

Route 10 North Trans-Pennine, North and West Yorkshire

Section 1: Today's railway

Route context

The route provides the primary corridor across the Pennines connecting the main conurbations of Manchester, Bradford and Leeds. These major cities are then linked by the route with Hull, York and Scarborough, and via Route 8, to the North East. Several local lines add to the spread of the rail network in the area. The route mirrors an extensive but heavily congested road network.

There is a variety of passenger and freight traffic on the route, providing transport services to local communities, as well as connecting key city destinations on and off the route. It serves the three Aire Valley power stations, Hull Docks and a variety of other freight terminals, and is also used by through freight traffic.

Work is underway on the Yorkshire and Humber Route Utilisation Strategy (RUS), lead by Network Rail on behalf of the industry document covering this route and Route 11. The DfT's Regional Planning Assessment for the Yorkshire and Humber Region, which will feed into the Yorkshire and Humber RUS, was published recently.

Today's route

The route comprises the following groups of lines. The relevant Strategic Route Section is shown in brackets:

- interurban – from Stalybridge to Hull and Scarborough via Leeds, excluding a short section of the East Coast Main Line around York (10.01, 10.05, 10.06, 10.07 and 10.12);
- urban lines – a selection of routes centred on Leeds carrying PTE sponsored passenger services and, in many cases, freight as well (10.03, 10.04, 10.09 and 10.10);
- rural lines – mainly in East and North Yorkshire carrying local services and, in some cases, freight traffic (10.02, 10.08 and 10.11); and
- freight only lines – mixture of freight only through lines, sometimes used for passenger train diversions, and branches (10.13 and 10.14).

Current passenger and freight demand

This route links the key cities and towns in the northern half of the Yorkshire and Humber Region and also provides key links to other major cities and towns outside the route. It is therefore used by a mixture of local and longer distance passenger services. There are many medium distance passenger journey opportunities on the route for both work and leisure use. Parts of this route are used to provide key freight links for traffic to and from the port of Hull.

Interurban services operate between Manchester and Leeds, continuing to Hull, Scarborough and the North East and between Birmingham, Leeds, the North East and Scotland.

Local passenger services are of two types; regular PTE sponsored services in West Yorkshire and more rural services in East and North Yorkshire. The PTE services, in particular, have continued to see a large increase in patronage.

This route forms an integral part of the journey for many long distance rail freight flows, particularly the line from Colton Junction via Ferrybridge to Moorthorpe which connects the North East with the Midlands.

There are also several key freight markets located on the route itself. Some of the most significant freight flows are those of coal traffic from the East Coast ports and Ayrshire bound for the three Aire Valley power stations of Drax, Eggborough and Ferrybridge which provide more than 25% of England's electricity, and also to power stations in the Trent Valley. The coal from Ayrshire operates via the Settle and Carlisle line and then traverses the route from Skipton, via Leeds west end and Woodlesford. There is also increasing coal tonnage originating on this route at Hull Docks for the same power stations.

Other notable freight flows include intermodal traffic to and from Wakefield Europort, Selby (Potter Group) and Stourton Freightliner terminal, near Leeds. There is also aggregates traffic from Rylstone quarry near Skipton.

Current services

Northern Rail, First Keolis Transpennine Express (TPE), Great North Eastern Railway (GNER), Hull Trains, Virgin Cross Country, Midland Mainline and West Coast Railway Company operate passenger services on this route. Freight trains are operated by English Welsh & Scottish Railway Ltd, Freightliner Ltd, and Freightliner Heavy Haul Ltd.

Services currently operated by GNER, Midland Mainline and Virgin Cross Country will transfer to three new franchises by the end of the year. These will be National Express East Coast, CrossCountry (operated by Arriva) and East Midlands Trains (Stagecoach).

The core TPE operation is between Leeds and Manchester with four tph for most of the day. These extend east of Leeds, one per hour to each of Scarborough, Middlesbrough and Newcastle (all via York) and Hull. This corridor also carries a number of local services operated by Northern Rail including hourly services from Huddersfield to each of Leeds, and Manchester, and a twice hourly service eastwards from Leeds with one train to York (from Blackpool via Bradford) and one to Selby. Additional services operate during peak times.

Northern Rail also operates four tph from Leeds to Bradford Interchange including the Blackpool to York trains and a half-hourly service from Leeds to Manchester via Rochdale. Other services from Leeds are a half-hourly service to Knaresborough via Harrogate, with one train per hour extending to York, a half-hourly service to Castleford extended alternately to Knottingley and Sheffield via Barnsley. There is also an hourly semi-fast service to Sheffield via Wakefield Kirkgate and Barnsley.

The route also has a group of Northern Rail electric local services connecting Leeds, Ilkley, Bradford Forster Square and Skipton, all of which operate on a half-hourly basis. These are supplemented by diesel services operating at slightly more than two hour frequencies beyond Skipton to either Carlisle or Lancaster.

There is also an hourly West Yorkshire PTE service Wakefield Kirkgate and Knottingley via Pontefract Monkhill.

Away from West Yorkshire, Hull sees half-hourly Northern Rail trains from South Yorkshire and half-hourly off-peak (with additional peak services) from the Wolds Coast line from Scarborough and Bridlington. There are also trains roughly every hour between York and Selby with half of these extending to/from Hull.

As well as the hourly TPE service between Liverpool and Scarborough, the section from York to Scarborough is used by additional services in the summer including a TPE shuttle service and some steam hauled services operated by West Coast Railway Company.

Hull Trains operates seven long distance trains each way per day between Hull and London King's Cross. GNER operates all the trains between Leeds and London King's Cross, and a handful of trains on other parts of the route, with Midland Mainline operating a few trains per day between Leeds and London St. Pancras via Sheffield.

The other main passenger service is the hourly Virgin Cross Country service between Scotland, the North East and the Midlands and South West which operates via Leeds.

Freight services are described in the previous section.

