

Route Plans 2007
Route 19
Midland Main Line
and East Midlands

Network Rail

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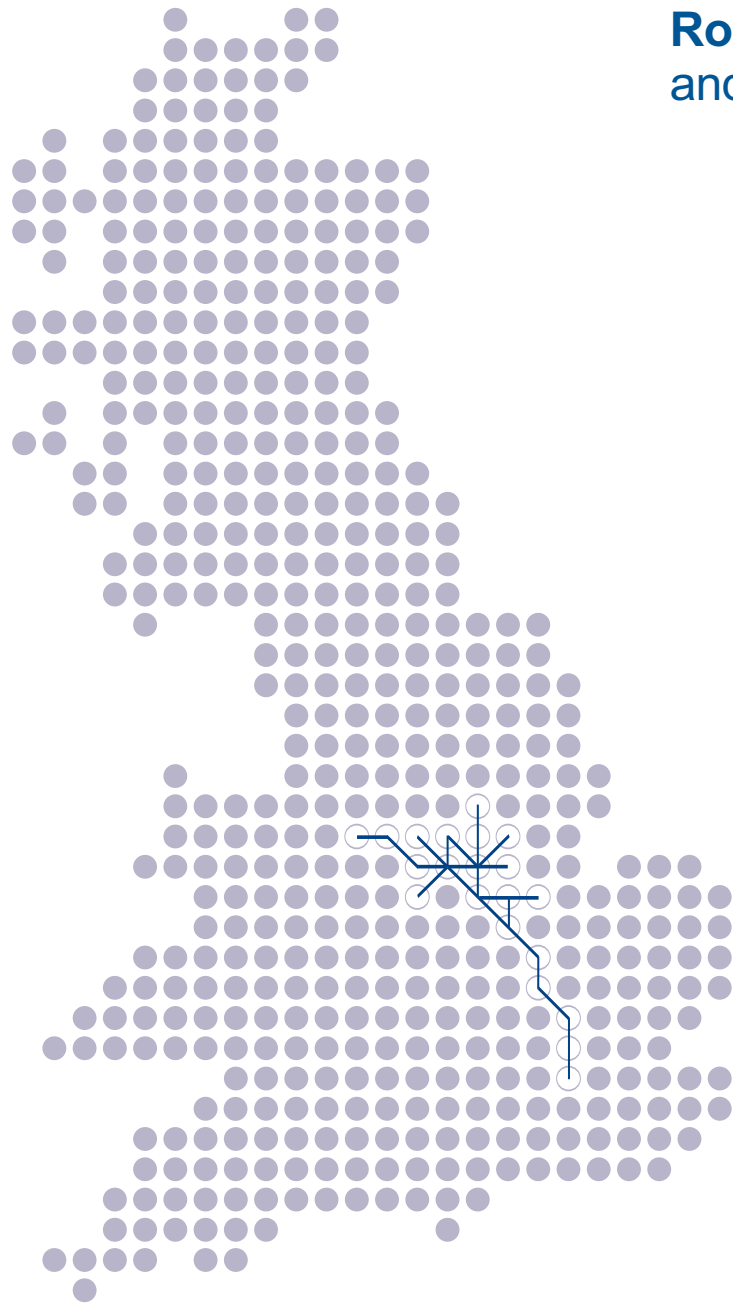




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Route 19 Midland Main Line and East Midlands

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); and
- freight only routes – including the following through lines (19.11 and 19.12):
 - Wigston Junction – Burton on Trent;
 - Pye Bridge Junction – Kirkby Summit Junction;
 - Kettering – Manton Junction; and
 - Sheet Stores Junction – Stenson Junction.

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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 and West Coast Main Line.

