National Cycleway in association with HS2: Preliminary Feasibility Study

Leeds and Wakefield: Fieldwork Note Annex B08a

Recommended possible main National Cycleway associated with HS2
additional or alternative routes
local links and connections

Route maps and notes  December 2015 revised July 2017

Royal HaskoningDHV

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Introduction
This document is one of 22 Annexes to the main HS2 Cycleway Project Report. It sets out the preferred routes which were identified in workshops, refined in subsequent field surveys and then discussed further with local authorities.

The detailed mapping shows the different traffic free and on road sections, and includes brief notes and photographs describing points of particular interest along the route.

Background to the First Stage
In January 2014, the Department for Transport (DfT) commissioned consultants, Royal HaskoningDHV, to carry out a Feasibility Study into creating a series of world class cycling routes from London to Birmingham, Manchester and Leeds. The project considers a study area that is generally three miles either side of the planned HS2 Rail alignment, and was conceived as an opportunity to deliver excellent local facilities for communities along the whole length of the proposed railway.

It is envisaged that each section of cycle route would serve as an important facility at a local level, connecting where people live to where they want to go to: and by linking the individual sections together, a continuous long distance could be created that would provide an attractive leisure and tourism facility as well.

As far as possible the project was also to enhance pedestrian routes, and in some cases bridleways too, all within the context of creating continuous, safe and attractive routes which would encourage the public to cycle for local trips, for leisure and as tourists.

The report of this first phase of work was completed in December 2014. It included a total of 18 detailed annexes, of which this is one, each of which described a section of the preliminary route options in some detail. The routes themselves were derived from discussions with local authorities and other interested bodies, backed up by cycling the routes as far as this was possible.

In order to avoid too much repetition in the text and explanation of details, a selection of photographs of appropriate arrangements and details from both the UK and the Netherlands is included here to indicate the sort of quality of route the HS2 Cycleway aspires to realise.
Second Stage

The second stage of the study was carried out during 2015. It comprised meeting with the local Highway Authorities and with the principal institutional landowners, such as Network Rail and the Canal & River Trust. Following on from these meetings, and any necessary further fieldwork, the route proposals were revised, and a series of “workbooks” prepared covering the details of how the proposed cycleway would interact with Network Rail, HS2 and others. In addition 4 further Annexes were prepared covering links to the Peak District, and HS3 cycle routes from Manchester to Liverpool, Sheffield and Leeds.

In the case of the Leeds and Wakefield section, the Councils were of the view that a more direct route between the two cities was required, although the river valley route followed by the Trans Pennine Trail needed to be retained as a leisure and tourist option. So this report now recommends the direct route via Middleton Park as the preferred option for the HS2 Cycleway.

Frequently Asked Questions

How will it be funded?
As the project is still in the feasibility stage, no specific funding commitments have been made; part of this study has been to determine the likely costs. However, should the project be commissioned, it is envisaged that it would be funded by DfT separately to current funding packages.

How will it be delivered, practically and politically?
Part of this feasibility study has been to identify potential delivery models. We have recommended that the local Highway Authority takes the lead, backed up by a central support team to handle commonly difficult matters such as land assembly.

How will it affect current funding streams?
It is not expected that this project would affect current funding streams, so that this project would be in addition to existing cycle infrastructure investment. It would, though, be advantageous to badge current schemes as part of the National Cycle Route.

When will it be delivered?
This feasibility study has identified a potential delivery programme based on the dialogue with local authorities. Should the project be commissioned, we expect certain sections will be able to be delivered relatively quickly whilst others may take longer. Alternatively, funding arrangements could dictate that certain sections are delivered in a particular order. The findings of the feasibility study will help inform these decisions.
Design Standards - Summary

A set of design standards was developed as part of the first stage of the feasibility study. These are available as a separate document. The design standards strongly emphasise the need for continuity and integration of cycle infrastructure, and that facilities should be appealing to the end user and also consider the needs of non-users. The design standards are a working document, and will be reviewed throughout this stage of the feasibility study in order to best take into account differing local contexts.

The design standards are consistent with the project’s overall aim of the National Cycleway being a domestic exemplar of what high-quality integrated modern cycling infrastructure looks like: safe, direct, coherent, comfortable and attractive. The design standards also emphasise that adaptability will be important as the UK grows its cycling mode-share.