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

Figure 1 Leeds – current train service level (trains per hour)

Originating Station	tph to Leeds
Huddersfield	6 peak/5 off peak
Harrogate	4 peak/2 off peak
Skipton	4 peak/2 or 3 off peak
Ilkley	3 peak/2 off peak
Castleford	2
Hull	1
Manchester	4 via Diggle
Bradford Interchange	4
York	6 peak/5 off peak

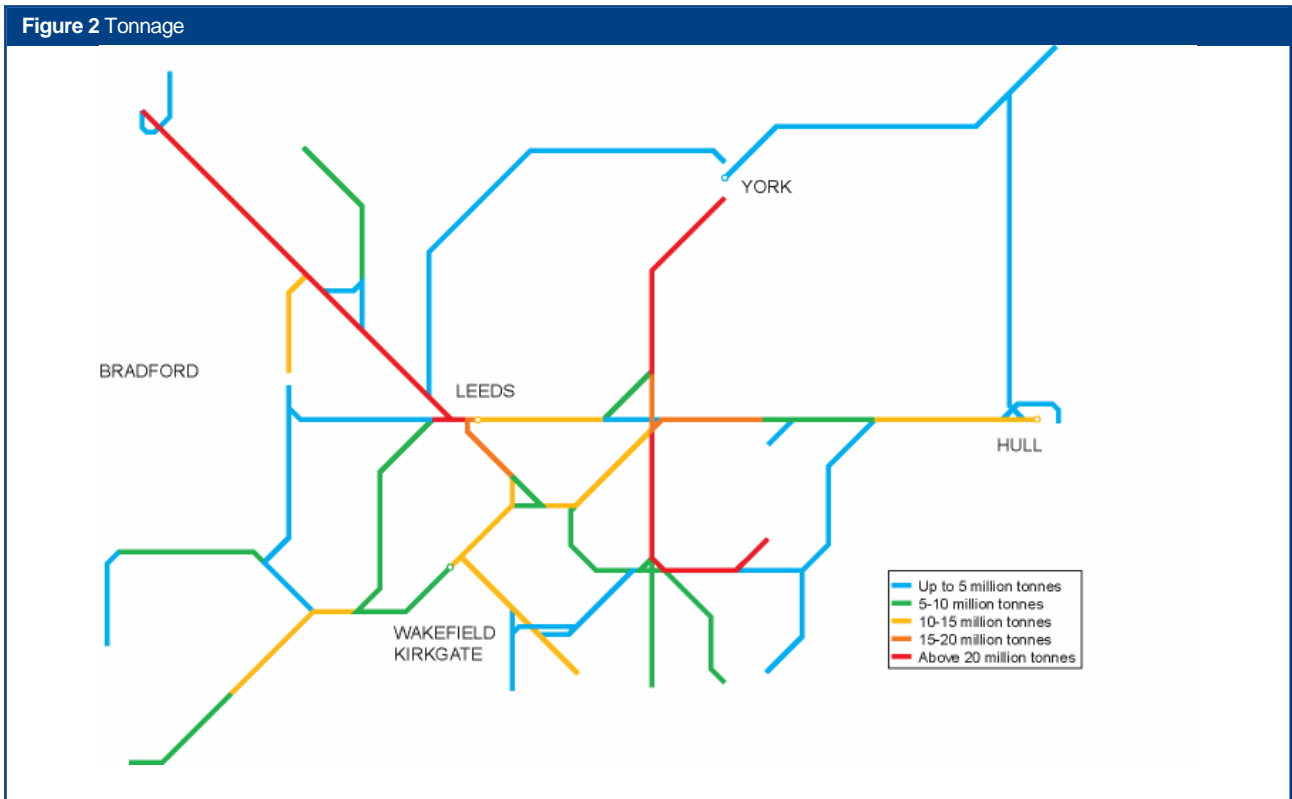


Figure 2 shows the total annual tonnage levels on the route.

Traffic volumes are summarised in Figure 3.

Figure 3 Current use

	Passenger	Freight	Total
Train km per year (millions)	19	3	22
Train tonne km per year (millions)	2,376	3,134	5,510

