

Route Plans 2007
Route 11
South Trans-Pennine,
South Yorkshire
and Lincolnshire

Network Rail



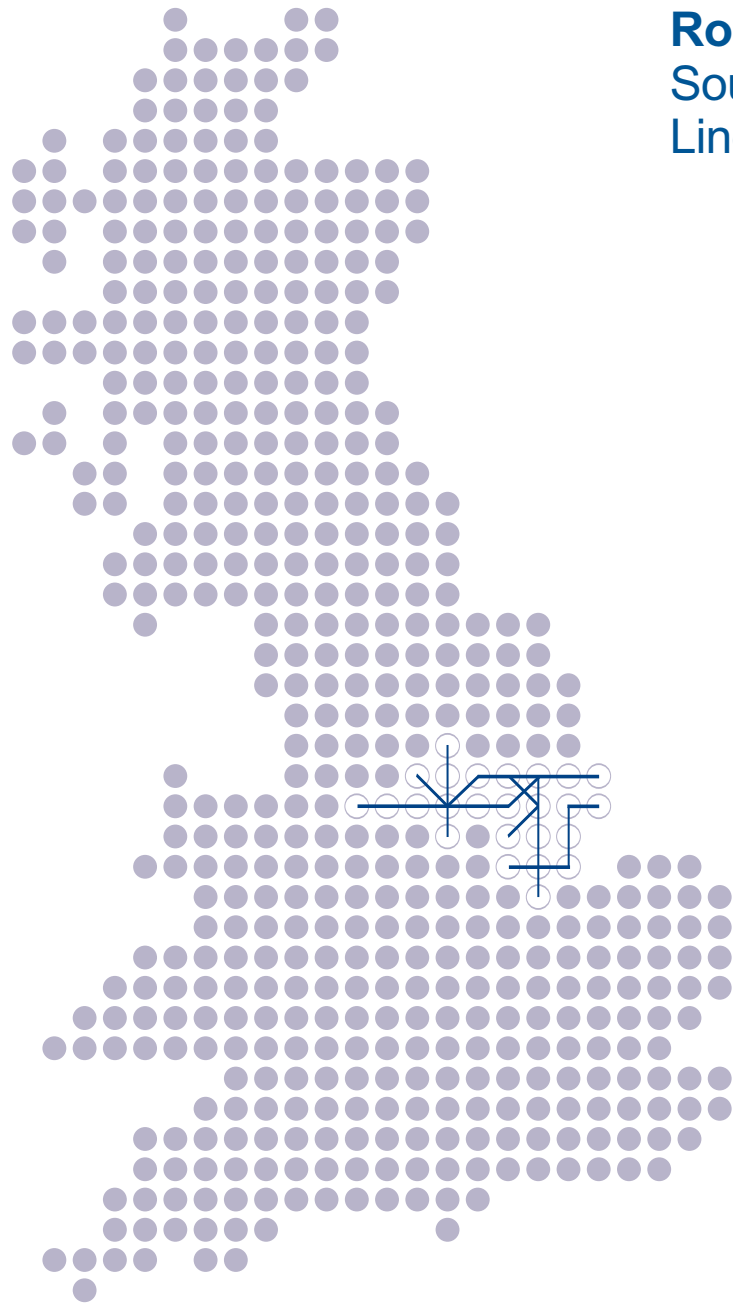
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Route 11 South Trans-Pennine, South Yorkshire and Lincolnshire

11 11

Today's route

The principal components of this route are described below. The relevant Strategic Route Section is shown in brackets:

- the Hope Valley – the cross country line between Stockport and Dore (11.05);
- South Yorkshire network – extends from Chesterfield to Doncaster, Moorthorpe, the Barnsley area and Kiveton. It includes some primarily freight through routes (11.01, part of 11.02, 11.03, 11.04, 11.06, 11.10 and parts of 11.15 and 11.17);
- South Humberside main line – from Doncaster to the east coast towns of Grimsby and Cleethorpes along with the ports on the south bank of the Humber (parts of 11.02, 11.09, 11.11, 11.16 and parts of 11.17); and
- Lincolnshire and Nottinghamshire lines – including the Kiveton to Barnetby line via Worksop, Doncaster – Lincoln – Sleaford – Peterborough, Barnetby – Lincoln – Newark and the Grantham to Skegness line. (11.07, 11.08, 11.12, 11.13, 11.14 and parts of 11.15 and 11.17).

Route context

This core route traverses the Pennines through the Hope Valley, linking Manchester and Stockport to Sheffield, and extends through Doncaster to Scunthorpe, Grimsby and Cleethorpes. The route also provides links to the ports on the south bank of the Humber which generate significant volumes of rail freight. It provides links to the South Yorkshire conurbation and to the communities in Lincolnshire. It also carries a significant volume of freight traffic in connection with the steelworks at Scunthorpe and coal traffic to the lower Trent Valley power stations.

The northern part of the route largely parallels number of major cross-Pennine roads.

Work is underway on the Yorkshire and Humber Route Utilisation Strategy (RUS), an industry study covering this route and Route 10. The DfT has nearly completed its Regional Planning Assessment for the Yorkshire and Humber Region which will feed into the RUS.

The Barnsley to Huddersfield line is a designated community railway led by a community rail partnership. The Grantham to Skegness line has a community rail partnership and services are designated as community rail services.

Passenger and freight demand

Four distinct passenger markets are served by the route. The first is for cross-country journeys linking Eastern Scotland, the North East, Yorkshire, the North West, Lincolnshire, the Midlands, East Anglia and the South West. The second is the initial portion of journeys between locations on the route and London either by direct services or by changing onto long distance services.

The third market is for local journeys within South Yorkshire, most of which are supported by South Yorkshire PTE. Finally, this route provides local journeys in rural areas to the east of the East Coast Main Line. These offer valuable links, for example schools traffic and access to resorts such as Skegness and Cleethorpes.

Several lines now have Community Rail status:

- Cleethorpes – Barton on Humber;
- Grantham – Skegness; and
- Barnsley – Penistone – Huddersfield.