A strong focus is on the best practice seen in places with high levels of utility cycling like the Netherlands and Denmark. Attention is also paid to inclusivity, which not only covers all potential types of cyclists – including those with mobility impairment – but accessibility for all types of other users who will interact with the infrastructure. Benefits to the wider community should also be encouraged: even if individuals do not directly use the route for transport or leisure purposes, the design should take the opportunity for place-making along the route to improve the attractiveness of town centres or other areas through which the route passes.

The default position of the design standards is that cyclists should be afforded their own dedicated space with physical separation from other users. This is an effort to move away from infrastructure strategies that default to a shared use path, or on-carriageway facilities with limited protection from motor vehicles on busy roads. The design standards, however, do allow for sharing with motor traffic, pedestrians or equestrians in certain circumstances – normally where volumes are low. Steps may nevertheless be required to engineer these conditions where they are not currently present. It is likely that many extant greenways through open space or in the countryside which are shared with pedestrians and equestrians would already be suitable for use by the National Cycleway with few changes necessary. In more built-up environments, however, the design standards promote the implementation of dedicated infrastructure for cyclists, consistent with the best practice found elsewhere in the world where cycling for everyday journeys is commonplace.

The design standards acknowledge the varied contexts of the areas through which the route is likely to pass. Quality of infrastructure should be highest where potential for the route to be used is greatest, which is in urban areas or between sizeable settlements in rural areas. However, designs should not be put forward that prevent further expansion as usage grows or new journey possibilities are created that stimulate demand for movement.

Single stage toucan crossing of dual carriageway in Aylesbury
Throughout the section of HS2 Cycleway route described in these notes, it is intended that the overall route is created to the highest standards of design, of surface, of continuity and attractiveness all based on current best practice guidelines, including the Dutch CROW manual. The following examples drawn from England and Holland indicate what is intended, even though the brief descriptive notes attached to the route section maps may not explicitly say so. The photographs are loosely arranged to run from the town to the countryside ending up with the all-important junction and crossings details. These are required at each and every intersection with trafficked roads.

0 The HS2 Cycle route will start in the traffic calmed core of the town where cyclists share the road space on equal terms with motor vehicles. (Massluis)

1 Almost without exception cyclists will be permitted 2 way down one way streets in order to maximise their direct networks. (Gouda)

2 Sympathetic treatment of main street in typical small town

3 Closure of main street to traffic. (Rotterdam)

4 Typical English town with “pedestrianised” town centre already paved to delineate cyclists. (Stafford)

5 The Embankment, London, showing the space created for the Cycle Superhighway

6 Where space is limited the removal of the central white line and introduction of advisory cycle provision emphasises the presence of cyclists. (Gouda)

7 One lane of the road made into a two way cycling track (Redcliffe Bridge, Bristol)

8 Reallocation of road space through residential development to create 2 way cycle route. (Breda)
9. Cycle track set well back from main road and separated by avenue trees. (Rotterdam)

10. Wide promenade in urban park. (Tamworth)

11. New cycle track in Warwick University grounds with lighting

12. Typical railway path, 2.5m wide rural areas, 3.0m minimum urban areas. (Derby, Melbourne)

13. Wide towpath on Calder navigation

14. Narrow 2m wide towpath on Erewash Canal; note sealed surface with appropriate coloured gravel

15. Typical National Route in rural areas on lightly trafficked road. (Boxtel to Eindhoven)

16. Typical measures to show traffic on lightly trafficked rural roads on routes advertised for cyclists

17. Quiet lane approaching Lichfield – 20mph

18. Typical minor cul-de-sac in Holland, links to ongoing path for cyclists. No motor vehicles permitted except farm vehicles
19 Similar farm access on the way to Waddesdon