Current infrastructure capability

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

Figure 4 Linespeed

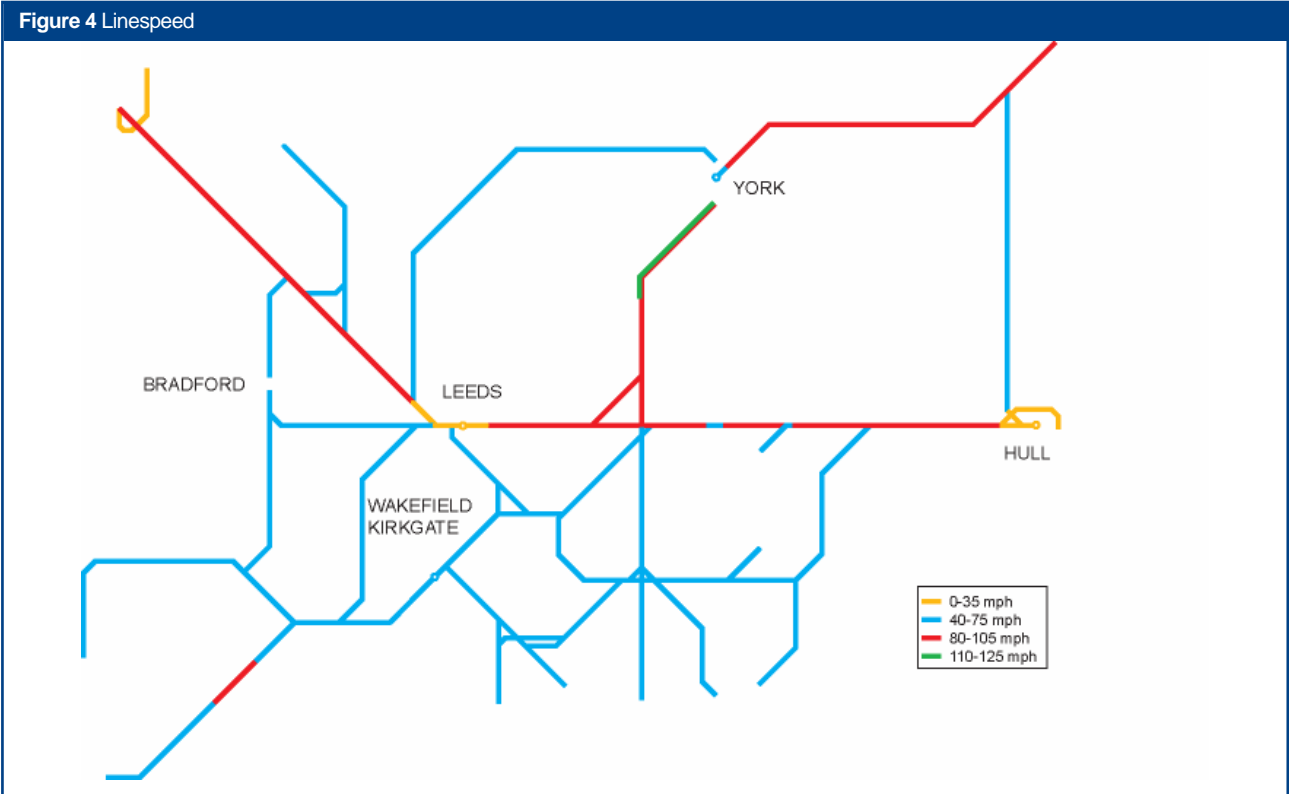


Figure 5 Electrification

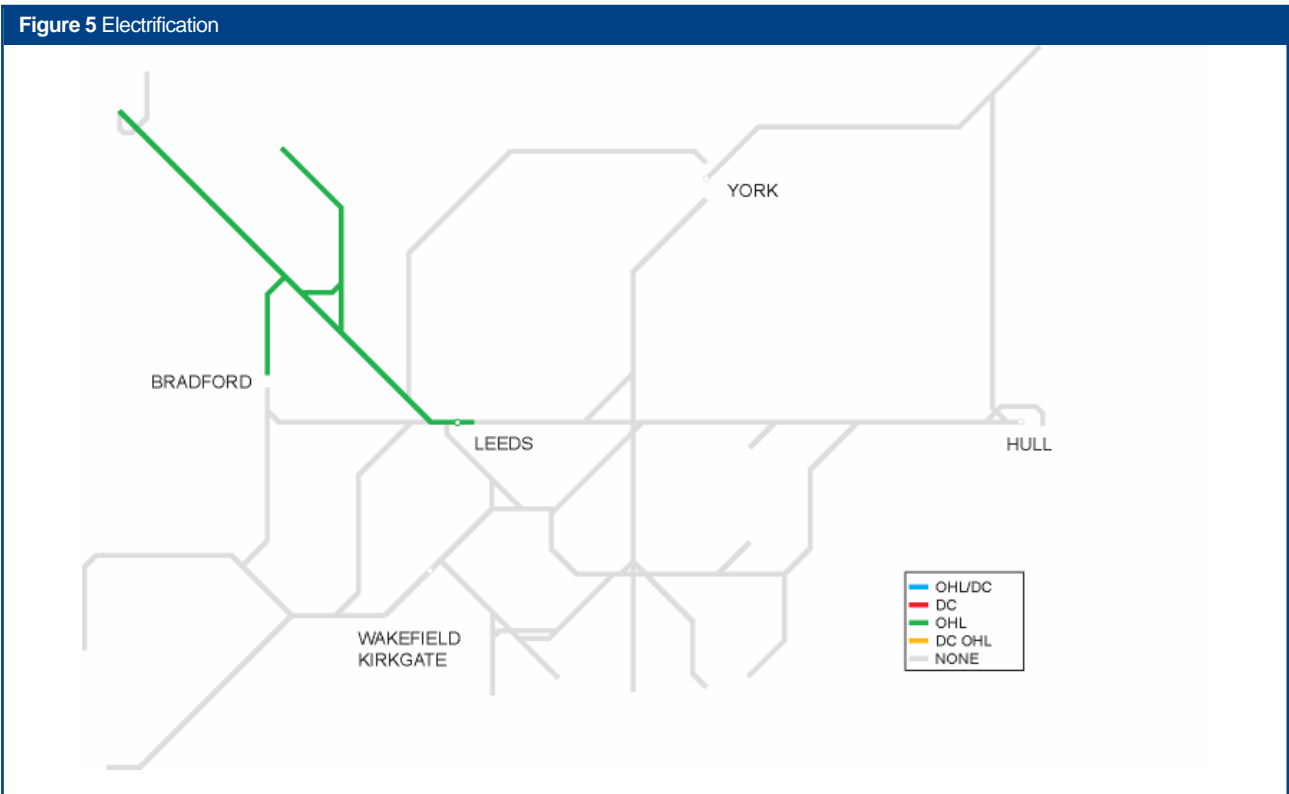


Figure 6 Route availability

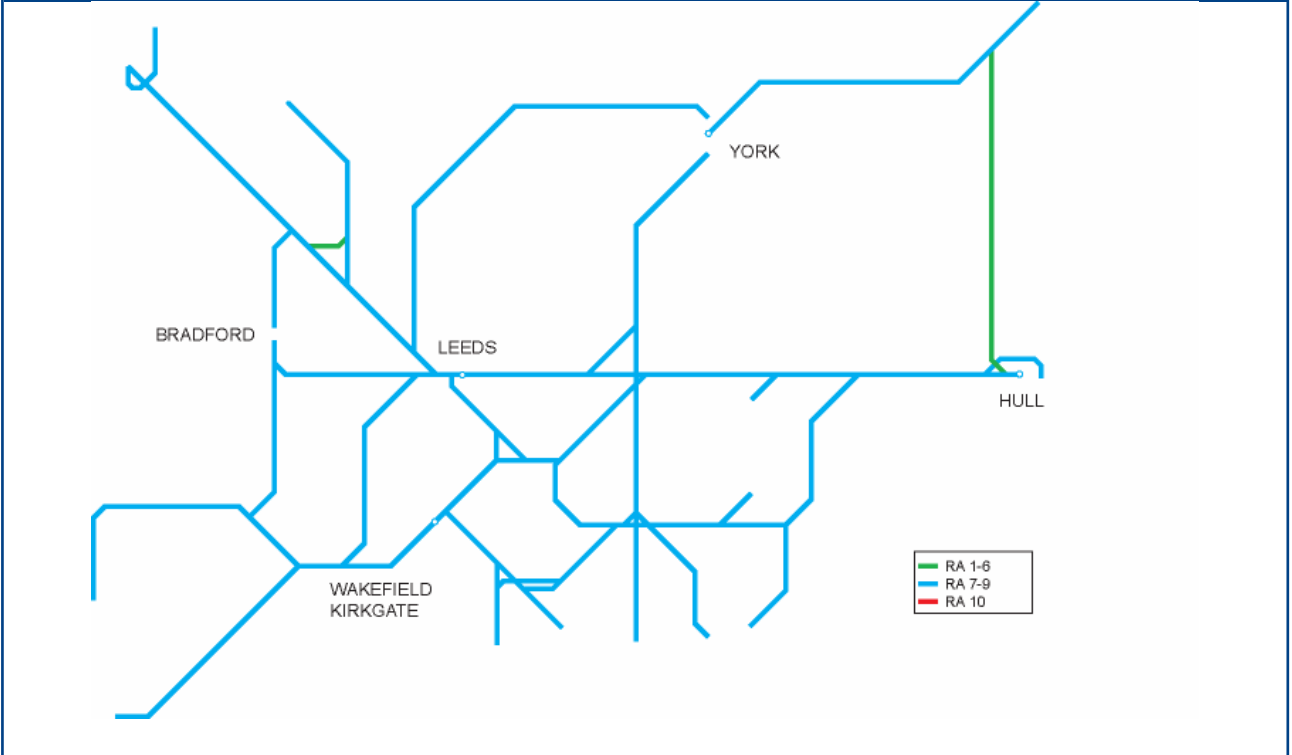


Figure 7 Gauge



Current capacity

There are capacity issues on the route, particularly in the Leeds area.

There are several major capacity constraints on the route:

- Leeds station area: much of the additional capacity provided by the Leeds 1st scheme has now been used, especially in the peaks;
- Leeds – Micklefield Junction – Church Fenton: busy two track railway with a mixture of fast and stopping services and no overtaking facilities;
- Leeds to Skipton: another busy two track section with stopping and semi-fast passenger trains and heavy freight services, featuring a busy 'at grade' triangular junction at Shipley;
- Leeds – Huddersfield – Stalybridge: largely a two track route with limited overtaking facilities and a mixture of fast and slower services;
- Hull to Gilberdyke: another two track railway with a variety of traffics; and
- Hull Docks branch; partly single track using the unusual Divisible Train Staff method of operation.

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.

The capacity constrained lines listed above also cause performance problems when trains are running out of course, particularly when long distance services are involved.

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

Route Section	Number of trains
Neville Hill – Micklefield	9
Wortley Junction – Apperley Junction	9
Bradley Wood Junction – Huddersfield	8
Gilberdyke – Hessle Road Junction	6

Figure 9 Current PPM MAA (2007/08)

TOC	MAA	As at period
Virgin Cross Country	84.0%	6
GNER	80.8%	6
Midland Mainline	92.5%	6
Northern Rail	87.7%	6
Transpennine Express	90.5%	6

Section 2: Tomorrow's railway

HLOS output requirements

Figure 10 Total demand to be accommodated by Strategic Route

Route	Annual passenger km forecast in 2008/09 (millions)	Additional passenger km to be accommodated by 2013/14 (millions)
North Trans-Pennine, North and West Yorkshire	1,189	189