The route is heavily used by freight with some of the highest freight tonnage movements in the country operating on the south bank of the Humber between Immingham, Scunthorpe and Doncaster. In excess of sixty freight trains operate each way per day on the core section between Brocklesby and Wrawby Junction. The main traffics are:

- imported coal for power stations;
- imported coking coal for Corus steelworks at Scunthorpe;
- imported iron-ore for Corus at Scunthorpe;
- steel products to/from Scunthorpe steel works; and
- oil products from Lindsay and Conoco refineries to various distribution depots.

Another section with significant freight flows is the Moorthorpe/Doncaster – Rotherham – Beighton – Chesterfield axis which sees a considerable amount of through freight traffic between the North East and the Yorkshire & Humber Region, and the Midlands and South West.

The South Yorkshire Joint Line from Doncaster to the Worksop area is also a key freight line which carries coal traffic from various locations in the Yorkshire and Humber Region, the North East and Scotland to the lower Trent Valley power stations and in the opposite direction from the East Midlands coalfield to the Aire Valley power stations.

Mention should also be made of the Hope Valley line which generates considerable aggregates traffic from the Peak District quarries and other traffic connected with Hope cement works.

Current services

Passenger services are provided on this route by Northern Rail, First Transpennine Express, Central Trains, Virgin Cross Country and Midland Mainline while English Welsh & Scottish Railway Ltd, Freightliner Ltd, Freightliner Heavy Haul Ltd and GB Railfreight Ltd operate the freight trains.

Sheffield is a key interchange for long distance services. The majority of Midland Mainline's trains from London St. Pancras terminate here. Virgin Cross Country services run on a half-hourly frequency between the South West via Birmingham and the North East with some extending to Scotland. Central Trains runs a long distance service from Liverpool, via the Hope Valley and Sheffield, to East Anglia via Nottingham on an hourly basis. First Transpennine Express also operates hourly on the opposite half hour through the Hope Valley, from Manchester Airport, via Sheffield and Doncaster, to Cleethorpes.

A number of PTE sponsored hourly stopping services, operated by Northern Rail, link Sheffield to Lincoln via Worksop, Leeds via Barnsley, Leeds via Moorthorpe, and Huddersfield via Barnsley.

A half hourly stopping service to Doncaster extends alternately to Scunthorpe and Adwick, and approximately every two hours there is a stopping service through the Hope Valley to Manchester. Hourly semi-fast services link Sheffield and Hull via Doncaster, and Leeds via Barnsley.

In Lincolnshire Central Trains operates hourly services from Leicester to Lincoln via Nottingham, Nottingham to Skegness and Lincoln to Peterborough via Sleaford and Spalding. The latter is split into two services, Lincoln to Sleaford and Spalding to Peterborough for part of the day due to limited route opening times for part of the day. Approximately two-hourly services run on the routes from Lincoln to Grimsby, and Newark North Gate. A limited service runs between Doncaster and Lincoln via Gainsborough (Lea Road) and a two-hourly local shuttle service operates between Cleethorpes and Barton on Humber.

Freight services are described in the previous section.

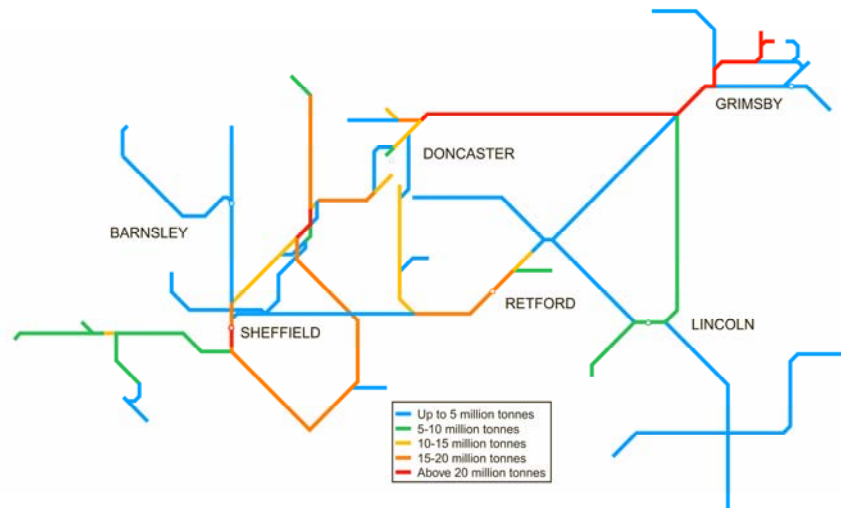
Figure 1 Current train service level (trains per hour)

| Originating Station | tph to Sheffield |
|----------------------------|-------------------|
| Chesterfield | 3 |
| Manchester (fast services) | 2 |
| Barnsley | 3 |
| Lincoln | 1 |
| Worksop | 2 peak/1 off peak |
| Doncaster | 6 peak/5 off peak |

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

Figure 2 shows the 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) | 12 | 5 | 17 |
| Train tonne km per year (millions) | 1,312 | 5,047 | 6,359 |