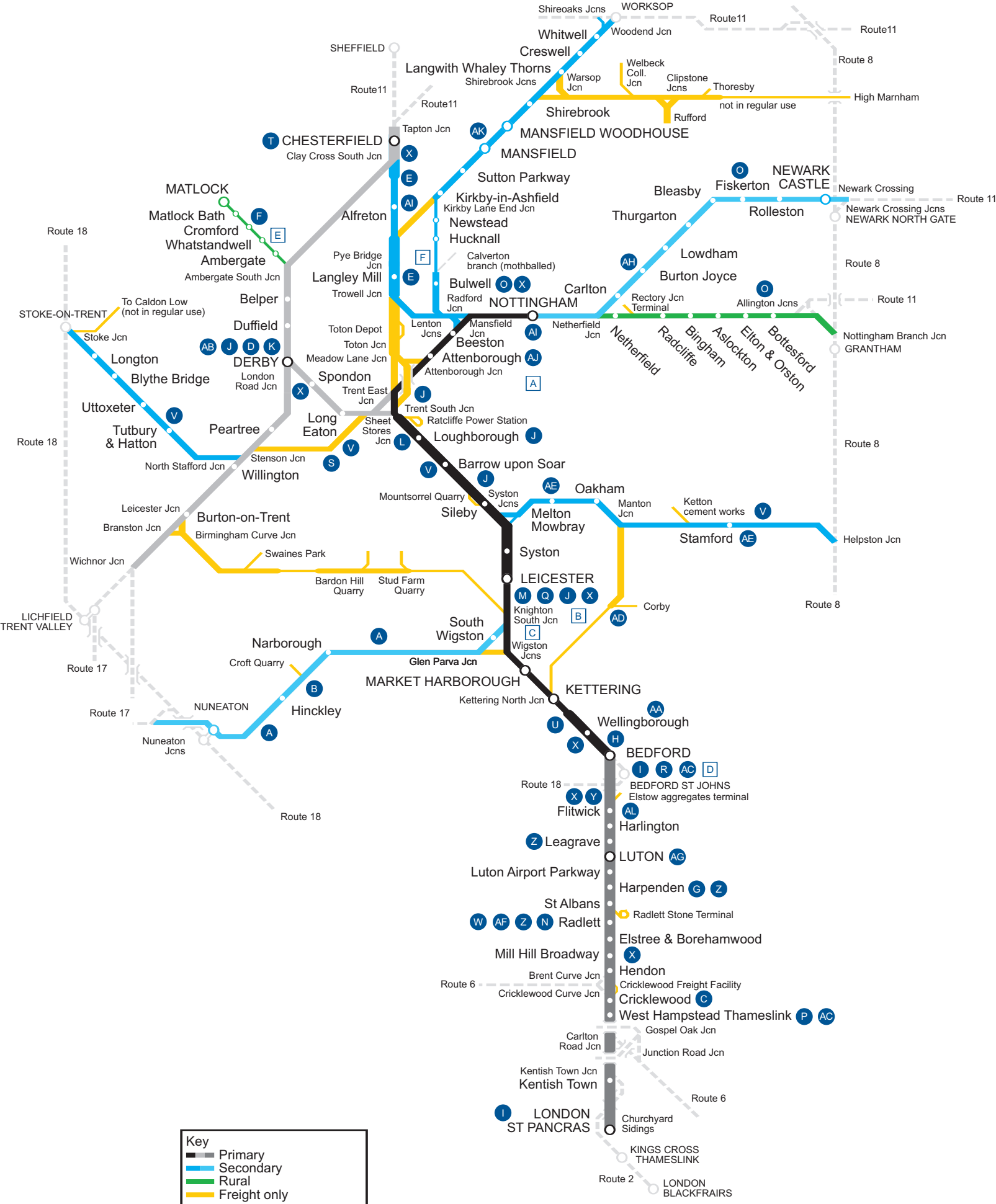
This route serves a large number of communities in North London, the Home Counties and East Midlands, and carries significant volumes of long distance and local passenger services, and key freight flows.

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.

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 and Bedford), and between Trent Junctions and Nottingham.

Route 19 Midland Main Line and East Midlands



Passenger and freight demand

The London to Bedford section serves commuters, long distance passenger, and freight traffic. The Bedford – Kettering – Leicester section serves the long distance passenger market and freight flows. Both sections are seeing 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 the East Midlands and South Yorkshire, and London;
- commuter journeys from the Home Counties and North London into the Capital;
- local journeys in the East Midlands; and
- 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.

Freight demand generally falls into three 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); and
- 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

Central Trains, Virgin Cross Country, Midland Mainline and First Capital Connect operate

passenger services on this route along with English Welsh & Scottish Railway Ltd, Freightliner Ltd, Freightliner Heavy Haul Ltd and GB Railfreight Ltd providing freight services.

Figure 1 shows the current level of service to London from principal stations.

There is currently a half hourly fast Midland Mainline service between London St Pancras and Leicester with one operating to/from Sheffield via Derby and the other serving Nottingham, and two semi-fast services from London (one to each of Derby and Nottingham). Some of the semi fast services are extended to/from other locations such as Barnsley while some of the Sheffield trains are extended to/from Leeds.

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 Farringdon and Blackfriars to serve locations south of London as far a field as Brighton. There are additional trains in the peak periods, many of which operate to/from Moorgate. Significant crowding problems exist on peak services.

Central Trains operates three different long distance interurban services:

- Norwich – Liverpool via Grantham, Nottingham, Chesterfield and Sheffield;
- Stansted Airport – Birmingham via Peterborough and Leicester; and
- Nottingham – Derby – Birmingham – Cardiff.

The frequency on the above is hourly except for the Nottingham to Birmingham flow which is half hourly.

Central Trains also operates all the local services in the East Midlands, extending beyond the route to destinations including Lincoln, Skegness, Worksop via Mansfield, Crewe via Derby, and Birmingham via Leicester. These run at broadly hourly frequencies, but when combined with interurban services described above, provide a two train per hour services on some key route sections.

Figure 1 Current train service level (trains per hour)

Originating station	tph to London St Pancras/Kings Cross Thameslink
Bedford	11 peak / 6 off peak
Leicester	4
Derby	2
Nottingham	2
Sheffield	1

The other passenger trains are operated by Virgin Cross Country whose pattern of service is 2 tph between Newcastle and Birmingham with one of these running to/from Bristol, and the other extending to Edinburgh and the South or South West. These operate via Chesterfield, Derby and Burton-on-Trent.

Figure 2 shows the tonnage levels on the route.

Traffic volumes are summarised in Figure 3.