Figure 11 Total demand to be accommodated by Strategic Route

Regional hub	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 (%)
Leeds	23,400	5,100	64	11,300	2,700	70

Future demand

Urban and regional journeys into the major conurbations are expected to continue growing. In particular, demand growth on the cross-Pennine services operating through Manchester and Leeds to Hull, Scarborough and the North East are already being stimulated further by the recent introduction of new Cass 185 units, which offer improved passenger comfort and have been able to offer some improved journey times.

Significant freight growth is expected once the scheme to upgrade the Hull Docks branch is implemented.

Section 3: Proposed strategy

Figure 12 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
2009-2011	Phased programme of train lengthening on most routes	Platform extensions and additional stabling and servicing depot facilities	Increased capacity
2011	Revised service pattern on Calder Valley route	Enhanced infrastructure at Bradford Interchange and Todmorden	Increased capacity, improved journey times and new/improved journey opportunities
2011/12	Revised service pattern in Castleford area	Possible small enhancement in Castleford area	Increased capacity and new/improved journey opportunities
2009-2014	Revised services on Leeds – Manchester – Liverpool route	Programme of linespeed and capacity enhancement schemes	Increased capacity and improved journey times
2011/12	Revised service patterns on routes where train lengthening is not the best solution to meet growth	Turnback facility at Keighley, enhanced signalling on the Harrogate line and possibly East Leeds Parkway	Increased capacity
2014/15	Faster passenger services and additional freight paths on Hull – Selby route	Line speed, capacity and performance schemes in association with planned signalling renewals	Increased capacity and improved performance and journey times.

Strategic direction

Work on the Yorkshire and Humber RUS is progressing. This will provide a strategy for future development of the cross-Pennine and Yorkshire routes. The main strategic challenge to be answered by the RUS is to cater for increasing peak demand.