Current infrastructure capability

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

Figure 4 Line speed

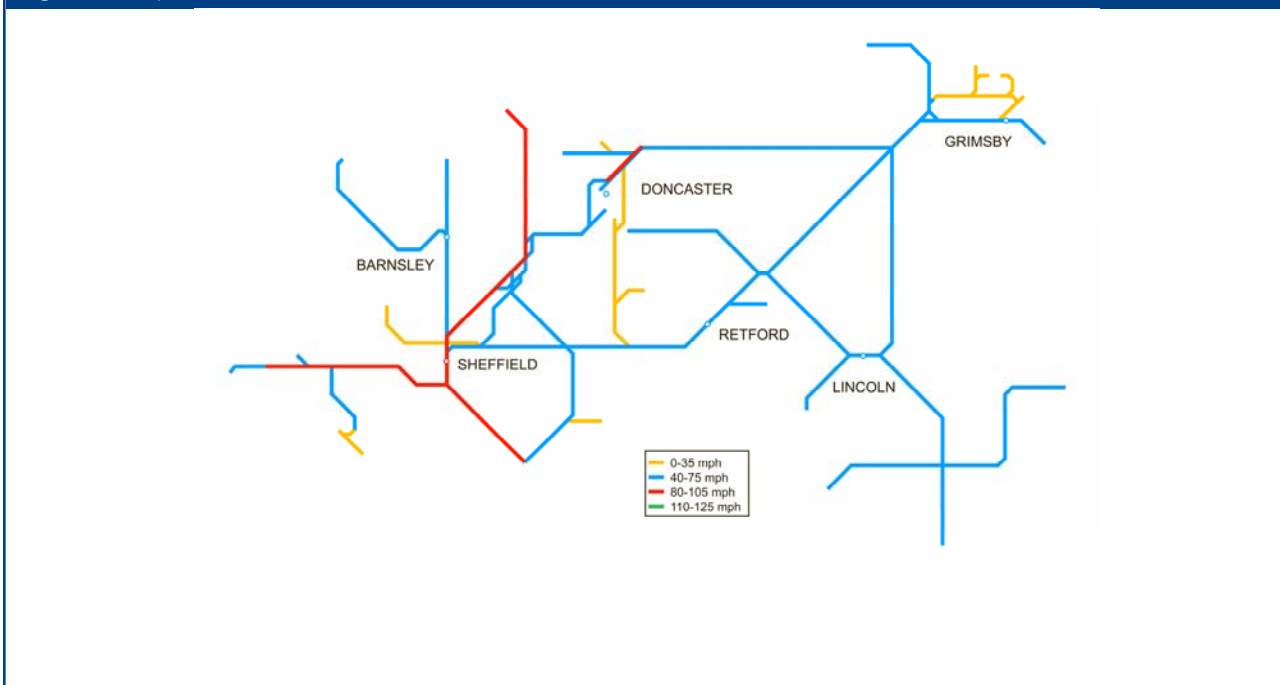


Figure 5 Electrification

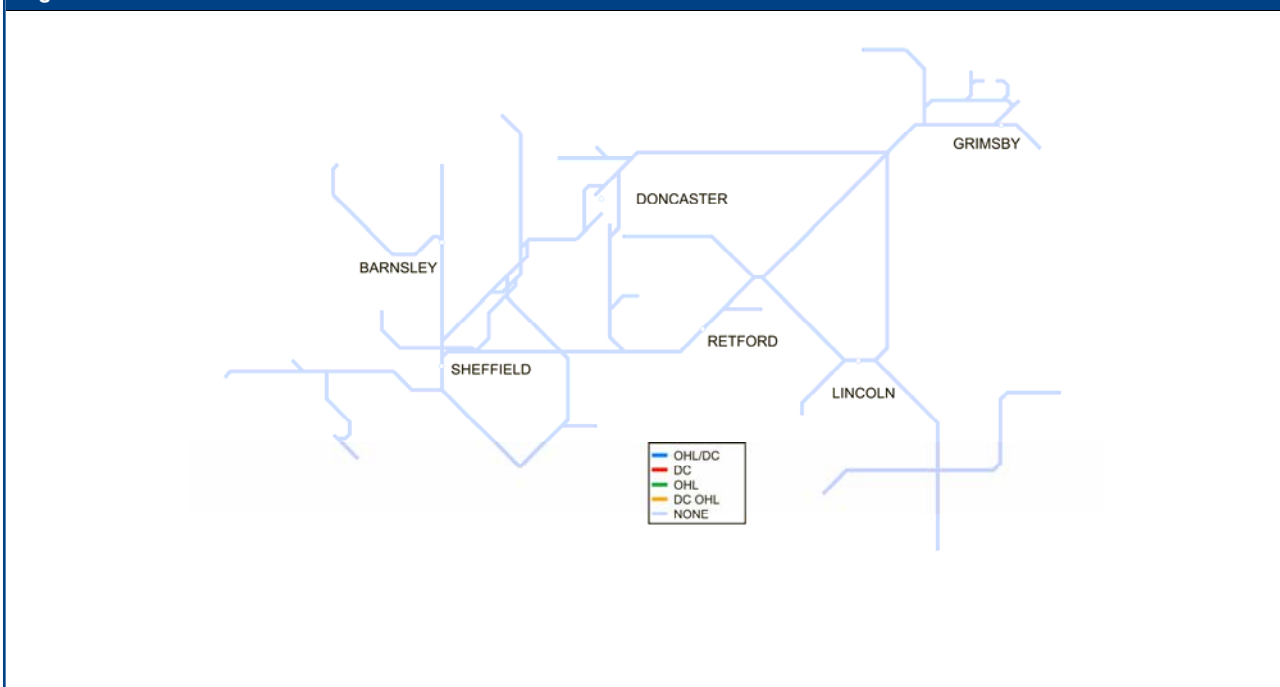


Figure 6 Route availability

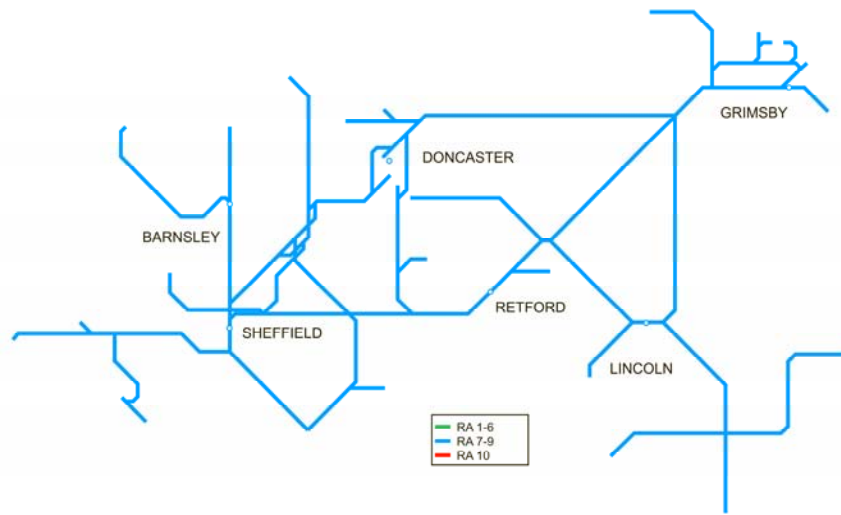
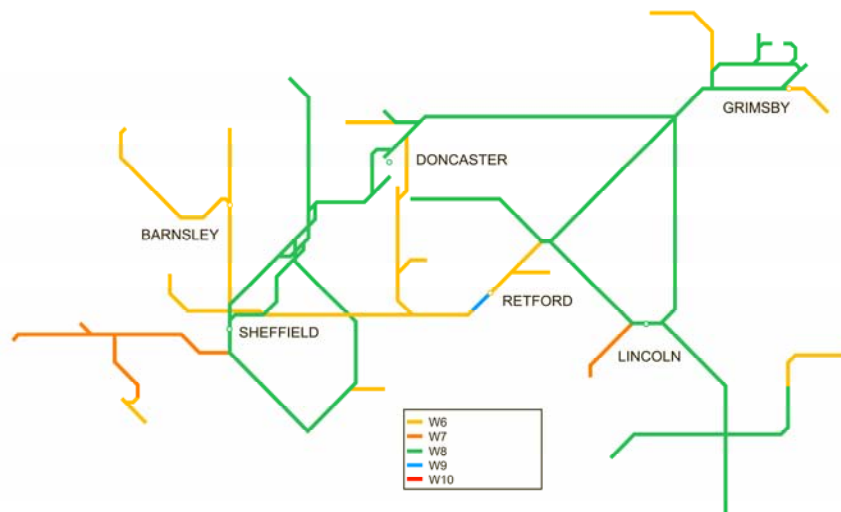