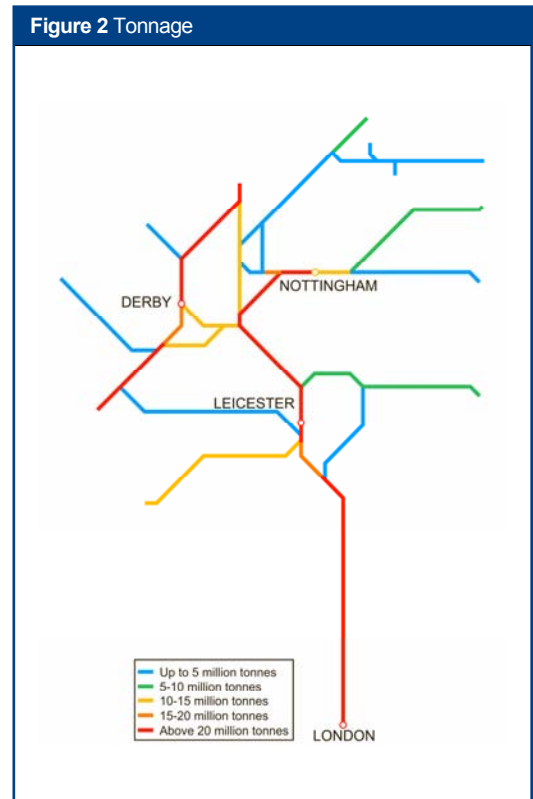
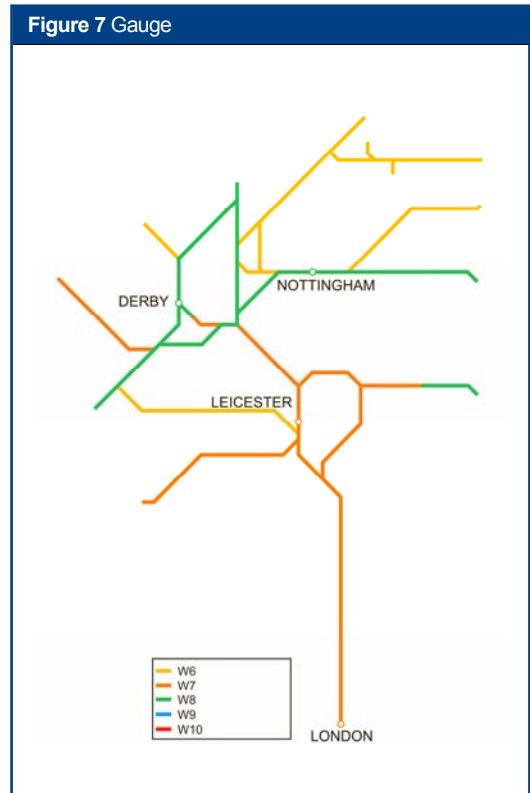
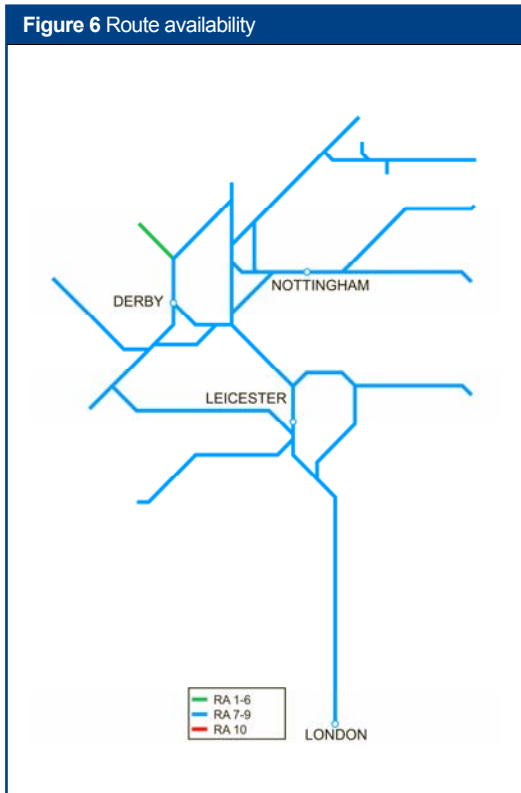
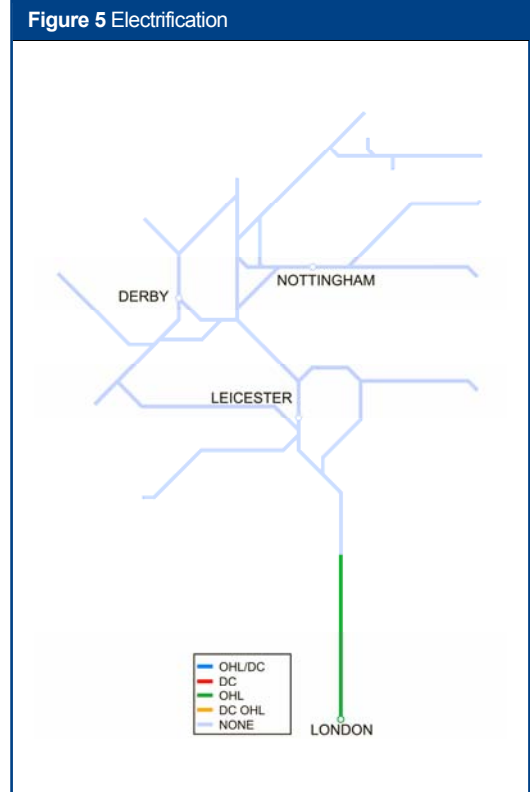
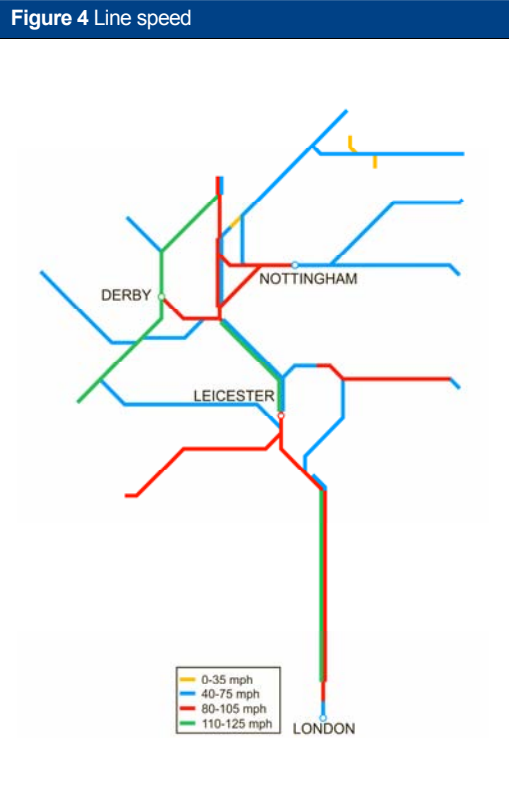