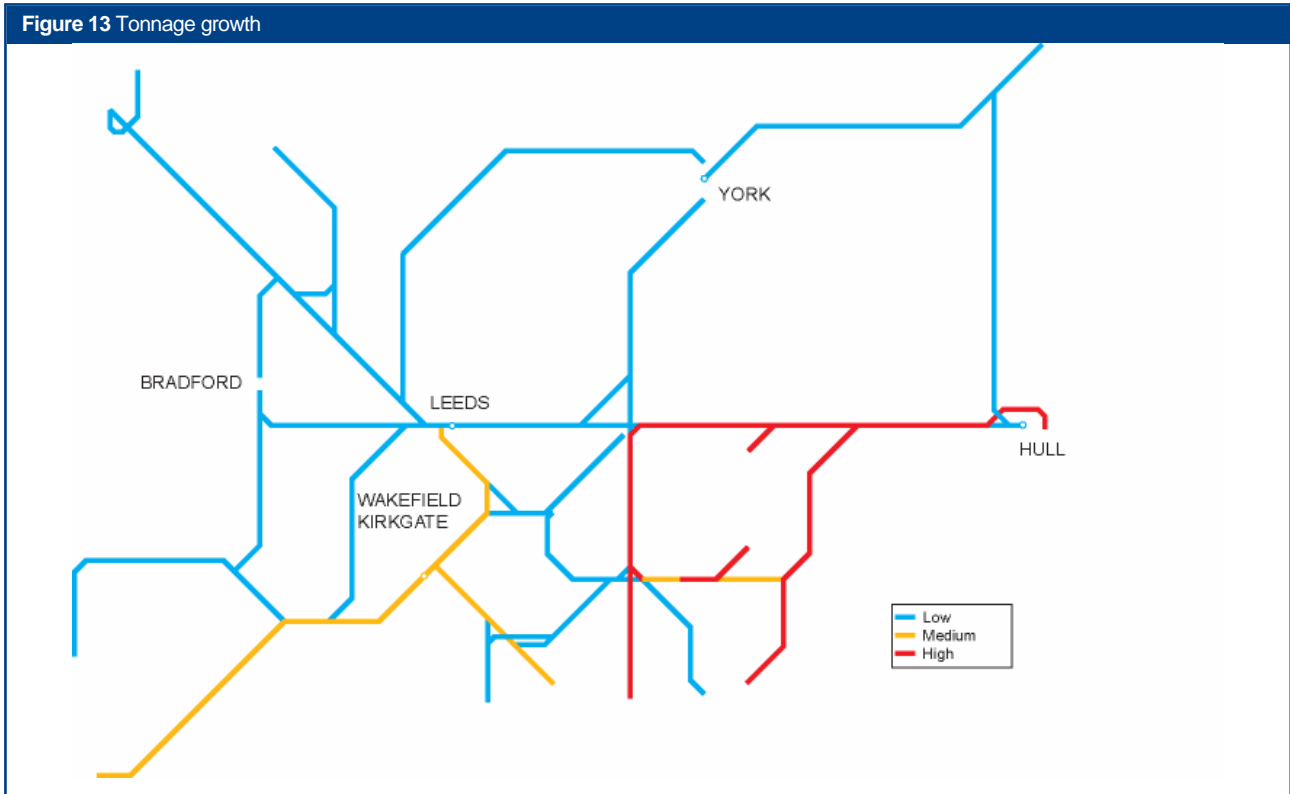
In the short to medium term much of the peak growth will be met through train lengthening as it will be in other parts of the country. However, there are some routes where lengthening is not feasible or where the additional rolling stock required for lengthening could be better used by providing a revised service pattern which would then bring further benefits.

Meeting growth on the Huddersfield – Leeds – York/Selby corridor and platform capacity at Leeds will be particular challenges. New ways to serve the intermediate stations on the above corridor need to be considered and also ways to avoid some services terminating at Leeds so that additional bay platform capacity is available for the remaining (lengthened) services.

Enhancement of the Leeds – Manchester – Liverpool services is another key area for the RUS to examine and links with the issues in the previous paragraph. The Government White Paper specifically mentions improved journey times and increased train capacity on this section

Improvements to the Leeds - Sheffield and Calder Valley services are further key areas for the RUS to examine.

Figure 13 Tonnage growth



Future train service proposals

Figure 13 indicates the forecast percentage change in tonnage to 2016.

From December 2007 there will be an hourly off-peak Hebden Bridge – Brighouse – Dewsbury – Leeds service which will offer some new journey opportunities especially from Brighouse.

A number of train service changes will occur from the start of the December 2008 timetable. The first is a new hourly Nottingham – Sheffield – Barnsley – Leeds service to be operated by Northern Rail. Not only will this create new direct journey opportunities but it will also provide a third fast train per hour between Sheffield and Leeds.

The new CrossCountry franchise will also provide an increase in capacity on its most crowded services which should provide some growth capacity on certain peak hour flows to/from Leeds, particularly on the Wakefield and York lines.

Open access operator Grand Central has aspirations to run four trains per day each way between Bradford and London King's Cross via Halifax and Wakefield Kirkgate.

In order to meet the peak hour growth targets in the HLOS, around 40 additional vehicle arrivals will be required at Leeds. These will be provided by a mixture of additional capacity in agreed franchise

changes and additional vehicles. On most routes the latter would be deployed by lengthening existing services thereby making best use of track capacity and traincrews.

As the additional fleet requirements for the entire Yorkshire & Humber region are so large, there is a need to concentrate the workload of Northern Rail's depot at Neville Hill primarily on maintenance. In order to achieve this, and thereby avoid building another major fleet maintenance facility in the Region, a number of new/enhanced servicing depots are required. These would provide fuelling, cleaning (including exterior washing) and toilet servicing.

Such depots on this route should be in the Leeds station area and at Harrogate, Skipton Huddersfield and Hull. We will work with Northern Rail to identify the exact requirements for each location.

One route where train lengthening is difficult is the Airedale route between Skipton and Leeds because of platform length constraints at Shipley. A solution is to provide a turnback facility at Keighley which will allow some new peak hour services between Keighley and Leeds. In turn this would allow some Skipton services to run fast between Keighley and Leeds (possibly calling at Bingley) thereby spreading peak loads and also providing improved journey times for many commuters.

Another such route is the Harrogate line where our plans for improved signalling headways between Harrogate and Horsforth as part of a signalling renewal would allow service enhancement.

An additional Doncaster to Leeds electric service would provide additional capacity but avoid the limitations of the bay platform lengths at Doncaster.

Meeting growth on the Huddersfield – Leeds – York/Selby corridor and platform capacity at Leeds will be particular challenges. New ways to serve the intermediate stations will be considered in the RUS to avoid some services terminating at Leeds so that additional bay platform capacity is available for the remaining (lengthened) services.

Various stakeholders are interested in improving services in the upper Calder Valley, including improving journey times between Bradford and Manchester and faster access to Leeds. The Hebden Bridge – Leeds service mentioned above is a first step. Additional rolling stock required to meet peak growth could provide the resource to achieve at least some of the service enhancement aspirations.

Future capability

A programme of platform lengthening in West and South Yorkshire is proposed to allow services on York/Selby – Leeds, Huddersfield – Leeds, Sheffield – Barnsley – Leeds, Knottingley – Leeds and Sheffield – Moorthorpe – Leeds (via Route 8) to operate at least four 23m vehicles during the peaks in order to meet the HLOS growth targets. There are a few stations where SDO will be used.