Figure 7 Gauge



Current capacity

The main section of the route with significantly high volumes of traffic presenting constraints is the Chesterfield – Sheffield – Moorthorpe/Doncaster corridor. The section features eight flat junctions (excluding Sheffield station itself) within a 13 mile stretch between Dore South Jn and Swinton Jn. The infrastructure is at or near capacity on many hours and presents difficulties for the timetabling of services through the area, some of which run over considerable distances.

Other sections that are capacity constrained and therefore also have an adverse affect on performance are as below:

- Immingham – Brocklesby – Wrawby Junction – Scunthorpe: primarily driven by large freight tonnages out of Immingham and other south Humber ports;
- Doncaster – Maltby – Brancliffe East Junction: large volumes of local and through coal traffic operating through a low speed route with single line sections; and
- Hope Valley: mix of long distance passenger services and slower stopping passenger trains and freight services in connection with the Peak Forest quarries.

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

Current performance

On the Chesterfield – Sheffield – Moorthorpe/Doncaster axis, the mix of fast and stopping passenger trains and freight services presents the major challenge to performance. The infrastructure operates at or near capacity and some of the services run over considerable distances. This means that in times of perturbation any lateness in longer distance trains is either exacerbated in the Sheffield area or other services are delayed.

The line from Immingham and Cleethorpes to Doncaster has a large number of temporary speed restrictions which have a significant affect on performance.

Various sections of the route are suffering from a considerable increase in cable theft which is having a major impact on train performance.

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

| Route Section | Main Lines | Relief Lines |
|--|------------|--------------|
| Brocklesby Junction – Barnetby (westbound) | 5 | 3 |
| Brocklesby Junction – Barnetby (eastbound) | 7 | N/A |
| Marshgate Junction – Kirk Sandall Junction | 6 | N/A |
| Swinton – Aldwarke Junction | 12 | N/A |
| Sheffield – Meadowhall | 9 | N/A |
| Sheffield – Dore Station Junction | 8 | N/A |

Figure 9 Current PPM MAA (2006/07)

| TOC | MAA | As at period |
|----------------------|-------|--------------|
| Central Trains | 84.2% | 11 |
| Midland Mainline | 92.6% | 11 |
| Northern Rail | 87.2% | 11 |
| Transpennine Express | 89.2% | 11 |
| Virgin Cross Country | 83.7% | 11 |

Figure 9 shows the current PPM for the main TOCs running along the route.

Future requirements

Strategic direction

The Yorkshire and Humber RUS will aim to make effective and efficient use and development of the route capacity available, consistent with the funding that is, or is reasonably likely to become, available during the 10 years covered by the RUS. DfT Rail is close to completing its Regional Planning Assessments (RPA) for the Yorkshire & Humber Region and East Midlands which will feed into the RUS process.

We are discussing future aspirations for the Barnsley to Huddersfield, and Grantham to Skegness lines, with the relevant community rail partnerships. We are also discussing with South Yorkshire Passenger Transport Executive their aspiration to provide a new direct rail link between Barnsley and Doncaster.

Services currently operated by Central Trains, Midland Mainline and Virgin Cross Country are currently subject to franchising with services run by the first two being incorporated into the East Midlands franchise and the latter being covered by that for New Cross Country.

Future demand

The number of urban and regional journeys into the major conurbations is expected to continue growing. In particular, demand growth on the Manchester-Sheffield-Cleethorpes corridor is expected to be stimulated by the recent introduction of new class 185 units which offer improved passenger comfort and, subject to pathing, should be able to offer some improved journey times. The 185 units also offer an increase in the number of seats provided on this service.

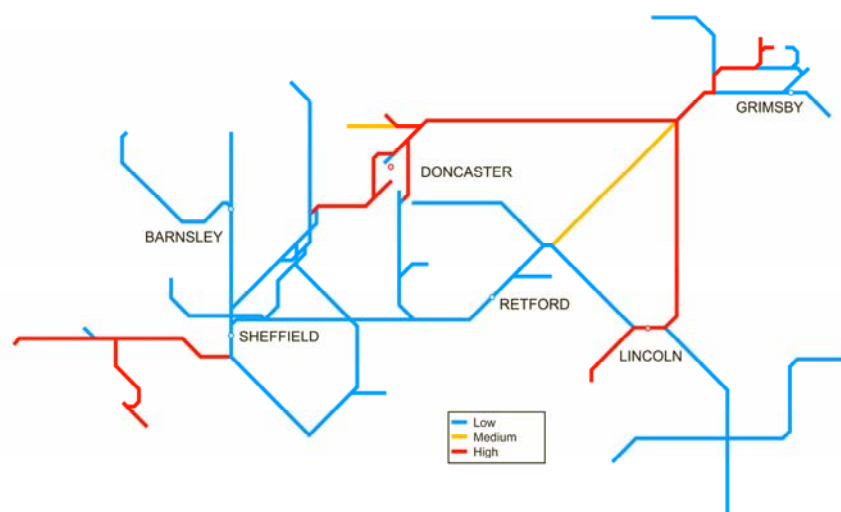
Passenger demand (journeys) is forecast by the industry models to grow by about two per cent per annum. However, given that past growth has been higher, the RUS will try to establish an upper bound for likely future growth.