Figure 3 Current use

	Passenger	Freight	Total
Train km per year (millions)	24	4	28
Train tonne km per year (millions)	6,305	3,673	9,978

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 from London to Bedford and between Trent Junctions and Nottingham. The most heavily loaded trains on the route are those on London peak commuter services south of Bedford.

London St. Pancras has just four platforms for all Midland Mainline services as the remainder of the station will be used by Eurostar and Kent services using the second phase of the High Speed One line to the Channel Tunnel. This number of platforms constrains capacity significantly.

Other major capacity constraints include:

- current signalling control arrangements on the approach to junctions at Radlett, Harpenden and Legrave, 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 Midland Mainline trains calling at Bedford need to use just three platforms and the slow lines between the station and Bedford South Junction. This constrains the number of southbound Midland Mainline 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;
- 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; and
- 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. The number of services terminating at Nottingham also causes congestion and capacity problems.

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

Current performance

Figure 9 shows the current 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.

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

Route Section	Main Lines	Relief Lines
Radlett – St Albans	13	8
Harrowden Junction – Kettering	8	N/A
Loughborough – Ratcliffe Junction	5	3
Clay Cross Junction – Chesterfield	6	4
North Staffordshire Junction – Clay Mills Junction	8	N/A
Attenborough – Beeston	9	N/A

Figure 9 Current PPM MAA (2006/07)

TOC	MAA	As at period
Central Trains	84.2%	11
Midland Mainline	92.6%	11
First Capital Connect	88.5%	11
Virgin Cross Country	83.7%	11

Future requirements

Strategic direction

The Strategic Rail Authority published its Midland Main Line RUS in March 2004 and identifies significant areas of growth and congestion and probably underestimates the effects of the Department of Communities and Local Government (DCLG) housing proposals in Northamptonshire.

Services currently operated by Central Trains and Virgin Cross Country are currently subject to refranchising with services split between an East Midlands franchise and that for New Cross Country. The East Midlands franchise will also incorporate those currently operated by Midland Mainline.

The DfT is close to completing its East Midlands Regional Planning Assessment. As with the RUS, the key issue is growth in commuter journeys between the southern part of the Region and London. Other issues are the relatively slow journey times, compared with the East Coast Main Line, for longer distance journeys to/from London and also between Nottingham and Birmingham.

We are undertaking a study to examine the infrastructure requirements of introducing a new passenger service to Corby. The DfT has included this as an option for the new East Midlands franchise.

We will lead the industry's East Midlands RUS starting in 2008.

Future demand

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 the industry models to grow by up to five per cent per annum on the main line parts of the route, and about two per cent per annum elsewhere. However, given that past growth has been higher, more significant growth is likely.

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

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

Figure 10 Tonnage growth

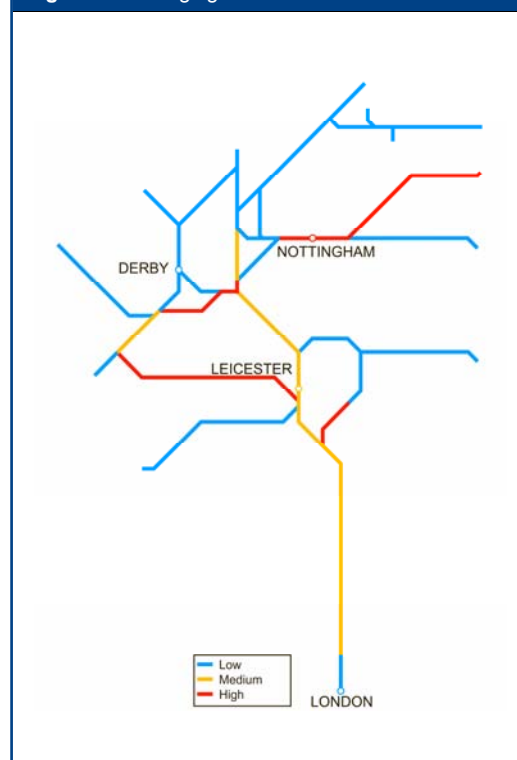


Figure 10 indicates percentage change in tonnage to 2016.

Future services

Northern Rail, the DfT and Network Rail are exploring opportunities to develop services and reduce journey times between Nottingham and Leeds. It is currently proposed to start an hourly service from December 2008 between these cities via Sheffield and Barnsley.

We await the announcement of the successful bidders for the East Midlands and new Cross Country franchises to understand any affects on many services on this route.

The severe capacity constraints of the Midland Main Line platforms at St Pancras limit the options for dealing with growth in longer distance commuting journeys, particularly from East Northamptonshire. However, the medium distance Kettering to London services proposed in the East Midlands franchise will offer opportunities as they need less turnaround time at St Pancras than services from further north. With the limited capacity still available on the route south of Bedford it may be possible to run further Kettering (or Corby) services in the peaks. These would need to run at maximum possible length to provide sufficient capacity. The forthcoming East Midlands RUS will examine this issue in more detail.