Phase 1 of the proposed North Trans-Pennine Upgrade would provide increased line speeds on the Leeds – Huddersfield – Stalybridge corridor in order to allow faster TPE services between Leeds and Manchester.

Improving line speed on the Sheffield – Barnsley – Leeds corridor will help balance the journey times between Sheffield and Leeds on this route and via Moorthorpe so that both can be used more effectively to provide a service between these key cities including when the Moorthorpe route is blocked.

Line speed improvements are being examined between Selby and Hull both in advance of and on the back of planned signalling renewals on the route.

Modest speed improvements on some secondary 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 on development work for W9 and W10 gauge enhancement on a number of other routes that could provide a comprehensive network of core freight arteries in the northern half of the country that would be capable of taking deep sea containers on standard deck height wagons and swapbodies. This will build on W10 clearance planned to Selby (Potter Group), Wakefield Europort and Stourton.

Future capacity

Redevelopment of Leeds station and a new southern entrance would improve station facilities and footfall capacity and reduce passenger access times to the development area to the south of the station.

Phase 1 of the proposed North Trans-Pennine Upgrade would provide some improved capacity on the Leeds – Huddersfield – Stalybridge corridor in order to allow faster TPE services alongside stopping passenger services and freight trains.

In order to deal with growth on the Huddersfield – Leeds – York corridor it is likely that an additional platform will be required at Huddersfield while the proposed enhancements between Holgate Junction and York (on Route 8) would assist with running additional peak services using the bay platforms at York.

A turnback facility is proposed at Todmorden for some services currently operating through Manchester Victoria that run to Rochdale and then continue via the Oldham Loop which is expected to transfer to the Greater Manchester tram network in CP4.

This would allow some Leeds to Manchester Victoria services to be speeded up by taking out certain intermediate calls. Moreover, in the peaks these Todmorden services could be strengthened rather than providing additional capacity on the Leeds services to deal with Manchester growth which would be a better use of additional rolling stock resource.

Capacity improvements are being examined between Selby and Hull in association with planned signalling renewals on the route.

West Yorkshire PTE aspirations for services in the Castleford area may require an additional platform and associated pointwork and signalling. We will work with the PTE and Northern Rail to determine what is required.

We are developing the proposal for a parkway station at Micklefield close to the A1/M1 link road, at which most long distance services could call. This would be likely to generate significant additional passenger journeys but could also improve capacity by allowing a shuttle service to operate to/from Leeds rather than having all stations services between Leeds and York/Selby. One issue that would need to be resolved is how best to serve South Milford station.

Future performance

Figure 14 shows the forecast delay minutes per 100 train km for each train operator.

Figure 15 shows the forecast PPM for the main TOCs running along the route. In some cases the services covered by the franchises will change; this means that the forecast PPM figures are not directly comparable with the current PPM figures.

Network Rail is managing a number of initiatives, involving considerable resources, to combat the huge rise in cable theft incidents.

A number of opportunities have been identified for modest infrastructure enhancements to improve performance that could be implemented in conjunction with planned renewal projects, whilst improved access and egress at Neville Hill depot is being developed to improve the regulation of trains in the Leeds east area.

First Keolis Transpennine Express

First Keolis Transpennine Express currently operates the main cross Pennine routes centred on the Leeds and Sheffield to Manchester corridors together with services from Manchester to north Lancashire and Cumbria. In December 2007, it will take over the Manchester – Scotland services currently operated by Virgin Cross Country, combining these with the current Windermere services. The performance of TPE is currently 90.5% PPM and should reach 91.5 % PPM by the end of March 2009. Recent performance has recovered from relatively poor performance a year ago, sufficient that TPE are focussing on further improvements to service delivery and scope for increased performance.

Figure 14 Forecast delay minutes per 100 train km by operator

	2009/10	2010/11	2011/12	2012/13	2013/14
Northern Rail	2.05	1.92	1.79	1.67	1.56
Transpennine Express	1.66	1.50	1.36	1.22	1.10
National Express East Coast	0.92	0.83	0.76	0.68	0.61
CrossCountry	1.63	1.49	1.34	1.21	1.09
East Midlands Trains	1.37	1.26	1.16	1.05	0.95

Figure 15 Forecast PPM MAA

	2009/10	2010/11	2011/12	2012/13	2013/14
Northern Rail	90.3%	90.8%	91.3%	91.7%	92.2%
Transpennine Express	91.9%	92.5%	93.1%	93.7%	94.2%
National Express East Coast	88.2%	89.5%	90.6%	91.7%	92.7%
CrossCountry	87.1%	88.2%	89.2%	90.2%	91.0%
East Midlands Trains	87.7%	88.5%	89.3%	90.1%	90.8%

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

- the ability to maintain a highly performing service connecting multiple key transport nodes each with challenge for delivery in their own right and limited spare capacity for growth;
- a consequential need to focus on day to day delivery and good quality operating practice; including building or preserving resilience in timetables where appropriate;
- uncertainty over the impact of the change in operation of the Manchester to Scotland services and the major change to West Coast Main Line services and speed up of Virgin West Coast services planned for December 2008;
- getting the right balance between performance, journey time and capacity benefits from the enhancements planned on routes operated by TPE (e.g. York Holgate 4th track);
- driving delivery of smaller scale enhancements such as line speed improvements;
- management of freight services;
- real ability to management the impact of weather and drive down cable theft; and
- growth in general and specifically taking scope to increase services in line with opportunities in TPE's franchise.

The route plan is being developed around these key points and currently suggests that performance on TPE will be around 94.2% by April 2014 this includes an allowance for passenger/traffic growth and an increase in engineering work. TPE and Network Rail are keen to develop a more detailed 6 year plan as part of the upcoming JPIP round.

Northern Rail

Northern Rail operates the local train networks both into the major conurbations and across the more rural areas in the North of England. Their performance is currently 87.7% PPM and should reach 90.0% by the end of March 2009. The franchise is extremely complex with a focus on cost management so that resources are efficiently used with little spare capacity for growth or recovery from incidents. Northern Rail recognises that there is a potential balance between aiming towards a high average performance and targeting a lower, but more consistently achieved level of performance with better use of capacity for passengers.