20 National Cycleroute (LF) parallel to main road in rural Holland. (LF13 Alphen)

21 Stone based cycle route through National Forest near Ashby-de-la-Zouch

22 Field boundary path with cattle grid and wicket gate approaching Kenilworth

23 Single stage toucan crossing of dual carriageway in Aylesbury

24 Dual use crossing of side road in Gouda

25 Cycling zebra at Aylesbury

26 Priority crossing of side road at Gouda

27 Path continuing parallel to main road (Gouda). Note the crossing is arranged on the desire line
28 Priority crossing in Rotterdam
29 Continuity of route on London Cycle Superhighway to Canary Wharf
30 Direct priority crossing in Lancaster
31 Direct crossing in York on the desire line
32 Treatment of approaches to splitter island at roundabout in Aylesbury
33 New shared use bridge over railway at Aylesbury Station
34 Tank Top bridleway bridge over M1
35 Major new cycle route attached to railway bridge approaching Nijmegen
36 Wide, on the level, underbridge at Tamworth
Our preliminary draft report on the feasibility of a Cycleway following the general corridor of HS2, (October 2014) recommended taking the general alignment of the Trans Pennine Trail along the Calder and Aire Valleys. Whilst this is definitely an excellent route, and one which quite closely follows to HS2 corridor and would be of great local value to Castleford, it is not particularly direct. Both Leeds City Council and Wakefield Council suggested that we should consider a more direct route, in addition to, or to replace the TPT route for this part of the proposed National Cycleway.

Over the course of 2015 we have examined a number of options including:

- The A61 Wakefield Road which is favoured by some commuters cycling from Leeds to Wakefield;
- The Stanley/Lofthouse Gate and Rothwell tramways to introduce a more traffic free element to this corridor;
- The Belle Isle Road South from Leeds which is a most attractive wide avenue of a road running centrally through the community;
- A route based around the existing Middleton Cycling route and Greenways south to Wakefield Station.

The map and table give a snapshot of the key characteristics of the options, total distance City Centre to City Centre, proportion of route traffic free, and total height gained.

Map showing all these cycleway options, with table of lengths and heights gained

<table>
<thead>
<tr>
<th>Route</th>
<th>Length (kilometres)</th>
<th>Height gained (metres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aire and Calder Route</td>
<td>24.8</td>
<td>45</td>
</tr>
<tr>
<td>A61 main road route</td>
<td>14.9</td>
<td>90</td>
</tr>
<tr>
<td>Stanley/Rothwell tramways</td>
<td>22.6</td>
<td>100</td>
</tr>
<tr>
<td>Belle Isle road option</td>
<td>16.1</td>
<td>115</td>
</tr>
<tr>
<td>Middleton and Wrenthorpe Parks</td>
<td>16.6</td>
<td>115</td>
</tr>
</tbody>
</table>
A comparison of these options

1 **A61 Route**

Whilst these sort of facilities might be of interest to long distance commuters we do not think that this type of facility holds much attraction to the wide range of people who might be attracted to journeys of every type. The proposed National Cycleway includes some sections of this type, but only for short sections so that the impact of the adjacent traffic is not too relentless and overpowering.

So the A61 main road route is not considered appropriate for the HS2 Cycleway.

2 **Rothwell Greenway**

This route is just too circuitous when compared with the TPT route by the river. It also suffers from a considerable haul up the hill to Long Thorpe Lane.

Although not suitable for the HS2 route, the Rothwell Greenway really does deserve to be improved and completed to make for this most interesting preferred route across the river to Temple Newsom and the valley northwards.

3 **Belle Isle Road**

This attractive road corridor has ample space over most of its length to make for a very good standard dedicated cycleway. It is certainly a strong contender for the National Route and would have been selected had it not been for the real attractions of Middleton Park. We felt that the road through Hunslet had insufficient space to make a really good route for cyclists; that the climb up from the motorway to Belle Isle Circle was quite demanding for a roadside route; and that by the time one reached the Ring Road it had been a long length of time beside a trafficked road, especially climbing to the south. Going north though the gradients are excellent, and the views of Leeds spread out below the Belle Isle Circle are quite special.

We would not object if the Council decided that the Belle Isle Road route was the optimum choice, although we consider the Middleton Park route to be the more memorable, especially once it is reconstructed to a higher standard of width, outlook and continuity throughout.

4 **The Middleton Park Route**

This route was opened in January 2013 after a very small expenditure of Local Sustainable Transport Funds. It threads a remarkable Greenway route through the City, passes one of the world’s earliest railway lines, and climbs most of the way to the Ring Road summit by attractive Waggonway inclines in Middleton Wood.