Future capability

We are working with stakeholders to undertake signalling and track renewals in the Chesterfield to Loughborough corridor through the Erewash Valley to improve asset condition and take the opportunity to remodel junctions to provide a more flexible layout and improve line speeds and capacity between Sandiacre and Chesterfield.

The provision of an additional platform at Chesterfield station is being developed. This is building on the opportunity provided under the East Midlands North Erewash resignalling scheme to allow passenger services to run on the bi-directional down slow line (former goods line) from the new Chesterfield South Junction to Tapton Junction during times of perturbation or engineering work on the fast lines in this area and will facilitate the turn back of trains at Chesterfield during the proposed Bradway Tunnel blockade (on Route 11).

At Nottingham a major redevelopment of the station is being examined. The aim of this scheme is to provide additional capacity on the station 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.

Line speed increases on the slow lines between Leicester and Trent South Junction will 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 strongly supported by Nottingham County Council and Central Trains. 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.

Line 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 project, supported by the DfT, aims to reduce the journey time by up to eight minutes for journeys from London to Derby, Nottingham, Chesterfield and Sheffield, and would bring the fastest London to Sheffield journey below two hours.

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

In conjunction with Midland Mainline we are developing major improvements at Derby Etches Park depot to provide enhanced fuelling and washing facilities.

Short platforms at a number of stations served by Midland Mainline trains are a constraint. We are examining options to address those at Loughborough. All outer suburban platforms will need to be extended to 12 cars in order to deal with growth and such works are included in the scope of the Thameslink Programme.

We are examining further line speed increases between Nottingham and Chesterfield which would benefit services currently operated on this section by Central Trains and also the proposed Nottingham to Leeds service.

The removal of severe weight restrictions on three bridges on the Matlock branch in 2007/08 following renewals works has been welcomed by the Community Rail Partnership and other stakeholders.

Fragile routes

Network Rail engineers have identified a set of 'fragile routes' across the country where the addition of any further loco hauled traffic would have a significant impact on the residual life of track and/or structures.

The rail freight industry has recently provided to Network Rail a set of 10 year traffic forecasts as part of the Freight RUS, and we are currently assessing their implications. The key route section within this route that has been identified as a fragile route and has clearly defined additional tonnage/train numbers projected by the industry is Sheet Stores Junction – Stenson Junction.

Future capacity

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 aim will be to make better use of 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 works on the core Thameslink section (see Route 2), a major programme of platform lengthening will be required on this Route.

Bedford station area is a capacity constraint as all terminating / starting Thameslink services and southbound Midland Mainline trains calling at Bedford need to use just three platforms and the Slow lines between the station and Bedford South Junction. This constrains the number of southbound Midland Mainline services that can call and causes congestion between Cauldwell depot and the station during perturbed operations. We are developing a scheme to make the layout more flexible. Such works will provide synergies with the Thameslink Programme.

Figure 11 Forecast reduction in delay minutes

	2007/08	2008/09
% reduction in delay minutes	8%	17%

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. Signalling and S&C renewals in the area include doubling the junction to allow more 'parallel' moves.

Nottingham station layout is heavily congested and the resignalling scheme will aim to relax current signalling controls and provide performance and capacity benefits. The scope is likely to include bi-directional signalling between Mansfield Junction and Nottingham station.

Continuing growth in commuting at the south end of the route needs to be addressed through train lengthening to 12 cars as insufficient capacity is available for more than a handful of additional trains. The Thameslink Programme would provide the ability for train lengthening and this should also assist with growth on the longer distance services using St Pancras as more commuter journeys could be transferred to Thameslink trains.

Future performance

Figure 11 shows the forecast reduction in Network Rail delay minutes compared with 2006/07.

Figure 12 shows the forecast PPM for each TOC running along the route.

The capacity constraint of four platforms at St. Pancras is one which the Midland Mainline franchise and its successor and ourselves will need to manage. Late running or slow turnaround of trains causes delays.

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

The provision of Flashing Yellow Colour Light Aspect Signalling at Radlett, Harpenden and Leagrave will enable trains to continue at line speed 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 also improve maintenance access and provide an incremental capacity benefit.

The line speed increase on the slow lines between Leicester North Junction and Trent South Junction 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.

Although the Robin Hood line is a very poor performing route, it is difficult to justify significant investment for line speed improvements, level crossing modernisation and signalling headways which would make the timetable 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.

Engineering access

Despite the busy nature of the route, overall engineering access is sufficient particularly as many sections of the route having three or more tracks. Where only two tracks are available diversionary opportunities exist, with the exception of Kettering – Wellingborough. Wherever possible diversionary routes are used to allow access to the track, which means red zone working can be avoided. However, this does increase resources and costs for our customers.

Figure 12 Forecast PPM MAA

TOC	2007/08	2008/09
Central Trains	85.7%	
Midland Mainline	92.7%	
First Capital Connect	89.4%	89.8%
Virgin Cross Country	85.1%	

Opportunities and challenges

The Midland Main Line RUS and East Midlands Regional Planning Assessment identify significant growth, particularly in London commuting. The proposed restructuring of the timetable with the advent of the new East Midlands franchise, including possible services to Corby, and the lengthening of services crossing London to Bedford as part of the Thameslink Programme will largely address these issues.

Delivering future requirements

Summary

We are developing a number of small scale enhancements, some of them on the back of major renewals, which will provide improvements to performance and a degree of capacity enhancement.

