National Cycleway in association with HS2: Preliminary Feasibility Study

Meadowhall and Staveley: Fieldwork Note Annex B10a

Route maps and notes  December 2015 revised July 2017
National Cycleway in association with HS2: Background and Summary of Preliminary Feasibility Study

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 this area, additional work was put into reviewing the option for linking through to Rotherham, so as to provide a route of the highest standard through the level terrain of the Don Valley. The NCN route south from Sheffield was also reviewed but its gradients rule it out from contention compared with the level Rother Valley.

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
Meadowhall to Sheffield and to Rotherham

This section needs to start with a discussion around the important links between Sheffield and Rotherham. The floor of the valley is almost completely level and one could expect good levels of popular cycling if the public felt confident and at ease on their journeys. At present the main road, Attercliffe Road, is far from attractive and its direct nature is compromised by difficult junctions and heavy traffic which serve to eliminate popular cycling except for a few experienced people.

The Councils wish to see this main road corridor completely overhauled and redesigned to create, amongst other improvements, a ‘Dutch Style’ segregated route for cyclists the full length. We support this ambition and see it as the eventual main route to the HS2 Station at Meadowhall. At present the road is often bleak and a great deal of redevelopment will take place over the years. It will be crucial that a full provision is made in each development to the sort of standards we indicate in the sketches here. There already is a stretch of the main road, past the Police Headquarters where recent road improvements have little room to take a good route through.

At the same time the Councils have been developing the Riverside Five Weirs route, and plan to also reconstruct the canal towpath. Parts of this, especially to the east of Tinsley Viaduct, are already built to an excellent standard.

In the short term it would seem that the current programme of continuing improvements to the Five Weirs route together with a crucial new link at Meadowhall, is the most likely way to create a good quality route suitable for all users. These brief notes cannot cover all the details and nuances which will make this route really popular. It will however be a combination of the attractive outlook and landscape, the continuity and freedom from obstacles and barriers, and its connections to where the public need to go, all combined together.

The routes and some salient points are described by a series of photographs and notes.

Notes on photos 1-18

1 Example of good provision in central Sheffield, here alongside Sheaf Street. But even these sections of spacious route fail down because of good continuity at many of their junctions and crossings.

2 The ‘Spider Bridge’ is a particular achievement of the Five Weirs route.

5 This split level arrangement of route from Brightside Bridge gives a rather less flexible and useful route than those divided by texture or line but otherwise on the level. It may be worth levelling this up as usage increases.
Map 1 showing the riverside, the road and the canal corridors from Sheffield to Rotherham

The NCN route from Sheffield to the Rother Valley suffers from difficult links, severe hills and gradients, constant traffic noise and numerous barriers. Whilst the last can be changed, the very low numbers of cyclists observed when cycling through (3 on a fine day at 9:00am) suggest that this route has limited potential. For this reason the National Route pursues the level ground on the valley floor.

10 This view looking west from Holmes Lock shows the attractive nature of the canal’s setting despite its proximity to so much industry.

11 The towpath threads under road and rail bridges to give excellent continuity.

12 This narrow boardwalk is due to be replaced by a wide promenade along the edge of the stadium grounds above the revetment.
1 This whole area will be remodelled for the approaches to the HS2 station and interchange complex with Meadowhall Network Rail stations.

2 The existing railway path from Chapeltown forms the route of the National Cycleway from the north. At present its route through this area to reach the riverside path is far from satisfactory. The new station arrangement should provide for a high quality route through and direct and convenient access for pedestrians and cyclists to the stations themselves.

3 The riverside route – the Five Weirs route – is mostly very well laid out and defined through the Shopping Centre.

4 The proposed Link Road connection to the canal to Rotherham.

5 The Sheffield and Tinsley Canal Towpath.

6 The direct main road route has to overcome the considerable barriers of roundabouts and junctions.

Cycling options: Tinsley Link

1 Cycling provision on the Tinsley Link road, along the south side of the road with a ramp down to the canal path.

2 A new route along the boundary of the land would provide a direct and level connection to the towpath for Rotherham.

3 A better alternative would be on the south of the road embankment but there may not be the width available to pass through the new bridge beside the railway.

4 The canal towpath with its steep and narrow bridge of the canal.

13 Sheffield Road in Rotherham. An example of the extensive provision made for cyclists on the main roads in this area. The road is quite wide enough for a ‘Dutch Style’ tree lined promenade for two way cycling down one side or other of the road as well as greatly enhancing the environment for pedestrians.
Map 2 showing the direct riverside route opportunity

1. Princess Street would make for a very useful shortening of the riverside route, and it may be worthwhile taking some road space to create a segregated path along the south side of this street.

2. At the Steel Works there has long been an aspiration to overcome the awkward diversion onto the Attercliffe Road by continuing along the riverside by agreement with the Steel Works.

3. The new link road offers the chance of making a real improvement to the connection to the canal towpath which is currently restricted by a steep and narrow footbridge adjacent to the tramway stop off Meadowhall Way. This link would not follow the road as it bridges over the railway, but rather follow at ground level to join the existing towpath north of the railway to Rotherham.

4. The towpath is excellent all through except at the New York Stadium where it has been intended that the current very narrow boardwalk is replaced by a good path at a higher level. Until this is opened up the current towpath provision is a very considerable restriction on use of the canal route.

14. Near the Magna Centre. Here it would be preferable to take the space of the two cycling lanes and then more road space to make a promenade along the south side of the road.

15. This view further to the west along the Sheffield Road, shows some of the issues which will need to be overcome to create a truly continuous and segregated route through here.

16. This short section of path by the Steelworks was created as part of the Five Weirs way. Apart from its width it is a really excellent example of what is required with avenue trees to give visual protection against the heavy traffic.