Both the Belle Isle route and the Middleton Park route follow the same Greenway south to Wakefield. This includes a number of interesting sections culminating in following paths through Wrenthorpe Park for a most attractive approach to Wakefield Westgate Station.
Leeds to Wakefield via Middleton Park

Description of the Middleton Park route together with the works required to reconstruct existing paths to a National Cycleway Standard

1 The initial section of the cycle route will ultimately depend upon careful provision being incorporated into the HS2 Railway arrangement. Much will change as the rail project develops and the optimum arrangement of the walking and cycle routes to lead staff and passengers direct to the central station complex are bound to evolve.

For the time being works to enhance the existing route via the Royal Armouries, or a more direct route parallel to Hunslet Road should be incorporated into the various University and other developments in this area.

2 This first section of the Middleton Cycle Route utilises a shared path adjacent to the road. Along most of the way there is space in the margin to gain width for the path and its adjacent verge. This should be done wherever possible so as to enhance the experience.

3 At this road, and every side road priority should be given to the path (to encourage walking and cycling and raise their importance when seen through the eyes of motorists). Generally raised zebra crossings are the optimum solution.

4 The path now drops away into an adjacent path along the side of a small park. The path should be reconstructed to be 3m wide, finished in a good surface, and appropriately lit. Connections to adjacent streets need to be made so as to maximise the value of the route for local journeys.

5 The Dunstall Road roundabout’s subways are seen as a deterrent. In fact, of their kind, they are a good example being on the level with excellent sight lines. Barriers should be removed, lighting improved and the security of the route will be enhanced by much more popular use.

6 The exit to the Southern Subway is restricted. Some 10m of additional land needs to be acquired from the Railway Centre in order to make a generous approach to this subway and enhance the route to the south which currently kinks sharply to the right.

7 Past the Middleton heritage railway the current route is crowded by two fences. The fence on the west side should be repositioned to the top of, or beyond, the landscaped bank beside the motorway. This will allow the path to be widened, and by clearing the underground away between adjacent trees, a much more spacious feeling will be achieved.

8 This level crossing is another useful local link, and in the actual works these should be rebuilt to a good standard. The adjacent subway under the motorway again has good sightlines.

9 Along this length there is ample space to widen the path and install lighting. The vegetation against the heritage railway should be trimmed back, particularly the under storey so as to enhance the space by giving longer views and less a feeling of a constricted corridor.

10 The climb up to this bridge over the railway is a considerable deterrent especially as one just drops down again. It would be much better to pass under the road and make a new, controlled, level crossing of the heritage line just to the south, and to cut an almost level link through to the entrance to the Council’s South Leeds Stadium sports complex.

If this crossing cannot be achieved then the whole cycling route should be taken past the Centre for Sport on their access road and field edges.

11 The ramp up to the bridge does though give access to South Leeds Academy.

12 Widen this whole section, remove barriers and light as far as New Hall Road.

13 Ease the gradients at either end of this link and widen the path to reach Newhall Road (the path currently has a recycled rubber surface).

14 Provide raised crossing of road, open up existing link paths, grade out the steps, and reset playing fence to give a further 2 or 3m of width, all to make a good link to Belle Isle Road. Note that for regular cyclists travelling southwards, this revised Middleton route will provide an easier climb up the hill as it avoids the steep drag up Balm Road to Belle Isle Circle.
15 There is the choice of two shared-use waggonway routes climbing through the Park to the café. These need widening with a good surface. Taking the slightly longer of the 2 waggonway routes eases the gradient marginally. Some care needs to be taken to calm downward speeds.

16 The steepest section of the climb is the access road from the café to the main road entrance. Ideally a new route would be engineered to an easier gradient to emerge from the Park further east opposite North Lingwell Road.

17 Cross Town Street, and the Ring Road via existing lights to reach the Bridleway route south.

18 Widen this popular route by resiting the fence all along the playing fields, and make a good crossing at the entrance to the facility.
Leeds to Wakefield via Middleton Park

19 Build a good link, and a raised crossing of St. George’s Road, to reach Badminton Drive and the existing public greenway down to Middleton Lane. Widen the greenway path for shared use.

20 If a new exit from the Park is not possible then Thorpe Road could be planted up with avenue trees to make an attractive option.