PTE services are also expected to see further increases in patronage as roads in South Yorkshire become more congested.

The main pressure on local services will be on peak services to and from Sheffield.

Freight growth is expected to be associated mainly with further growth at the port of Immingham and flows passing through between the North East and the Midlands. There will also be further aggregates traffic out of the Peak District.

Figure 10 Tonnage growth



Future services

Figure 10 indicates percentage change in tonnage to 2016

We are working with Northern Rail on the introduction of a new hourly Nottingham – Sheffield – Leeds service to operate via Barnsley. This will provide a third limited stop service between Leeds and Sheffield.

Due to the capacity constraints in the corridor through Sheffield we are expecting that there will be few other additional passenger services, particularly in the peaks and therefore crowding will be addressed through train lengthening.

The franchise specifications for East Midlands and New Cross Country do not alter the service levels during the main part of the day.

In the short to medium term the only significant change in service that has been identified as likely is to provide an hourly service at the proposed new station serving Robin Hood Airport Doncaster Sheffield on the Doncaster to Lincoln line.

Future capability

Platform lengthening is being examined on the Hope Valley Route from Manchester to Sheffield, on routes between Sheffield and Leeds via Moorthorpe and via Barnsley, between Sheffield and Scunthorpe/Adwick and between Sheffield and Lincoln in order to allow peak hour train lengthening up to four 23m vehicles, to address peak crowding issues.

Although on Route 19, it is worth mentioning the proposed provision of an additional platform at Chesterfield. This will facilitate the turn back of trains at Chesterfield during the proposed blockade of Bradway Tunnel (between Dore and Dronfield).

With support from South Yorkshire PTE, Northern Rail and other stakeholders, we are working with Peel Holdings to address their planning commitment to provide a new station at Robin Hood Airport Doncaster Sheffield.

Nottinghamshire County Council is keen to improve the Nottingham to Lincoln route so that it competes better with the parallel A46 road and has asked us to undertake some development work on line speed increases.

Provision of W10 gauge would permit the carriage of 9' 6" containers on the route between Newark, Gainsborough and Doncaster in connection with the port developments at Felixstowe and Bathside Bay. This will accommodate the carriage of deep sea container traffic as a second route to the between Newark and Doncaster, to provide capacity and diversionary opportunities.

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 through the Freight RUS process a set of 10 year traffic forecasts, and we are currently assessing their implications. With the upgrade of the Gainsborough – Brigg – Barnetby line, there are no lines on Route 11 that are identified as a 'fragile route' in respect of future freight requirements.

However, there are currently problems with operating loco hauled passenger trains to Skegness and we have programmed significant track renewals over the next few years so that charter trains and possible summer Saturday operations to deal with passenger volumes can run again.

Future capacity

We are planning to complete upgrading of the Wrawby Junction to Brigg and Gainsborough rail route to enable the regular operation of freight services by August 2007. This will provide a suitable diversionary route for freight traffic and permit better engineering access between Wrawby Junction and Doncaster via Scunthorpe.

Our current proposals for the signalling and track renewals at Lincoln (2007-09) are aimed at providing a more flexible layout which will improve capacity in the station area.

At Wrawby Junction, the proposed enhancement on the back of a signalling renewal aims to allow 50 mph operation (currently 30mph) and this, together with raising the line speeds in the Barnetby area, is aimed at improved capacity. The higher speed S&C will be laid during the earlier renewal but current line speeds will need to apply until the resignalling takes place, currently planned for 2012/13.

We are looking at options to provide additional capacity between Wrawby Jn and the Immingham area with a number of stakeholders.

The proposed increase in frequency of train services between Sheffield and Leeds via Barnsley through operation of the Nottingham – Leeds service requires additional line capacity in the Woolley area. We are developing options with Northern Rail and DfT to address this.

Any infrastructure enhancements required in order to operate more services north of Sheffield will be looked at in more detail in the RUS.

Further traffic increases south of Sheffield, or the possible avoidance of pathing time in existing services that may require revised paths in the future, would require enhancements in the Dore area. There was a former SRA scheme for this but at the time its business case could only be built on performance benefits and it did not have a sufficient benefit to cost ratio. Other realisable benefits will be needed for it to become viable. We are reviewing further options for this scheme with South Yorkshire PTE.

Future performance

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

Figure 12 shows the forecast PPM for the main TOCs running along the route.

Heavy maintenance and track renewals over the next five years will target the removal of Temporary Speed Restrictions between Doncaster and Wrawby Junction.

We are managing a number of initiatives, involving considerable resources, to combat the huge rise in cable theft incidents.

The capacity enhancement schemes above should help to improve performance and the recent conversion of the loop at Sheffield Brightside from goods to passenger traffic will give some improved operational flexibility during times of perturbation.

The proposed closure of level crossings on the Newark to Lincoln line will improve safety and will reduce the risk of delay caused by level crossing equipment failure or an operational incident.

Where significant track renewals take place, we shall examine where line speeds can be raised without alteration to other assets, which will then provide some performance benefit.

Engineering access

There is a need to improve access on midweek nights for cyclical maintenance between Wrawby Junction and Doncaster. The upgrade of the Brigg line which is due for completion in August 2007 should help facilitate this, by allowing diversion of trains from the Scunthorpe line.

We would like to explore with our customers ways to improve access for maintenance between Dore, Chinley and Stockport on midweek nights from 5hr 30min to 7hrs, four nights per week every six weeks. However, operators would like to run more trains but are prevented from doing so by the existing possession arrangements.