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

- the ability to maintain a highly performing service connecting multiple key transport nodes each

with challenge for delivery in their own right and limited spare capacity for growth;

- scope for growth in general and especially for services in the urban conurbations where there is incomplete scope for infrastructure enhancements and low spare resource to deliver increased capacity from existing supplies;
- the challenge of improving service delivery during disruption from the available resource base driving a preference for focus on incident avoidance;
- taking ability to grow revenue across services, including community rail opportunities;
- a consequential need to focus on detailed day to day delivery and good quality operating practice;
- a complex mix of fleet some of which has an inherently low level of reliability. Taking opportunities to replace stock when they arise;
- parallel scope for a significant improvement to the quality of the infrastructure over which Northern Rail operates services, including need to ensure these services link into more dense operation around conurbations. Some of their key revenue flows are also within their worst performing service groups;
- specific need to improve track quality;
- real ability to management the impact of weather and drive down cable theft;
- getting the right balance between performance, journey time and capacity benefits from the enhancements planned on routes operated by Northern (e.g. York Holgate 4th track); and
- driving delivery of smaller scale enhancements such as line speed improvements.

The other operators on this route are National Express East Coast and CrossCountry. The future performance section for the former can be found in the plan for Route 8 and CrossCountry in the plans for Routes 8, 12, 13 and 17.

Engineering access

West Yorkshire PTE has aspirations for later evening services on a number of routes. The RUS will examine where Rules of the Route is a constraint.

We would like to explore with our customers ways to improve access for maintenance, particularly between Leeds, Woodlesford and Altofts, Leeds to Neville Hill, Leeds to Skipton and Heaton Lodge to Thornhill. On the latter two routes, maintenance is just at a sustainable level and should not be eroded further.

In conjunction with our customers we have adopted a unique and special access arrangement for maintenance at Leeds station.

Possessions between Thornhill LNW Junction and Heaton Lodge give particular problems to TPE as the diversionary route via Bradford is much longer and is difficult to maintain route knowledge over.

Long term opportunities and challenges

Work on the Yorkshire and Humber RUS is progressing. This will provide a strategy for future development of the cross-Pennine and Yorkshire routes. The main strategic challenge to be answered by the RUS is to cater for increasing peak demand.

In the long term, if the growth rates predicted in the RUS continued, some lines would need existing services needing to be six, seven or eight coaches long. This would mean in practise a mixture of train lengthening and additional/alterd services. The most significant longer term constraint will be Leeds station. As trains become longer the ability to have several trains in any one platform at a time will become reduced. The RUS will need to examine some radical solutions.

Enhancement of the Leeds to Manchester corridor over and above the proposals above will be another key longer term area for the RUS to examine.

Enhancements to be completed by end of CP3

Figure 16 CP3 enhancements

Implementation date	Project	Project description	Output change
2008	Ⓐ Selby Platform 3 extension.	Allow 4-car operation of terminating services.	Increased capacity and improved performance.
2008/09	Ⓑ Church Fenton S&C enhancement element	Linespeed increase.	Increased capacity and performance and improved engineering access.
2008/09	Ⓒ Bradford Mill Lane S&C . enhancement element	Revised layout.	Increased capacity and performance, and improved journey times.
2008/09	Ⓓ Hull station	Upgrade carriage sidings	Improved stabling facilities
2008/09	Ⓔ Selby, Scarborough, Grimsby, Huddersfield	Car park extensions	Improved customer facilities
2008/09	Ⓕ Hull Docks	Increase track capacity between Hessle Road and the docks	Improved capacity, performance and route capability
2008/09	Ⓖ Platform extension at Littleborough, Smithy Bridge and Mills Hill	Platform extension to accommodate 4x23m vehicles	To accommodate commuter growth on Calder Valley services
2008/09	Ⓗ Platform extension at Crossgates and Garforth	Platform extension to accommodate 6 car class 185 trains	To accommodate commuter growth

Proposed enhancements in CP4

Figure 17 Proposed enhancements in CP4

Implementation date	Project	Project description	Output change
2009/10	Ⓛ Platform extension Huddersfield, Cottingley and Deighton	Platform extension to accommodate 4 car Sprinter trains	To accommodate commuter growth
2009/10	Ⓚ Falsgrave	Capacity improvements and Track remodelling and resignalling	Renewal and linespeed improvements
2010/11	Platform lengthening.	Platform lengthening at various stations in West Yorkshire.	Increased capacity.
2010-2012	Ⓜ North Transpennine Upgrade phase 1 cross-route project – also see Route 20.	Liverpool - Manchester - Leeds line speed and capacity increase.	Increased capacity and improved performance and journey times.
2010/11	Ⓝ Felixstowe – Yorkshire Terminals Gauge Clearance	Provision of W10 gauge via Ely and ECML plus some diversionary routes	Capability to carry deep sea containers on standard deck height wagons to Selby (Potter Group), Wakefield Europort and Stourton
2010/11	Ⓡ East Leeds Parkway	New parkway station close to A1/M1 link road	New journey opportunities and increased capacity.
2011	Ⓢ Route 10 Depots	Servicing depots for increased Northern Rail fleet	Increased capacity through fleet enlargement
2012-14	Ⓣ Sheffield - Leeds line speed increases.	Linespeed increases via Barnsley on Routes 10 and 11.	Increased capacity and improved performance and journey times.
2013/14	Northern Gauge improvements	Gauge clearance of various routes in connection with port developments on the East Coast	To accommodate the carriage of deep sea container traffic
2013-15	Ⓥ Hull – Gilberdyke	Enhancement in connection with resignalling	4 aspect colour light signalling to improve capacity
2014-15	Ⓦ Humber Ports capacity	Capacity improvements, may include loop extension or new loops between Gilberdyke and Selby	To allow ongoing growth of rail freight through Port of Hull to the Aire Valley power stations