However, it is the Thameslink Programme that would deliver the major step change in capacity for ongoing growth and commuter journeys that will be required at the south end of the route. For the latter a move to 12 car peak trains is crucial, and as there is not platform capacity at St Pancras, the core Thameslink route is required to provide destinations at the London end of journeys.

Expenditure

Figure 13 shows the planned level of expenditure on renewals on this route over the next two years. However, the precise timing and scope of renewals remains 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.

Figure 13 Forecast expenditure

£m (2006/07 prices)	2007/08	2008/09
Renewals		
Track		
Plain line	47	29
Switches and crossings	22	10
Other	2	–
Track total	71	39
Civils		
Underbridges	2	3
Overbridges	0	1
Footbridges	1	0
Earthworks	4	2
Tunnels	–	0
Culverts	1	–
Major structures	1	–
Other	0	–
Civils total	10	6
Signalling		
Resignalling	29	35
Minor works/other	11	4
Over-planning	(8)	–
Signalling total	32	39
Electrification		
AC systems		
HV switchgear	0	0
OLE re-wiring	0	0
OLE spanwires	1	1
OLE campaign change/refurbishment	1	1
OLE structures	1	1
Other	0	0
Electrification total	4	2
Telecoms		
Concentrators		
Large	–	0
Other	0	0
Telecoms total	0	0
Operational property		
Stations		
Franchised	5	7
Lineside buildings	0	–
Operational property total	5	7

Plant and machinery		
Fixed plant		
Point heating	0	-
Signal supply points	1	1
Other	0	0
Plant and machinery total	1	1
Total Renewals	123	95
Enhancements (funded by)		
Network Rail		
Planned		
MML St Pancras - Sheffield line speed improvements	1	14
St Albans station enhancements	0	3
Other	0	-
Total	1	17
Network Rail (RAB)		
Planned		
Outer areas North	4	5
Harrowden additional 3rd line	4	1
Luton station regeneration	0	3
Bedford station new S&C platform 3 to Up Fast	0	2
East Midlands resignalling Trent East junction	1	1
Leicester North (Syston) to Trent South line speed improvements	0	1
Midland Main Line - flashing yellows	0	1
New platform at Chesterfield	1	1
Other	1	2
Total	12	16
Potential schemes	15	1
Total	27	16
TOC/FOC-RAB		
Planned		
East Midlands parkway	2	13
Total	2	13
Other third party		
Planned		
Luton station regeneration	10	-
Cricklewood property development	0	1
Other	2	0
Total	12	1
Potential schemes	1	10
Total	13	11
Total Enhancements	43	57

Figure 14 Forecast volumes

	2007/08	2008/09
Track		
Plain line (km)		
Rail	51	44
Sleepers	39	44
Ballast	107	52
Total	197	139
Switches & crossings (no.)		
Complete renewal	49	17
Partial renewal/reballasting	1	–
Abandonment	29	26
S&C (equivalent units)	64	30
Other (km)		
Drainage	8	–
Civils		
Underbridges (m ²)	382	1,424
Overbridges (m ²)	70	640
Footbridges (m ² decking area)	355	–
Earthworks (m ² slope surface)	19,437	17,040
Tunnels (m ²)	–	150
Culverts (m ²)	193	–
Major structures (m ²)	968	–
Signalling		
Resignalling (SEUs)	142	130
Electrification		
AC systems		
HV switchgear (cb)	–	10
OLE spanwires (no.)	230	200
OLE campaign change/refurbishment (t. length)	129	40
OLE structures (no.)	8	4

The planned volume of renewals is detailed in Figure 14.

It should be noted that in order to manage the deliverability of our Civils, Signalling & Electrification plans we have included an element of overplanning 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.

Maintenance

Figure 15 shows the planned level of expenditure on maintenance on this route over the next two years.

Figure 15 Forecast expenditure

£m (2006/07 prices)	2007/08	2008/09
Maintenance	49	46

Infrastructure investment

Figure 16 highlights schemes that are planned for completion in the financial year shown.

Figure 16 Planned Infrastructure investment							
Project	Project Description	Output change	Main asset type(s)	Funding	GRIP stage	Completion year	
A	Glen Parva to Nuneaton Resignalling (19.08)	Renewal	Signalling	Network Rail	8	Completed	
B	Croft (19.08)	Improved capacity	Signalling	Network Rail	8	Completed	
C	Cricklewood Depot (19.01)	Improved stabling facilities	Depot	First Capital Connect	8	Completed	
D	Derby station renewal (19.03)	Renewal	Station	Network Rail	2	2007/08	
E	East Midlands Resignalling Phase 1A North Erewash Sandiacre to Coney Green Jn (19.04 and 19.11)	Renewal, performance and capacity	Signalling and track	Network Rail	4	2007/08	
F	Matlock Branch (19.06)	Renewal and increase capability	Structures	Network Rail	3	2008/09	
G	Harpenden Jn (19.01)	Renewal	Track	Network Rail	1	2008/09	
H	Sharnbrook Jn (19.02)	Renewal	Track	Network Rail	1	2008/09	

Figure 16 Planned Infrastructure investment

Project	Project Description	Output change	Main asset type(s)	Funding	GRIP stage	Completion year
I	Bedford to St Pancras overhead line equipment (19.01)	Performance improvement	Electrification and plant	Network Rail	3	2008/09
I	East Midlands control centre (various)	Renewal and operational improvements	Signalling and buildings	Network Rail	4	2008/09
E	East Midlands Resignalling Phase 1B North Erewash Coney Green Jn to Tupton Jn (19.03 and 19.04)	Renewal, improved performance and line speed increases. Bi directional operations in the Chesterfield South area	Signalling and track	Network Rail	4	2008/09
I	East Midlands Resignalling Phase 2A Sandiacre to Trent East Jn (19.02 and 19.11)	Renewal	Signalling and track	Network Rail	4	2008/09
L	East Midlands New station pathway (19.02)	New journey opportunities	Station, structures and track	Network Rail	6	2008/09
M	Leicester Like for like telecoms concentrator (19.02)	Renewal	Telecomms	Network Rail	1	2009/10
N	Radlett Jn (19.01)	Renewal of S&C	Track	Network Rail	1	2009/10