21 A light controlled crossing of the A64 Middleton Lane, together with a short length of field edge path, is needed to reach Winthorn Lane. This probably is the summit of the route (160m AOB).

22 The charming link path needs to be widened to this particularly well maintained subway under the M62.

23 Provide a raised crossing of Station Lane directly opposite the subway, and then cut a direct path at an easy gradient to join the bridleway.

24 This is a most delightful little valley, cut off from the noise of the M62. Rebuild this path all through to an even gradient.

25 The unexpected industrial heritage bridge under Stanhope Road indicates the historic importance of this bridleway route.

26 The new housing here provides an alternative to the bridleway down the valley which is largely overgrown and little used, although the bridleway would be attractive if better maintained.

27 Lingwell Gate Lane has a limited headroom under the railway which precludes commercial vehicles. Its short climb up under the M1 is also the steepest climb on the whole route and the east side pavement could well be designated a cycling track for going south uphill.

28 Castle Head Lane is signed as a Cycle Route to Stanley and this route could usefully be enhanced to provide a high quality route to Outwood Station and to the River Aire and to serve the large population in this area.

29 Lawns Lane is a most attractive, almost traffic free route which takes an easy gradient. Reconstruct its surface. This is already signed as a part of the Wakefield Wheel cycle route. There is a useful link from Lawns Lane via Grand Stand Road leading directly to Junction 41 distribution centre (a high employment site with some existing cycleway provision) and Outwood Station.

30 The Bradford Road which flies over the A650 already has a shared use Cycleway. Its parapets over the dual carriageway could well be raised in height if considered necessary.

31 A central island, or similar, is needed to cross the slip road to take the route through to Brandy Carr Road – all part of Wakefield Wheel signing.

32 Trough Well Lane is a jewel of a link dropping gently down the slope.

33 Turn into Lyndale Drive at the bottom of the slope. This is bollarded off at School Lane but cyclists can pass through to eventually reach Silcoates Lane.
Leeds to Wakefield via Middleton Park

34. Provide a safe crossing to the open space and a new path along the north edge of the green.

35. Culvert the dry ditch and make a path along the edge of these immaculate playing fields.

36. The public footpath crosses the brook by large stepping stones. We need a small inexpensive bridge to cross level in to Wrenthorpe Park.

37. Define and upgrade the core path through this rather lovely park and pasture to end up at the wide bridge under the main line leading to Melbourne Road.

38. There is a rather narrow section of path at the back of Aspen Close which needs to be widened by taking a sliver of railway land.

39. A number of paths cross this Common. Best choose the one parallel to the railway to build up to a good National Cycleway standard, ending at Strathdean Road.

40. Baine Lane climbs up to pass under the railway. Its fairly wide footway can be utilised for the uphill direction; in fact as it is single way working under this bridge the footway could be readily widened at no inconvenience to motor vehicles.

41. Join the now disused railway car park as soon as its level is reached, and pass through level to the new Wakefield Westgate Station entrance.

42. Allow shared use through Burgage Square to reach the heart of Wakefield.

Overall this is an unexpected and potentially excellent route which might even be a preferred route for cyclists on the TPT. It should be developed in parallel with the Calder/Aire works.
The alternative way from Leeds to Wakefield is based around the Trans Pennine Trail and largely follows the river valleys and the Aire & Calder Navigation. There are a number of important links – to Rothwell, Swillington, Great Preston and Castleford – all of which will enhance access for local residents.

The start of the route, in Leeds, will depend upon the final form of the HS2 Rail Station access. The city centre, the main station and the Council’s current Cycling Ambition – are all appropriate starting points for the HS2 Cycleway.

1. City centre routes will be on road with cycle lanes and dedicated crossings for continuity.
2. The riverside path starts at the Armouries and is signed as the TPT and NCN route 67.

6. The route crosses over the canal here, at Thwaite Lane, to bypass the “Museum” area, but the return bridge (Skelton Grange Road) at Stowton, has a very difficult, and dangerous, stepped access. The south side could be rebuilt as a gentle earthworks ramp quite easily. The north side will need a completely new fabricated ramp approaching on the line of the towpath. Alternatively the route could stay on the north side all through past the Museum.