NRDF candidate schemes in CP4

Figure 18 Candidate NRDF schemes in CP4

Implementation date	Project	Project description	Output change
2009/10	Ⓧ Shipley	Platform 5 linespeed increase	Improves performance and capacity
2009/10	Ⓛ York – Scarborough	Linespeed increases	Improved journey times
2010/11	Ⓞ Neville Hill Depot performance improvements	Improved access / egress to Neville Hill Depot	Improved performance and regulation of trains in the Leeds to Neville Hill area
2010/11	Ⓟ Leeds station	Redevelopment of the station and new southern entrance	Improved station facilities, additional footfall capacity and improved access
2010/11	Ⓞ Harrogate – Horsforth	Renewal of lineside equipment	Renewal and improved capacity and performance
2011/12	Ⓧ Methley Jn	Junction remodelling	Improved performance and capacity
2013-15	Ⓧ Hull – Gilberdyke	Enhancement in connection with resignalling	4 aspect colour light signalling to improve capacity
2010-2014	Ⓧ Hull – Selby line speed increases	Line speed improvements, standalone and in association with proposed signalling renewals	Improved journey times
2011/12	Ⓧ Todmorden turnback facility.	Introduces a turnback platform or siding.	Increased capacity and improved journey times through service changes.
2011/12	Ⓧ Keighley turnback facility.	Introduces a turnback platform or siding.	Increased capacity and improved journey times through service changes.

Maintenance and renewals activity

Figure 19 shows the estimated maintenance and renewal 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 maintenance & renewals costs and activity volumes

£m (2006/07 prices)						Control Period Totals			
	2009/10	2010/11	2011/12	2012/13	2013/14	CP4	CP5	CP6	CP7
Maintenance expenditure									
Track	19	17	17	16	16	86	75	72	76
Signalling	7	7	7	7	6	34	30	29	29
Electrification	1	1	1	1	0	3	2	2	2
Telecoms	3	3	3	3	3	14	12	11	11
Plant and Machinery	1	1	1	1	1	3	3	2	2
Other (overheads / indirect)	17	17	16	16	16	83	74	71	71
Total	48	45	44	43	42	222	197	189	193
Renewals									
Track	33	36	32	35	35	172	156	97	94
Signalling	15	19	20	18	19	91	81	152	47
Civils	21	17	18	15	16	87	70	68	67
Operational Property	9	8	13	12	12	53	70	55	55
Electrification	0	1	1	1	0	3	1	2	4
Telecoms	13	12	7	5	2	39	15	13	17
Plant and Machinery	5	3	2	2	3	15	16	16	17
Discretionary Investments	4	4	4	2	1	15	10	8	12
Total	99	101	96	90	89	475	419	410	313
Renewals Volumes									
Rail (KM)	50	48	46	48	48	239	210	100	116
Sleepers (KM)	42	42	42	42	42	212	225	159	180
Ballast (KM)	36	36	36	36	36	181	217	151	173
S&C Units	10	26	17	31	31	115	111	51	9
SEUs commissioned	0	62	21	0	86	169	195	644	278

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	No of Tracks
10.01	Leeds – Holbeck West Jn	DOL2	Primary	DfT	No	W8	RA8/9	25 (40))	25kV	TCB	3 mins	2
10.02	Harrogate Line	HAY1/2	Rural	DfT	No	W6	RA8	60 (65)	None	Various	Various	2(1)
10.03	Leeds North West	TJC3	Secondary	DfT	No	W7	RA8	90 (25)	25kV	TCB	5 (6)	2(1)
10.04	Bradford Interchange Lines	LBE	Rural	DfT	No	W6	RA8 (RA6)	60	None	TCB	4 (11)	2
10.05	NTP: Holbeck East Jn – Stalybridge	MVL3/4/MD L1	Secondary	DfT	No	W8	RA9 (RA8)	70 (80/60)	None	TCB	4 (6 minutes through Standedge Tunnel)	2(3)
10.06	Leeds – Colton Jn	HUL4/ CFM/ NOC	Secondary	DfT	No	W8	RA8 (RA9)	90	None (25kV)	TCB	4 (3)	2
10.07	Hull – Micklefield Jn	HUL1/2/3	Secondary	DfT	No	W8 (W6)	RA8	90 (75)	None	AB (TCB)	5	2
10.08	Gilberdyke Jn – Thorne Jn and Knottingley West Jn plus Church Fenton Jn – Moorthorpe	TJG	Secondary	DfT	Yes	W8	RA8	70	None	AB (TCB)	4	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	No of Tracks
10.09	Knottingley West Jn – Thornhill Jn (via Crofton Jn and via Castleford Jn) – Leeds West Jn	WAG/CPM	Secondary	DfT	No	W8 (W9)	RA8	60 (50/25)	None	TCB (AB)	5	2
10.10	Rochdale East Jn – Heaton Lodge Jn/Bradley Jn	MVN2	Secondary	DfT	No	W7/W8	RA9 (RA8)	60 (70)	None	AB (TCB)	6	2
10.11	Hull – Seamer	HBS	Rural	DfT	Yes	W6	RA6 (RA7)	70 (40)	None	Various	Various	2(1)
10.12	York – Scarborough	YMS	Rural	DfT	No	W6	RA8	90 (75)	None	AB (TCB)	8	2
10.13	Freight Through Branches	Various	Freight	DfT	No	W8 (W6)	RA8 (RA9)	Various	None	TCB (AB)	Various	2
10.14	Freight Branches	Various	Freight	DfT	No	W6/W8	Various	Various	None	Various	Various	1(2)

Capacity and operational constraints

- | | |
|---|---|
| A | Harrogate – York: single-line and level crossings |
| B | Bradford Interchange: S&C and curvature |
| C | Halifax: S&C and curvature |
| D | Halifax – Bradley Junction: S&C and curvature |
| E | Church Fenton – Moorthorpe: gradients, S&C and curvature |
| F | Drax Branch Junction – Goole: single-line and level crossings |
| G | Wakefield – Pontefract: level crossings and track geometry |
| H | Leeds: S&C and curvature |
| I | Huddersfield: S&C and curvature |
| J | Marsden: curvature on approach to Standedge tunnel |
| K | Selby: curvature at Swing Bridge |
| L | York – Malton: curvature and level crossings |
| M | Hull: curvature and S&C |
| N | Goole Swing Bridge: load bearing capacity |
| N | Horbury Jn S&C and curvature |