17. A typical section towards the western end of Attercliffe Road showing the large amount of road space which could be reclaimed to create a positive public space and tree lined promenade.

18. The Canal towpath at Greenland Road.
Meadowhall to Staveley

This section of the HS2 Cycleway Project links numerous communities and planned developments to the Meadowhall Centre, to Sheffield and Rotherham centres and to their local stations. It provides a direct link to the Rother Country Park and utilises well established sections of the Trans Pennine Trail to reach Staveley. Much of this route runs very close to HS2 Rail, which will wish to provide for existing popular paths in as positive a way as possible.

1 The possible connections to the HS2 Meadowhall station are covered separately. Suffice it to say that this major work has the potential to be a focus for walking and cycling routes in the area and to resolve the sometimes severe deficiencies in the current routes. The link to Rotherham follows the canal.

2 Existing route is a well-established promenade past the shopping centre and passing under Meadowhall Way.

3 A dedicated crossing of Weedon Street is required with a wide dedicated avenue to reach the riverside.

4 Existing split level path is well detailed but demonstrates the restrictions this design of shared use route incurs.

5 At Weir Head we must come away from the river on account of the steel works and the route divides with the existing link to Sheffield city centre and the proposed main route south along the Rother Valley.

6 The direct Attercliffe Road to Sheffield is very heavily trafficked and it would be a major exercise to create a high quality cycling route and to achieve any sort of respite from the traffic. The riverside route is fragmented and somewhat circuitous but putting in place a slew of enhancements might be considered the best option for building up cycling patronage.

7 Make a continuous shared use path down Webster Street and through each junction to connect with the existing light provision to cross Attercliffe Road.

8 Good split level path past IMAX Cinema.

9 Interesting link via new bridge over railway and canal with views each way.

10 Interesting route under main road but a lot of rubbish, parked vehicles and awkward crossing of main road in two stages.

11 Long section of good path by main road. Only two side junctions to contend with but rather tedious. Good connections needed.

12 Ramp down to the wide railway cutting and along disused railway to overcome complex road arrangement and gradients. This passes under the main A630 in a wide corridor. It is potentially a much better route than continuing beside the main roads, although these paths are useful for local links.

13 The former railway passes right through Catcliffe and crosses the river on a viaduct which neatly avoids an awkward junction of Treeton Lane and Orgreave Road.

14 There is a complex of wooded former railways here and a number of options are possible. If it is possible to pass under Mill Lane, this would give the best through route and connections to Treeton.

14a Links and connections are most important. Here the riverside path offers a direct and attractive route to Whiston and the south part of Rotherham.

15 Make up existing paths, link to existing bridge over the railway for Treeton and to the existing truss bridge over the Rother for the extensive redevelopments and lakes on the west side of the river. All this area is scheduled for redevelopment.

16 Views of lakes and presumably, eventually, boundary paths.

17 Stone path along boundary eventually leads through to Retford Road with good two stage lights crossing.

17a Residential road link to Woodhouse station.

18 Rather grim footway but whole carriageway is very wide. Could take out one lane for promenade or put two way traffic on one half.

19 Narrow start to link could be cut back and fencing carefully rearranged to gain width -3/4m.

A Once the final arrangement of the station is known, a direct route along this alignment is required.
Meadowhall to Staveley

- Traffic free and access roads
- On road
Meadowhall to Staveley

20 Beautiful section across marshes on slight raised causeway – line of old canal? There is a short timber bridge which will need renewing. Path was originally built between boards.

21 Pass under flood plain viaduct (not adjacent to railway) on line of HS2.

22 Loops under road and then wide marked path over railway and back to other side. The total climb could be reduced by building a new ramp to join the road just east of the bridge.

22a Develop the existing link to Aston with its useful bridge over the main road.

23 Existing ramp track is in very poor condition and was never well built.

24 Similarly, path is loose stone. Fence to east could be moved towards the woods to give much more space for path, or even climb slowly up the edge of the hillside to reach the main road level.

25 Narrow crossing of river by westward path inside railway bridge parapet. There is ample space to use the main bridge as track is to west. Note: the connection to Rother Lakes needs to be completely regraded to overcome steps.

26 The best quality path goes around to the east of the lakes. Good bridge leads to path on east of the river. Strangely this is not surfaced all through to the section of path beside the main line, although signed as NCN6.

27 West side path is also good gravel.

27a This section of railway path forms the start of the NCN route to Sheffield city centre.

28 Complete loop around the lake – tarmac this side.

28a Develop the route under the motorway to link to Kiveton Bridge and Kiveton Park stations, which in turn connect with the good canal towpath to Worksop.

29 This leads to a good surfaced route under old railway and up to TPT.

29a Develop better connection to Killamarsh and utilise the former railway to forge a cycling route to Barlborough.

30 Good wide path on railway and ramped links down to Connect 2 link to Halfway Tram Terminus.

31 Beautiful path alignment to be taken by HS2R. Note line of parallel canal which could be reopened with wide shared path all as part of an integrated scheme.
Meadowhall to Staveley

32 Excellent path continues through twin bridges here – one for the canal. There is a drop which could be taken out.

33 Excellent path with wide views.

33a Negotiate a route over existing bridges to Renishaw Park and hence Eckington. The Sitwell Estate would be a most interesting destination for path users.

33b An alternative option to service Eckington could be via the route of the former tramway.

34 Loops around the bridge over railway. But note that with the tracks now lifted the designs for this area could be modified, especially to take account of the HS2 sidings. The objective should be to achieve a direct and convenient route for the Greenway.

35 Extensive works in hand to take path through large bridges in new road scheme.

36 The revised alignment of the proposed National Cycleway is described in Annex 9a. Great care will be needed to achieve continuity through to Staveley.