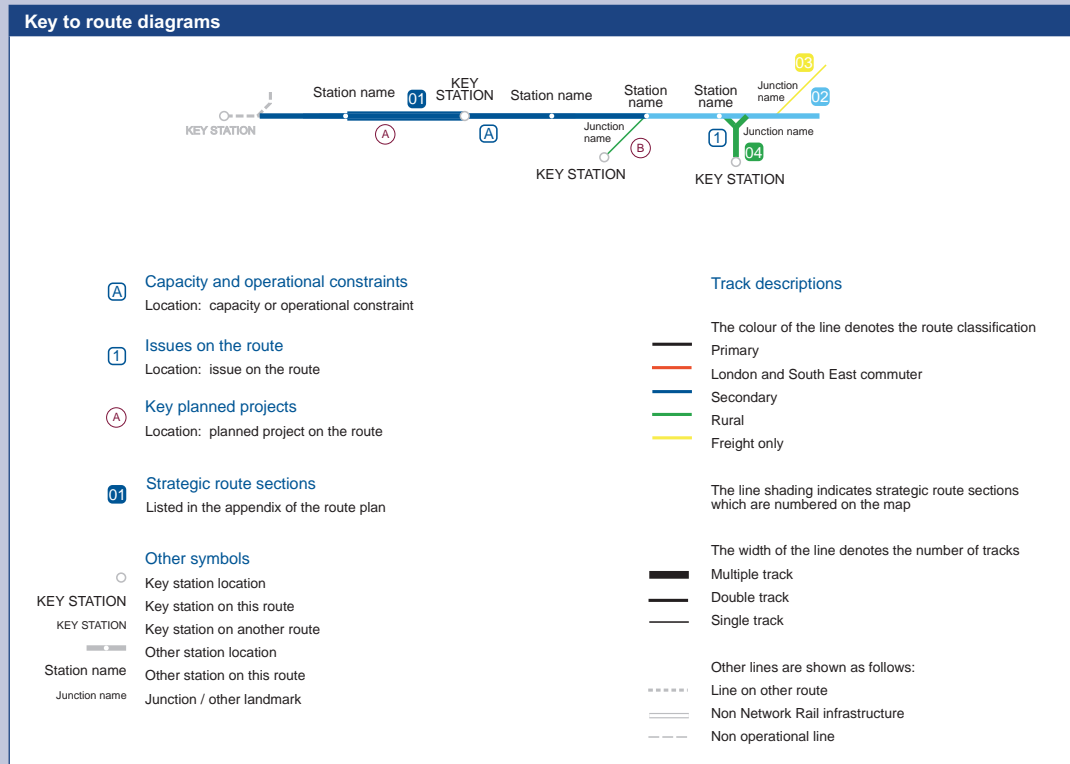
Capacity and operational constraints

- A Nottingham station: complex station layout and curvature
- B Leicester station: constrained station layout and curvature
- C Wellingborough – Leicester – Syston: mixture of two and three tracks
- D Bedford: constrained station layout
- E Matlock – Ambergate: single line section and weak bridges
- F Bulwell – Kirkby in Ashfield: single line section

Note

This Route Plan forms part of the Control Period 4 (CP4) Delivery Plan and supersedes the version published in April 2008.

Other documents in the Delivery Plan can be found on the Network Rail website www.networkrail.co.uk



GRIP stages

- 1 Output definition
- 2 Pre-feasibility
- 3 Option selection
- 4 Single option selection
- 5 Detailed design
- 6 Construction, test and commission
- 7 Scheme hand back
- 8 Project close out

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