Opportunities and challenges

As mentioned above, we have started work on the Yorkshire and Humber RUS on behalf of industry and wider stakeholders. In the scoping work we anticipate the three main challenges:

- delivering capacity and performance increases on the Chesterfield – Sheffield – Moorthorpe/Doncaster corridor;
- meeting the demand for additional freight traffics from Immingham, particularly coal, taking into account the effects on current coal flows on the rest of the route; and
- improving the interurban links between South Yorkshire and the North West whilst accommodating increased freight traffic on the Hope Valley.

Figure 11 Forecast reduction in delay minutes

| | 2007/08 | 2008/09 |
|------------------------------|---------|---------|
| % reduction in delay minutes | 9% | 17% |

Figure 12 Forecast PPM MAA

| TOC | 2007/08 | 2008/09 |
|----------------------|---------|---------|
| Central Trains | 85.7% | |
| Midland Mainline | 92.7% | |
| Northern Rail | 88.4% | 90.0% |
| Transpennine Express | 90.9% | 91.5% |
| Virgin Cross Country | 85.1% | |

Delivering future requirements Expenditure

Figure 13 shows the planned level of expenditure on renewals on this route over the next two years. The most significant individual renewal items are outlined in the individual asset sections, which follow.

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 | 26 | 31 |
| Switches and crossings | 11 | 12 |
| Other | 0 | – |
| Track total | 37 | 43 |
| Civils | | |
| Underbridges | 7 | 5 |
| Overbridges | 0 | 1 |
| Bridgeguard 3 | 3 | – |
| Footbridges | 1 | 1 |
| Earthworks | 2 | 2 |
| Tunnels | 1 | 11 |
| Culverts | 1 | 0 |
| Other | 0 | – |
| Civils total | 14 | 19 |
| Signalling | | |
| Resignalling | 46 | 33 |
| Minor works/other | 4 | 6 |
| Signalling total | 50 | 39 |
| Telecoms | | |
| Concentrators | | |
| Large | 0 | 2 |
| Telecoms total | 0 | 2 |

| | | |
|--|------------|------------|
| Operational property | | |
| Stations | | |
| Franchised | 3 | 1 |
| Lineside buildings | 0 | – |
| Operational property total | 3 | 1 |
| Plant and machinery | | |
| Fixed plant | | |
| Point heating | 0 | 0 |
| Signal supply points | 0 | 1 |
| Depot Plant | 0 | – |
| Other | 1 | 0 |
| Plant and machinery total | 2 | 1 |
| IT and other expenditure | | |
| Other | 0 | – |
| Total | 0 | – |
| Total Renewals | 106 | 105 |
| Enhancements (funded by) | | |
| Network Rail | | |
| Planned | | |
| Other | 0 | – |
| Total | 0 | – |
| Network Rail (RAB) | | |
| Planned | | |
| Beighton NDS depot 6 to 8 bays | 17 | 22 |
| Brigg freight trains | 6 | 3 |
| Sheffield / Barnsley / Horbury line speed improvements | 1 | 1 |
| Other | 0 | 2 |
| Total | 24 | 28 |
| Other third party | | |
| Potential schemes | 0 | 1 |
| Total | 0 | 1 |
| Total Enhancements | 24 | 29 |

Figure 14 Forecast volumes

| | 2007/08 | 2008/09 |
|---|------------|------------|
| Track | | |
| Plain line (km) | | |
| Rail | 46 | 46 |
| Sleepers | 40 | 46 |
| Ballast | 42 | 61 |
| Total | 129 | 153 |
| Switches & crossings (no.) | | |
| Complete renewal | 29 | 24 |
| Partial renewal/reballasting | – | 3 |
| Abandonment | – | 6 |
| S&C (equivalent units) | 29 | 28 |
| Other (km) | | |
| Drainage | 2 | – |
| Civils | | |
| Underbridges (m ²) | 3,206 | 1,569 |
| Overbridges (m ²) | 90 | 126 |
| Bridgeguard 3 (m ²) | 555 | – |
| Footbridges (m ² decking area) | 163 | 240 |
| Earthworks (m ² slope surface) | 3,665 | 25,000 |
| Tunnels (m ²) | 196 | 12,163 |
| Culverts (m ²) | 291 | 25 |
| Signalling | | |
| Resignalling (SEUs) | 7 | 345 |
| Telecoms | | |
| Concentrators | | |
| Large (no.) | – | 1 |
| Voice recorders (no.) | – | 1 |

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 & track 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 be replanned 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 | 36 | 34 |

Infrastructure investment

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

| Project | Project description | Output change | Main asset type(s) | Funding | GRIP stage | Completion year |
|--|-----------------------------------|---|----------------------------------|--|------------|-----------------|
| A Cleethorpes Siemens Depot (11.09) | New depot facility | Maintenance for the new Class 185 fleet | Depot | Third Party Funded | 8 | Completed |
| B Brightside (11.01) | Renewal of signal interlocking | Renewal and conversion of goods loops to passenger status | Signalling | Network Rail | 8 | Completed |
| C Scunthorpe wire degradation (11.02) | Renewal of signal interlocking | Renewal | Signalling | Network Rail | 8 | Completed |
| D Stallingbrough wire degradation (11.09) | Resignalling and a new signal box | Renewal | Signalling & buildings | Network Rail | 4 | 2007/08 |
| E Wrawby (11.02) | Renewal of S&C | Renewal and linespeed increase | Track | Network Rail and in development for Network Rail Discretionary Funding | 3 | 2007/08 |
| F Klinhurst Road Bridge (Swinton) (11.01) | Strengthen | Improved route capability | Structures | Network Rail | 2 | 2007/08 |
| G Chinley (11.05) | Embankment stabilisation | Renewal | Earthworks | Network Rail | 3 | 2007/08 |
| G Chinley East Jn (11.05) | Renewal of the turnouts | Renewal | Track | Network Rail | 3 | 2007/08 |
| H Brigg Line (11.12) | Route upgrade | Improved capacity and performance | Track, earthworks and structures | Network Rail Discretionary Fund | 3 | 2007/08 |