Figure 16 Planned Infrastructure investment

Project	Project Description	Output change	Main asset type(s)	Funding	GRIP stage	Completion year
1	East Midlands Resignalling Phase 2B Loughborough to Trent East Jn (19.03)	Renewal	Signalling	Network Rail	4	2009/10
0	East Midlands Resignalling Phase 3 Nottingham – Newark and Grantham (Various)	Renewal	Signalling	Network Rail	1	2011/12
P	East Midlands Signalling Renewals West Hampstead (19.01)	Renewal	Signalling	Network Rail	2	2012
0	Leicester North and London Road Jn (19.02)	Renewal	Track	Network Rail	1	2013/14
1	East Midlands Signalling Renewals Leicester (19.02)	Renewal	Signalling	Network Rail	1	2014/15
1	East Midlands Signalling Renewals Derby area (19.03)	Renewal	Signalling	Network Rail	2	2015/16
	Insulated block joints upgrade works	Track improvements	Track	Network Rail Discretionary Fund	8	2007/08
		Improved asset condition and performance improvements				

Figure 17 highlights other schemes under consideration.

Figure 17 Infrastructure investment under consideration					
Project	Project Description	Output change	Main asset type(s)	Funding	GRP stage
R	Bedford station (19.01) Revised track layout and further electrification	Improved performance and capacity	Track, signalling and OLE	In development for Third Party and Network Rail Discretionary Funding	1
S	Castle Donnington (19.11) Connection to new freight terminal	New freight operations	Track and signalling	In development for funding by a Third Party	1
T	Chesterfield (19.03) Additional platform	Improved station facilities, performance and capacity	Station and signalling	In development for Network Rail Discretionary Funding	1
C	Cricklewood North (19.01) New station and significant track layout changes	To meet growth associated with a major development site	All	In development for Third Party funding	1
O	Nottingham Eastcroft (19.02) Extension of depot headshunt	Performance improvements	Depot and track	In development for Network Rail Discretionary Funding	1
U	Harrowden Additional Line (19.02) Additional bi-directional track between Harrowden Jn and Kettering S. Jn	Improved performance and capacity	Track and signalling	In development for Network Rail Discretionary Funding	1
V	Northern gauge improvements (various) Gauge clearance of various routes	To accommodate the carriage of deep sea container traffic from East Coast ports to the East and West Midlands and the West Coast Main Line	Civils and track	In development for possible TIF funding	1
W	Radlett (19.01) Connection to new freight terminal	New freight operations	Track, signalling and electrification and plant	In development for funding by a Third Party	1
X	Sawley (19.03) Line speed increases	Improved journey times	Track	Subsumed into the MML line speed increase proposal	1

Figure 17 Infrastructure investment under consideration

Project	Project Description	Output change	Main asset type(s)	Funding	GRIP stage
Y	Elstow (19.01) New station	To meet local housing developments	Station, track, signalling and OLE	In development for Third Party Funding	2
O	East Midlands Resignalling Phase 3 Nottingham area (19.02) Improved junction layouts and provision of bi-directional signalling on back of signalling renewals	Improved performance, capacity and line speeds	Signalling and track	Development work funded by Network Rail Discretionary Fund	2
Z	Radlett, Harpenden and Legrave (19.01) Provision of flashing yellow aspect signalling	Improved performance and capacity	Signalling	In development for Network Rail Discretionary Funding	2
AA	Wellingborough Station (19.02) Redevelopment of the station and a new station footbridge	Improved station facilities	Station	In development of funding by a Third Party	2
AB	Derby Etches Park (19.03) Depot improvements	Improved depot facilities to service Meridian trains	Depot	In development for funding by a Third Party and Network Rail	3
J	East Midlands Resignalling Phase 2A South Erewash (19.02) Doubling Trent East Jn	Improved performance and capacity	Signalling	In development for Network Rail Discretionary Funding in association with a signalling renewal	3
J	Leicester, North Jn to Trent South Jn (19.02) Increase of line speeds on the slow lines	Improved performance and capacity	Signalling and track	In development for Network Rail Discretionary Funding	3
AC	Thameslink Programme (19.01) Major works including revised track layouts, new customer information service facilities and platform extensions between Kentish Town and Bedford	Eliminates bottlenecks, improved capacity and performance	All asset types	In development, funding to be confirmed	3

Figure 16 Infrastructure investment under consideration

Project	Project Description	Output change	Main asset type(s)	Funding	GRIP stage
X St Pancras – Leicester / Derby / Nottingham / Sheffield (Various)	Line speed increases on fast lines	Journey time savings	Track, structures and signalling	Development work funded from Outperformance fund.	4
AD Corby (19.11)	New station	New journey opportunities	Stations, track and signalling	In development for Third Party funding	4
AE Peterborough – Nuneaton (19.02, 1908 and 19.09)	Gauge clearance of the route and 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 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	Structures, track and signalling	In development for potential TIF funding	2
AF St Albans Station (19.01)	New multi storey car park and upgraded station facilities	Improved station facilities	Station	In development for funding by Third Party	4
AG Luton Station (19.02)	Redevelopment of the station and new car park	Improved station facilities and footfall capacity	Station	In development for funding by Third Party	3
AH Nottingham – Lincoln (19.05)	Line speed increase	Improved journey times	Signalling and track	In development for Third Party funding	1
AI Nottingham – Chesterfield (19.04)	Line speed increase	Improved journey times	Track and structures	Being considered for Third Party or Network Rail Discretionary Funding development	1
AJ Nottingham Station (19.02)	Redevelopment of the station	Improved station facilities	Station	In development for funding by a Third Party and Network Rail Outperformance Fund	