7. The towpath was given a thin sealed surface when built, but this has mostly broken away and gives a very harsh ride with numerous flooded low spots. Despite this, there were a number of cyclists using this at the end of the day. There is ample space to rebuild 3m wide.

7a. The opportunity for a more direct route in any new development here should be pursued. This leads to the DB Schenker Rail formation under the motorway and to the canal towpath.

8. Cross on Fishponds Lock on the gates to take advantage of good quality road servicing the locks through to Woodlesford. Or better use the DB Schenker Bridge over the canal and construct a good path on the south side of the canal as far as Fishponds Lock.

8a. Link to Rothwell Country Park – Bullough Lane, and to the Rothwell railway path to Lofthouse.

8b. A new bridge under construction will link to existing paths to Temple Newsom.

9. Currently the route goes on road at Woodlesford and crosses the canal on the main A642 to Swillington (Abesford Road).

9a. A link to Swillington requires a new section of field edge path to connect Leeds Country Way with the towpath, avoiding this very busy road. This can also make a link to Great Preston.

9b. The route goes around the oil storage area as a minor road and crosses the canal again.

3. The riverside section has ample width to construct a good 3m wide path.

4. The first real issue is the extremely narrow path past the Council Depot (Old Mill Lane) where there appears to be ample space to move the fence back to secure a good 3m path.

5. The bridge over Old Mill Lane Lock is difficult to use. It is too narrow for this urban location and has been arranged most inconveniently. The kit of parts needs to be rearranged so as to give straight approach ramps, for which there is space. This whole section is currently being reconstructed by the Canal and River Trust to enhance flood protection in the area.

Note: Revised line of HS2 is largely in tunnel with the consequence that the existing riverside cycling route is much less disturbed and damaged.
HS2 Cycleway Proposals: Leeds to Wakefield Section

10a A good link via existing corrugated steel subway under railway.

11 Join Main Street through to Saville Road.

11a Cross river on the existing bridge for a link to Great Preston.

11b Existing railway path from Great Preston to Garforth. The section to Castleford is Council owned, but the path is yet to be developed.

12 Follow the edge of the playing fields and then the railway boundary to make a new crossing of Barnsdale Road.

12a Link to Castleford via railway route. This is open east of the railway in Castleford, but needs a bridge over the operational line there to open up a way to the Calder Viaduct and Methley Junction.

13 Use the narrow footway under the railway and make a shared use path to the start of Pinders Green Drive.

14 Join the Bottom Boat railway path.

14a Two railway bridges have been removed and their replacement by new footbridges would make walking and cycling connections much easier in this area.

14b A City Connect2 programme is reconstructing this section of the riverside towpath to Castleford.
The railway path has an excellent surface, but the overall route suffers from poor connectivity in the Stanley area. One solution is to reconstruct the footpath route to a good cycling standard. This may require some path diversions past Smalley Bight Farm at the southern end.

Alternatively, and possibly more usefully, bridge the river to make a link to Normanton and its station.

The Stanley route requires a dedicated crossing of the main road outside the Stanley Pub and Eatery.

The canal side road, which is very good, ends in an awkward stepped former coal conveyor bridge. This should be reduced in height to eliminate the steps.

Signed link to Wakefield.

Alternative railway corridor route provides an attractive riverside route, a connection to Normanton and goes through Kirkthorpe mostly on existing good paths.

Follow existing trails and reconstruct riverside path all through to a good standard.

Ease the gradients of this crossover bridge.

Provide crossing of main road to reach Hepworth.

This option following an existing path may be affected by the new road under construction. Either way, provision for crossing the new road is required.

The proposals for a promenade route from the City Centre to Kirkgate Station are very promising and could create an invaluable route to the Centre for cyclists as well as pedestrians.
25 Leeds Country Way continues on former railway.
26 Quiet residential streets lead to Station and existing footbridge. Note options through the town centre may be more valuable.
27 Crossing of A64 required.
28 The Garforth to Aberford Railway through the Parlington Estate is complete. It can be cycled all the way and passes under the M1 via a short tunnel.
29 Cycle safety measures are required along the old main road.
30 Existing crossing of motorway junction.
31 Attractive minor road.
32 Roadside cycleway from Grammar School to Tadcaster.
HS2 Cycleway: Leeds to Wakefield: section from Castleford to Tadcaster