Figure 16 Planned infrastructure investment

| Project | Project description | Output change | Main asset type(s) | Funding | GRIP stage | Completion year |
|---|---|---------------------------------------|--------------------|---|------------|-----------------|
| I TPWS Optimisation Works (Various) | Relocate TPWS on the approach to terminating stations | Improved Performance | Signalling | In development for Network Rail Discretionary Funding | 6 | 2007/08 |
| J Paddock Viaduct (11.10) | Strengthening | Improved route capability | Structures | Network Rail | 3 | 2007/08 |
| K Skegness (11.14) | Refurbishment of station awnings and concourse roof | Improve asset condition | Station | Network Rail | 1 | 2007/08 |
| AL Doncaster (11.15) | Mill Lane, South Anston underbridge reconstruction | Renewal and improved route capability | Structures | Network Rail | 5 | 2007/08 |
| AM Sleaford (11.14) | Boston Road underbridge strengthening | Renewal and improved route capability | Structures | Network Rail | 2 | 2007/08 |
| L Claborough Jn S&C (11.04) | Renewal | Renewal | Track | Network Rail | 3 | 2008/09 |
| M Sheffield S&C North (11.01) | Renewal | Renewal | Track | Network Rail | 4 | 2008/09 |
| N Bradway Tunnel (11.01) | Tunnel relining and repairs | Renewal | Structures | Network Rail | 2 | 2008/09 |
| O Tapton wire degradation (11.01) | Resignalling | Renewal | Signalling | Network Rail | 4 | 2008/09 |
| P Collingham, Cross Lane and Swinderby (11.08) | Level Crossing renewal | Renewal | Signalling | Network Rail | 3 | 2008/09 |
| M Sheffield concentrator (11.01) | Like for like telecoms renewal | Renewal | Telecoms | Network Rail | 4 | 2008/09 |

Figure 16 Planned infrastructure investment

| Project | Project description | Output change | Main asset type(s) | Funding | GRIP stage | Completion year |
|---|--|--|----------------------|---|------------|-----------------|
| G Moorthorpe wire degradation (11.03) | Resignalling | Renewal | Signalling | Network Rail | 4 | 2008/09 |
| S Lincoln (11.08) | Cow Paddle underbridge infill | Renewal and improved route capability | Structures | Network Rail | 4 | 2008/09 |
| AD Darton (11.06) | Church Street underbridge reconstruction | Renewal and improved route capability | Structures | Network Rail | 4 | 2008/09 |
| R Bamsley Station Jn. S&C (11.06) | Renewal of S&C | Renewal | Track | Network Rail | 1 | 2008/09 |
| C Scunthorpe Engine Line & North Lincs & Trent Jn (11.02) | Renewal and S&C | Renewal | Track | Network Rail | 2 | 2009/10 |
| S Lincoln (11.08) | Renewal of S&C, resignalling and providing a modified layout | Renewal with improved capability, capacity and performance | Track and signalling | Network Rail | 4 | 2009/10 |
| E Barmby East (11.09) | Renewal of S&C | Renewal | Track | Network Rail | 1 | 2009/10 |
| T Immingham East (11.16) | Resignalling | Renewal | Signalling | Network Rail | 1 | 2010/11 |
| U Skegness - Boston (11.14) | Track renewals | Renewal and line speed improvements | Track | In development for Network Rail Discretionary Funding | 1 | 2010/11 |
| V Stow Park, Blankney and Saxilby (11.12) | Resignalling | Renewal | Signalling | Network Rail | 1 | 2010/11 |

| | | | | | | | |
|---|---|--|---|----------------------|--|---|---------|
| W | Thrumpton S&C and wire degradation at Thrumpton and West Burton (11.04) | Renewal of S&C and resignalling | Renewal | Track and signalling | Network Rail | 4 | 2010/11 |
| X | Thorne Jn (11.02) | Renewal of Track and possible resignalling | Renewal | Track and signalling | Network Rail | 1 | 2013/14 |
| E | Wraby Jn - Barnetby East (11.02) | Resignalling | Renewal and linespeed increase | Signalling | Network Rail and in development for Network Rail Discretionary Funding | 2 | 2012/13 |
| U | Skegness - Boston (11.14) | Lineside signalling renewals | Renewal | Signalling | Network Rail | 1 | 2013/14 |
| Y | Dore & Tolley East (11.05) | Resignalling | Renewal | Signalling | Network Rail | 1 | 2014/15 |
| Z | Skellow (11.15) | Possible resignalling | Renewal | Signalling | Network Rail | 1 | 2014/15 |
| T | Lindsay Oil Refineries Jn. (11.16) | Possible resignalling | Renewal | Signalling | Network Rail | 1 | 2014/15 |
| | Insulated block joints upgrade works | Track improvements | Improved asset condition and performance improvements | Track | Network Rail Discretionary Fund | 8 | 2007/08 |

Figure 17 highlights other schemes under consideration.

| Project | Project description | Output change | Main asset type(s) | Funding | GRIP stage |
|---|---|--|----------------------------------|---|------------|
| AA W10 Gauge Clearance (11.07, 11.08 & 11.12) | Gauge clearance of the route between Newark, Gainsborough and Doncaster in connection with port developments at Felixstowe and Bathside Bay | To accommodate the carriage of deep sea container traffic as an alternative route to the East Coast Main Line between Newark and Doncaster | Structures and track | By HPUK Ltd | 4 |
| AB Cleethorpes (11.09) | Resignalling | Renewal | Signalling | Network Rail | 1 |
| AC Grimsby – Barmetby (11.09) | Line speed improvements | Improve journey times | Track, structures and signalling | In development for Network Rail Discretionary Funding | 1 |
| AD Woolley (11.06) | Recontrol of signalling and shortening block section | Capacity improvements | Signalling | In development for Network Rail Discretionary Funding | 1 |
| AE Bolton on Dearne and Moorthorpe (11.03) | Level crossing closures | Improve safety and capacity | Signalling | In development for Network Rail Discretionary Funding | 1 |
| AF Market Rasen and Haxey (11.08 and 11.07) | Line Speed Increase | Improved journey times | Track | In development for Network Rail Discretionary Funding | 1 |
| AG Northern Gauge Improvements (Various) | Gauge clearance of the South Humberside route to the ECML, Midlands and North West | To accommodate the carriage of deep sea container traffic from the south bank Humber ports | Structures and track | In development for potential TIF funding | 1 |
| AH Humber Ports Capacity (Various) | Capacity improvements on the south bank of the Humber | Improve capacity and performance | Track, signalling and structures | In development for potential TIF funding | 1 |
| AI Sheffield – Leeds via Barnsley (11.06) | Line speed increase | Improved journey times | Track, structures and signalling | In development for Network Rail Discretionary Funding | 1 |
| AJ Conisbrough Tunnel (11.02) | Line speed increase | Improved journey times | Track | In development for Network Rail Discretionary Funding | 1 |

Figure 17 Infrastructure investment under consideration

| Project | Project description | Output change | Main asset type(s) | Funding | GRIP stage |
|----------------------------|------------------------------|--|--------------------|---|------------|
| Level crossing de-staffing | Level crossing modernisation | Operational efficiencies and safety improvements | Signalling | In development for Network Rail Discretionary Funding | 3 |

Figure 18 highlights route enhancement aspirations.