Figure 16 Infrastructure investment under consideration

Project	Project Description	Output change	Main asset type(s)	Funding	GRIP stage
AK Robin Hood line performance improvements (19.04)	Track & signalling alterations	Line speed increases and improved signalling arrangements	Track and signalling	In development for Network Rail Discretionary Funding	1
AL Flitwick car park extension (19.01)	Car park extension	Improved customer facilities	Station	Third party	1
Level crossing destaffing	Level crossing modernisation	Operational efficiencies and improvements	Signalling	In development for Network Rail Discretionary Funding	3

Non infrastructure developments

Figure 18 shows potential developments which do not involve changes to the infrastructure.

Figure 18 Other projects

Project	Project description	Output change	Main asset type(s)	Funding	GRIP stage
Smartcard introduction	Revenue protection & flexible ticketing	Simplified ticket purchase. Under discussion between TfL and affected operators.	Station.	To be confirmed	

Appendix

Figure 19 Strategic route sections

Predominant aspect recorded (secondary aspects recorded in brackets). ELR is Engineers Line Reference and RA is Route Availability													
SRS	SRS Name	ELR	Classification	Funding	Community Rail	Freight Gauge	RA	Speed	Electrification	Signalling Type	Signalling Headway	No of Tracks	SRS
19.01	St Pancras – Bedford	SPC1	Primary	DfT	No	W8 (W6)	RA8	110 (50)	25kV	TCB	5 mins	4(6)	19.01
19.02	Bedford – Nottingham	SPC2/3/4/5/ TSN1/2/WY M	Primary	DfT	No	W7 (W8)	RA8	105	None	TCB	4	2(3/4)	19.02
19.03	W/Schnor – Derby – Chesterfield	DBP1/SPC6 / 7/8	Primary	DfT	No	W8 (W7)	RA8	125 (90)	None	TCB	4	2(4)	19.03
19.04	Worksop/Chesterfield – Nottingham	RAC/PBS1/ 2/3/PSE/TC C	Secondary	DfT	No	W6	RA8 (7)	80(60)	None	TCB (AB)	5	2(3/4)	19.04
19.05	Nottingham – Newark Crossing	NOB1	Secondary	DfT	Yes	W6 (W8)	RA8	60 (70/50)	None	AB (TCB)	5	2	19.05
19.06	Matlock Branch	AJM	Rural	DfT	No	W6 (W8)	RA8	50	None	OTW	Single line	1	19.06
19.07	Netherfield – Grantham	NOG1/2	Rural	DfT	No	W8 (W6)	RA8	60 (75)	None	AB (TCB)	5	2	19.07
19.08	Nuneaton – Wigston Junctions	WNS	Secondary	DfT	No	W7	RA8	90 (75)	None	TCB (AB)	5	2	19.08
19.09	Syston Junctions – Helpston Junction	GSM2/PMJ	Secondary	DfT	No	W7(W8)	RA8(9)	90(75)	None	AB(TCB)	5	2	19.09
19.10	North Stafford Junction – Stoke-on-Trent	NSS	Secondary	DfT	No	W7	RA8	70	None	AB (TCB)	14	2	19.10
19.11	Freight Through Branches	Various	Freight	DfT	No	Various	Vario us	Various	None	Various	Various	2(1)	19.11

Figure 19 Strategic route sections

Predominant aspect recorded (secondary aspects recorded in brackets) ELR is Engineers Line Reference and RA is Route Availability												
19.12	Other Freight Lines	Various	Freight	DFT	No	Various	Varia	Various	None	Various	1(2)	19.12
							US					

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 business plan suite of documents which is produced annually and in accordance with our network licence condition 7. Our plans and the way in which we intend to achieve those plans are summarised in the Business Plan itself. This document provides further detail on the specific plans for this Strategic Route including the expenditure over the next two years to the end of Control Period 3.

This year our business plan focuses on the remainder of Control Period 3 (to March 2009). We shall provide a submission to the Office of Rail Regulation in October 2007, which will set out our view of the expenditure and activities that will be required in Control Period 4 (2009/10 to 2013/14).

The Route Plan shows in more detail how the strategies set out in the Business Plan will be delivered at a route level across the network, and how we are working with our customers and other stakeholders to improve the

performance and utilisation of the network. It presents a portfolio of activities to develop the network.

The expenditure section contains tables showing the planned level of expenditure and volumes on renewals on the route over the next two years, split by asset category. Expenditure figures are shown in 2006/07 prices, and are rounded to the nearest £1 million. An entry of £0 indicates spend of less than £0.5 million. It should be noted that in order to manage the deliverability of our Civils, Signalling & Electrification plans we have included an element of overplanning 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.

Please note that figures in tables may not sum to the totals shown, because of rounding.

The other documents in the business plan suite can be found on the Network Rail website www.networkrail.co.uk



This Route Plan is part of a set.
To view or download the others
visit www.networkrail.co.uk