Figure 18 Route enhancement aspirations

| Project | Project description | Output change | Main asset type(s) | Funding | Status |
|--------------------------------------|--------------------------------------|--|---|--|--------------------------------|
| X Thome Jn (11.02) | Remodelling | Improved capacity and performance | Track and signalling | Potential Network Rail Discretionary Funding | Pre feasibility |
| AK Bamsley-Doncaster (11.02 & 11.06) | New rail link | Allow new journey opportunities | Track, signalling structures, earthworks, plant and stations, | Development funding from South Yorkshire PTE | Awaiting Development Agreement |
| AL South Yorkshire Joint (11.15) | Resignalling and line speed increase | Performance and capacity improvements | Signalling, structures and track | Potential Network Rail Discretionary Funding | Pre Feasibility |
| AN Cottam Chord (11.15) | New Freight Chord | Allows direct access from the port of Immingham to Cottam Power station thereby improving operational efficiency, route performance and capacity | Track and signalling | Third Party | Pre Feasibility |

Figure 19 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 | No of Tracks |
| 11.01 | Chesterfield – Swinton (via Sheffield) | TJC1/2/3/HCD/WME | Primary | DfT | No | W8(9/6) | 8 (10) | 90 (15) | None | TCB | 4 | 2 |
| 11.02 | Swinton – Brocklesby Jn | SJM1/2/PED5/D OW/MAC3 | Primary | DfT | No | W8 | 8 | 55 (40/30) | None | TCB(AB) | 4 | 2(3/4) |
| 11.03 | South Kirkby Jn – Swinton | SMJ1/2/ SKM | Secondary | DfT | No | W8 | RA8 (RA9) | 80 (50/60) | None | TCB? | 4 | 2 |
| 11.04 | Nunery Main Line Jn – Trent Jns | MAC3WHR/NU J1/2 | Secondary | DfT | No | W8 (W6) | RA8 | 60 (25) | None | TCB | 5 | 2(1) |
| 11.05 | STP: Dore Jns – Hazel Grove Jn | MAS/NMC | Secondary | DfT | No | W7 (W6) | 8 | 90 (50/30) | None | AB(TCB) | 7 | 2 |
| 11.06 | Wincobank Jn – Horbury Jn | CHS/BAH2/SH B | Secondary | DfT | No | W6 | RA7 | 60 (70) | None | TCB(AB) | 5 | 2 |
| 11.07 | Black Carr Jn – Trent Jns | BCB/ SPD4/5 | Secondary | DfT | No | W8 | 8 | 60 (70) | None | AB(TCB) | 4 | 2 |
| 11.08 | Newark – Wrawby Jn | NOB1/2/3 | Secondary | DfT | No | W8 | 8 | 60(75/30) | None | AB | 6 (8) | 2 |
| 11.09 | Brocklesby Jn – Cleethorpes | MAC3 | Secondary | DfT | No | W8 (W6) | RA8 | 60 (40/30) | None | AB(TCB) | 4 | 2(1) |
| 11.10 | Penistone Line | PED1/2/PEH | Rural | DfT | Yes | W6 | 8 | 50 (30) | None | OTW(AB) | 19 | 1(2) |
| 11.11 | Barton-on-Humber Branch | BAR | Rural | DfT | Yes | W6 | RA8 | 60 (40) | None | AB(TB) | Single line | 2(1) |

Figure 19 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 | No of Tracks |
| 11.12 | Gainsborough Lines | MAC3/SPD3/B HP | Rural | DfT | No | W8 | RA8 | 60 (25) | None | AB(TB) | Various | 2(1) |
| 11.13 | Lincoln – Werrington Jn | WEB/SPD | Rural | DfT | Yes | W8 (W6) | RA8 | 60 (55) | None | AB | Various | 2(1) |
| 11.14 | Skegness – Grantham | GRS1/2/3 | Rural | DfT | Yes | W8 (W6) | RA8 (RA7) | 60 (50/20) | None | AB(OTW) | 10 | 2(1) |
| 11.15 | Freight Through Routes | Various | Freight | DfT | No | Various | Various | Various | None | Various | Various | 2(1) |
| 11.16 | Immingham and Killingholme Docks | KIL1/2/INW | Freight | DfT | No | W8 | 8 | 25 (10) | None | Various | 6 | 2(1) |
| 11.17 | Other Freight Branches | Various | Freight | DfT | No | Various | Various | Various | None | Various | Various | 1(2) |

Capacity and operational constraints

- | | |
|---|--|
| A | Sheffield: S&C and curvature |
| B | Totley Tunnel East to Dore Station Junction: curvature and single line section |
| C | Holmes Junction to Masborough Station Junction: curvature and flat junctions |
| D | Swinton: curvature and S&C |
| E | Conisbrough: clearance through tunnel |
| F | Thorne Junction: flat junction |
| G | Keadby: low line speed over drawbridge |
| H | Wrawby Junction: S&C and curvature |
| I | Grimsby Town to Cleethorpes: single line, level crossings and curvature |
| J | Moorthorpe Junction: curvature |
| K | Holmes Junction to Rotherham Central: curvature |
| L | Holmes Junction to Aldwarke Junction: track alignment |
| M | Aldwarke Junction: flat junction |
| N | Huddersfield to Barnsley: single line and curvature |

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